Substance Use Disorder Education for Emergency Registered Nurses

by
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PROJECT REVIEW INFORMATION

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The Project was approved August 14, 2023 by the following review committee:

Review Committee:

Research Supervisor	Dr. Manon Lemonde
Second Reader	Dr. Sayani Paul

The above review committee determined that the Project is acceptable in form and content and that a satisfactory knowledge of the field was covered by the work submitted. A copy of the Certificate of Approval is available from the School of Graduate and Postdoctoral Studies.

ABSTRACT

Patients with substance use disorders (SUD) constitute up to 1 in 11 emergency department (ED) visits in North America and this number increasing throughout the COVID-19 pandemic (Morin et al., 2017). The ED presents an excellent opportunity to intervene and improve care for patients with SUDs, however there is currently no required or expected level of competency in managing SUDs for registered nurses (RNs) working in an emergency setting. To inform an educational intervention for improving nursing care for patients with SUDs, this project aimed to leverage nursing leadership opportunities to understand the current competency and confidence amongst ED RNs and identify gaps to be ameliorated through continuing education and policy implementation.
Keywords: substance; disorders; nurses; competency; education

AUTHOR'S DECLARATION

I hereby declare that this project consists of original work of which I have authored. This is a true copy of the work, including any required final revisions, as accepted by my committee.

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The research work in this project was performed in compliance with the regulations of the Research Ethics Board/Animal Care Committee under **REB Certificate number 16828** Ontario Tech University and **22-0074-E** Sinai Health**.**

Development of an Electronic Educational Intervention to Improve Nursing Competency, Confidence, and Comfort in Caring for Patients with Substance Use Disorders in the Emergency Department - Needs Assessment Survey (eSubmission)

Kelly Shillington

Kelly Shillington

DEDICATION

This work is dedicated to Emergency Department patients who use substances and emphasizes my passionate commitment to improving their care and outcomes.

ACKNOWLEDGEMENTS

I would like to acknowledge

Dr. Manon Lemonde

Dr. Bjug Borgundvaag

Cameron Thompson

STATEMENT OF CONTRIBUTIONS

I hereby certify that I am the sole author of this work and that no part of this work has been published or submitted for publication. I have used standard referencing practices to acknowledge ideas, research techniques, or other materials that belong to others. Furthermore, I hereby certify that I am the sole source of the creative works and/or inventive knowledge described in this document.

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LIST OF ABBREVIATIONS AND SYMBOLS

ED	Emergency Department
RN	Registered Nurse
AUD	Alcohol Use Disorder
OUD	Opioid Use Disorder
SUD	Substance Use Disorder
PWUD	People Who Use Drugs
MHD	Mental Health Disorder
SDH	Social Determinants of Health

Chapter 1. Introduction

1.1 Addictions in Canada

The addiction influx is an epidemic that is a proliferating crisis observed acutely in healthcare. Multiple synonymous terms are used to describe addiction disorder, substance use disorder (SUD), opioid use disorder (OUD), alcohol use disorder (AUD), substance abuse, drug abuse, and substance misuse; these terminologies are frequently referenced interchangeably (Bell & McCurry, 2020). Canada is in the midst of a growing opioid epidemic that requires immediate healthcare interventions and policies to minimize the risks to people who use drugs (PWUD) (Goyer et al., 2022). PWUDs are seeking Emergency Department (ED) healthcare at more frequent rates, in fact, ED visits in Ontario increased from 9.42 per 100,000 population in 2003 to 19.55 per 100,000 population in 2015 (Morin et al., 2017). Factors contributing to this increase include the lack of public health resources such as safe drug and alcohol consumption sites and under-housing compounded by growing poverty (Goyer et al., 2022). As a seasoned nursing leader in an urban Emergency Department in downtown Toronto, I have never seen such high volumes of patient visits related to substance use and abuse in my career.

In late 2019, a novel coronavirus, COVID-19, was identified and by early March 2020, the World Health Organization declared COVID-19 a global pandemic. Public health measures designed to contain this pandemic have added stress for all people, notably for those living with SUDs (Bell & McCurry, 2020). Lockdowns and physical distancing, among other public health guidelines, have forced PWUDs to do so in isolation and limited their access to harm-reduction services. This phenomenon of interest stems from an acute awareness of the pronounced increase in morbidity and mortality

rates amongst those with SUDs since the commencement of the COVID-19 pandemic in Canada (National Collaborating Centre for Methods and Tools, 2020). PWUDs have complex social, physical, and mental health needs related to using substances, yet they continue to face a myriad of barriers to accessing care and consequently have poorer health outcomes (Russell et al., 2021).

Current Canadian political healthcare policy structures perpetuate existing inequalities and have disproportionately negative impacts on the sociodemographic and culturally competent healthcare services available to support and reduce the harm to marginalized PWUD populations (McPherson et al., 2017). This issue impacts healthcare leaders and providers and their ability to deliver evidence-based care they feel proud of and competent to adequately practice. Examples of this include a colonial lens that undervalues and underinvests in addiction-specialized healthcare and physicians overprescribing opioids to vulnerable populations (McPherson et al., 2017). The First National Health Authority data highlights that indigenous PWUDs are five times more likely to overdose and three times more liable to die from an overdose (McPherson et al., 2017). The data and conclusions are transparent that there is an acute political leadership awareness of the addiction crisis albeit an obvious discrepancy in funding interventions and improving outcomes for PWUDs in the ED (McPherson et al., 2017).

1.2 Addictions Care in the Emergency Department

Disenfranchised patients suffering from SUDs have faced legacy barriers when accessing health care, particularly in the ED for a myriad of reasons (Kidd et al., 2020). Often patients who use drugs and alcohol are met with stigmatization, stereotyping and traumatizing experiences when they are seeking care. COVID-19 has exacerbated an

already pressing issue of inequitable emergency care and access to supportive community resources (National Collaborating Centre for Methods and Tools, 2020). EDs are overcrowded with under-housed patients who use drugs and alcohol, and it remains incredibly difficult to access social and harm reduction supports such as community detox intake and inpatient treatment facilities. This has added fuel to the very real and ongoing need for leaders in EDs to develop and implement strategies with strong evidence-based resources to mitigate the perpetual risks to this population, both system-level issues and those rooted in bias and stigma (Kelleher, 2007). Since people with addictions are often ill-connected to primary care providers and the ED is their only portal of entry into the healthcare system, the ED visit is an excellent opportunity to provide quality nursing care for patients with SUDs.

Patients with SUDs are frequently seen in the ED with complex or deteriorating health conditions while simultaneously presenting with substance withdrawal, intoxication, or overdose (Williamson, 2019). ED registered nurses (RNs) are caring for patients with SUDs at an increasing rate, albeit they are underprepared to provide the high-quality, evidence-based care this patient population deserves. As a leader in the ED, I have firsthand experience of the nursing dissatisfaction related to caring for patients with SUDs, often due to feeling helpless and ill-equipped to know to support this unique patient population. The lack of specialized nursing education in addition to broader societal and political stigmatization makes providing quality, equitable care for this patient population difficult (Kelleher, 2007). For instance, emergency policies and practices related to treating acute illnesses like myocardial infarction are robust, fulsome, and energetically invested in, addiction-related crisis interventions on the other hand are

nominal and lacking. There is a dire need for non-judgmental, destigmatizing, evidence-based resources, and education to equip front-line nurses to better care for patients with SUDs, the same high-quality care that is energetically endeavoured to uphold for all patients.

Throughout the COVID-19 pandemic, more Canadians than ever have received SUD-related ED care (Canadian Institute for Health Information (CIHI), 2021). Brief interactions in the ED often represent the only portal of entry to the healthcare system for many of these patients (Hawk et al., 2019). Due to a lack of specialized addictions, and ED RN continuing education, patients with SUDs in Ontario are not receiving the unbiased, well-informed, evidence-based, stereotype-free care they require and deserve (Morin et al., 2017). There is a real gap that exists and an important opportunity to enable ED RNs to care for patients who have SUDs using evidence-based strategies to positively impact patient care, and outcomes and reduce ED visits and revisits (Hawk et al., 2019).

1.3 Emergency Department Nursing Education

The current obligatory focus of ED nurses' continuing education is primarily on high acuity cardiac arrest and trauma care through Advanced Cardiovascular Life Support (ACLS) and Trauma Nursing Core Courses (TNCC), which are mandatory and require annual recertification with fiscal support by the organization. At this time, Ontario nurses' education on the topic of addictions is limited exclusively to their undergraduate nursing curriculum albeit they increasingly care for patients who use substances regularly (Farrell, 2020).

The policy issue embedded in the addictions crisis is that there is no current obligation or level of competency expected of ED RNs to provide safe care to patients

with SUDs, nor are they supported by mandatory and funded SUD continuing education. Ameliorating this issue is important because currently, organizations do not offer any continuing education opportunities in the ED that support nurses to increase their comfort, confidence, and clinical competency in caring for patients with SUD (Koh et al., 2019). This commitment ought to be made by the government and organizations province-wide to tackle the inequities this patient population endures as a social and political investment (Goyer et al., 2022).

Accredited, critical care, continuing education emergency nursing certifications are financially invested in through organizational reimbursement and obligatory to practice clinically in the province (Russell, Ojeda, & Ames, 2017). Specialized SUD educational courses are not mandatory; therefore, emergency nurses' knowledge, competency and quality of the patient care they provide are variable (Russell et al., 2017). To ameliorate this issue, the phenomenon of interest and quality improvement project is identified as the implementation of a specialized, SUD educational program to improve emergency nurses' comfort, confidence, and clinical competency. Addictions education for Ontario nurses is currently limited and motivation in the professional practice environment to continue such education is influenced by one's individual experiences and incentives. Consequently, there is no current obligation or level of competency expected of nurses to provide safe, stigma-reducing care to patients with addictions.

Fortunately, the Government of Canada has committed to taking action to address the opioid overdose crisis by investing over $815 million in opioid overdose support programs, research, specialized training, and harm reduction initiatives (Health Canada, 2022). This investment is intended to impact communities across Canada that require

research to inform health policy and practices to improve the quality of life and care for people who use substances (Canadian Institutes of Health Research (CIHR), 2022). Groups that are supported fiscally by this timely incentive include Canadian not-for-profit health organizations including hospitals and universities (Health Canada, 2022). This financial investment is vitally opportune to fund the development and operationalization of important projects that support the provision of addiction interventions. Therefore, I believe this investment should be targeted toward the following phenomenon of interest and research question:

Does the intervention of specialized addiction education improve emergency department registered nurses' comfort, confidence, and clinical competency when caring for patients with substance use disorders?

Project Objectives:

1. Identify the current level of emergency department nurses' comfort, confidence and clinical competency when caring for patients with substance use disorders.
2. Develop and implement the educational module
3. Evaluate the effectiveness of the educational modality via pre-test and post-test survey design.
4. Analyze the impact on patient outcomes, stigmatization, nursing burnout, and overall job satisfaction.

As described, the patient population in the ED today has become oversaturated with patients with SUDs and this influx requires swift leadership accountability to support nurses in providing care that elicits associated positive patient outcomes. To improve patient outcomes, promote health, mitigate social inequalities, and reduce stigma

much evidence-based research has highlighted that providing specialized SUD training and education for ED RNs has an impact on their comfort, confidence, and clinical competency in caring for this patient population (Horner et al., 2019; van Boekel et al., 2013). For these reasons, improving emergency nurses' comfort, confidence, and clinical competency in caring for patients with addictions ought to be invested in and supported by leadership and policy. The following chapter will elucidate the associated published literature that highlights the requirement for the intervention to imminently ameliorate the specialized addictions education gap in emergency nursing.

Chapter 2. Literature Review

2.1 Literature Review Methodology

Many hospital organizations that care for this patient population recognize that this patient population and their addictions and social support social determinants of health (SDH) continue to be perpetually neglected (Raphael, 2011). Literature highlights the evidence that ED RNs are underprepared to provide the specialized care this patient population requires and that continuing education that focuses on SDH social support and addiction care is crucial (Raphael, 2011). Ubiquitous reports and policy documents state the policy action required to improve the equitability of the distribution of their SDH and this work ought to be actioned. The main categories of the synthesized literature review include the following key concepts: 1) addictions attitudes, 2) barriers to SUD care, 3) educational intervention outcomes, and 4) nursing practice implications.

The primary exploratory keywords of this literature review include training and education in SUD emergency nursing care, confidence and competency in SUD emergency nursing care strategies and self-perceived barriers to the use of strategies to care for patients who struggle with substances in the ED. The literature search was conducted by utilizing the MEDLINE database to identify research articles that align with the phenomenon of interest. The rationale for choosing this database is that MEDLINE is a sizeable, reliable, peer-reviewed archive. Through the literature search, this database offered accessible, relevant, evidence-based articles that were critically examined and applied to the research inquisition. The literature review methodology utilized the PICOT (population, intervention, comparison, outcome, time) outcome strategy to uncover searchable, applicable research-based evidence publications (LoBiondo-Wood, Haber,

Cameron, & Singh, 2018). The population of interest was concentrated on ED RNs who care for patients with SUDs; the intervention was defined as SUD educational curriculum, tools, and resources; the designs included pretest and post-test, qualitative and quasi-experimental, comparison groups and randomized control trials; the outcomes examined were emergency nurses' comfort, confidence, and clinical competency in caring for patients with SUDs with a publication timeline defined by the duration of years 2000 to 2022 in trajectory. The rationale for this timeline was such that the opioid crisis had become more prevalent and rampantly developed during this period (Goyer et al., 2022).

This literature search strategy included focused vocabulary terms associated with the research inquiry, focussing on SUD emergency nursing education and comfort, confidence, and clinical competency correlating outcomes. The asterisk symbol was applied to keywords and joined exact phrases, exemplars of keywords included, substance use, emergency department, emergency nurses, withdrawal, overdose, SUD, and OUD. Synonyms such as 'department', 'unit' and 'ward' were used in the search strategy to ensure potentially relevant articles were located and not missed due to verbiage. MEDLINE indexed MESH terms for the articles defined as, "education, emergency medicine, hospital/organization, administration, nurse's role, treatment outcome, alcoholism, diagnosis, female, health services research, diagnosis substance-related disorders, humans, male, substance-related disorders, therapy, alcoholism therapy, emergency nursing, methods, referral and consultation". Boolean operators such as 'and' and 'or' were used to link or procure relationships between key terms. Examples of truncation include nurse, nursing, educate, education, and addict or addiction. Canadian government documents, databases and reports were reviewed and included as grey

literature. Public Health Ontario, the National Collaborating Centre for Methods and Tools and the Canadian Institute for Health Information were grey literature sources that support the corroboration of included literature. Exclusion criteria included nursing settings outside of the Emergency Department and healthcare clinicians beyond the scope of Registered Nurses.

2.2 Literature Review Themes

Based on the literature search the key concepts were critically analyzed and the following themes were identified: 1) addictions attitudes, 2) barriers to SUD care, 3) educational intervention outcomes, and 4) nursing practice implications.

1) Addictions Attitudes

How emergency nurses acknowledge and challenge their attitudes, beliefs and unconscious biases related to addictions and their accountability for inclusive care is important. Dawn Williamson, RN, conducted a quality improvement study and published an article in the *Journal of Addictions Nursing*, which highlighted the importance of addiction education, specifically AUD curricula for the benefit of patients and RNs. ED RNs habitually demonstrate negative attitudes towards patients with AUDs which contributes to compassion fatigue (CF) and poor work satisfaction (Williamson, 2019). Frontline RNs suffering from CF are more prevalent than ever and this disposition is defined as a state of exhaustion that occurs from repetitive, emotionally draining experiences with patients (Williamson, 2019).

The primary aim of Williamson's quality improvement initiative was to develop, implement and evaluate AUD education for ED RNs and the secondary objective was to compare CF scores (Williamson, 2019). The study was a quasi-experimental, pretest-

post-test, within-subjects design that used a convenience sample of 44 RNs who practiced in a large urban ED. This novel study examined the effects of an educational intervention of combined AUDs and CF outcomes for ED RNs (Williamson, 2019). The participants submitted demographics and completed 2 surveys; the Professional Quality of Life: Compassion Satisfaction and Fatigue (ProQOL) survey and the Alcohol Problems Perceptions Questionnaire (Williamson, 2019). These tools had strong validity and reliability and were appropriately utilized in this study. The ED RNs completed the surveys before and after receiving specialized AUDs and CF curricula via a 5-hour online educational program and a 1-hour in-person synchronous class. The quality improvement initiative findings, which were statistically significant, showed an increase in ED RNs' understanding of CF, improved their attitudes surrounding patients with AUDs and showed increased levels of workplace satisfaction (Williamson, 2019).

The limitations of this quasi-experimental study included small sample sizes, as well as a short duration of the intervention period and concluded that the self-reporting nature of the questionnaires resulted in a lack of reflectivity of responses (Williamson, 2019). To mitigate said methodology limitations, the study should be repeated with a larger sample size to improve generalizability and be conducted over a longer duration of time to rigorously validate the intervention, while concurrently operationalizing the randomization of coded questionnaire responses to guarantee anonymity.

Upholding a safe and inclusive person-centred philosophy and patient care environment is crucial for both patients and nurses. With the growing opioid crisis, it remains more important than ever for nurses to be trained to provide optimal, stigma-free, specialized care. Approximately 4% of all deaths globally are attributed to SUDs

(Jackman et al., 2020). Patients who seek SUD care in the ED have been shown to self-blame and internalize stigmatization from the healthcare providers who care for them (Jackman et al., 2020). The RN is often the primary clinician who spends the most time with the patient and up to 84% of the RNs time is accounted for by direct patient care (Jackman et al., 2020). Jackman et al. (2020) recognized this issue and conducted a quantitative analysis of the impact of an educational workshop on nursing attitudes toward patients with SUDs.

These authors highlighted negative nursing attitudes toward patients with SUDs and their harmful impact on the overall quality of care, treatment, and patient outcomes. The purpose of their study was to utilize the intervention of an 8-hour continuing educational workshop on attitudes toward patients with SUD to help reduce stigma, improve the quality of treatment, and aimed to have an impact that reduces the severity of the opioid epidemic in America (Jackman et al., 2020). The SUD continuing education curricula included SUD treatment, epidemiology, neurobiology, nosology, cannabinoids, physiology, management of alcohol withdrawal and pharmacology treatment for opioid dependence (Jackman et al., 2020). The study was a pre-test post-test design whereby participants completed an online survey which included submitting demographic information and completing the Drug and Drug Problems Perceptions Questionnaire (DDPPQ). The DDPPQ is a validated 22-question scale consisting of subcategories: role adequacy, role legitimacy, role support, motivation, task-specific esteem, and work satisfaction (Jackman et al., 2020). One-way analysis of variance statistical methodology was applied to analyze and compare mean score of participant demographics and DDPPQ scores at the prescribed intervals. Overall, the findings revealed that the intervention of

the 8-hour workshop led to increased positive nurses' attitudes in many categories such as captured in the DDPPQ (Jackman et al., 2020).

The outcome data of the pretest post-test designed study were statistically significant in finding an increase in the content knowledge, while results for internal motivation and self-esteem related to SUD content remained unchanged (Jackman et al., 2020). The results showed that education alone is not enough to ameliorate and improve RN workplace attitudes and stigmatization and that it requires a multimodal approach (Jackman et al., 2020). This study should be repeated in a higher-power population to determine modifications of the educational content to promote the generalizability of the intervention and sustainable improvements in all categories of the DDPPQ. A combination of RN role support and specialized SUD education interventions were recommended to yield optimal outcomes that improve nursing competency and attitudes toward patients with SUDs (Jackman et al., 2020).

OUD educational programs promote specialized knowledge which is linked to positive patient outcomes and decreased negative attitudes amongst healthcare workers (Bell & McCurry, 2020). Bell & McCurry (2020) conducted an integrative review to appraise the methodologies utilized to evaluate OUD educational programs for acute care nurses globally. Theoretical and empirical literature was examined between 1995-2019 to reveal the OUD educational modalities with the most optimal outcomes and to ascertain the effectiveness of their evaluation instruments (Bell & McCurry, 2020). The specialized OUD educational modalities used to promote improved competency included interactive workshops, online modules, case studies, simulation, in-person coaching and in-service

training (Bell & McCurry, 2020). Self-assessment survey methodologies were used to assess pre/post knowledge, attitudes, and substance clinical assessment scales.

The studies that met the integrative review inclusion criteria were diverse in their methodologies including quasi-experimental studies, quality improvement projects, pilot studies and randomized control group studies. The key statistically significant self-reported thematic results of the data evaluation included a baseline lack of knowledge and competency to care for patients with OUD; a lack of understanding that OUD, AUD and mental health education are interconnected; acute care nurses have difficulty defining their OUD accountability, role and scope of practice and finally, electronic OUD educational modules in combination with clinical simulation are viable and impactful educational modalities that increased knowledge competency scores from 0-54% (Bell & McCurry, 2020).

The integrative review concluded that reliable and valid instruments for measuring the effectiveness of educational interventions are inadequate and that additional research should be conducted to determine the best teaching strategies for improving OUD nursing knowledge and subsequently patient care (Bell & McCurry, 2020). Translation of this effective, targeted education in nursing science and practice would decrease stigmatizing care and promote equity within OUD patient populations (Bell & McCurry, 2020). Limitations include small sample sizes ranging from 21 to 98 participants and larger study groups should be studied to mitigate sampling bias. This extensive international literature review showed relevance to clinical practice, albeit no gold standard, organized approach was established as the optimal way to best equip frontline RNs with the competency required to care for patients with OUDs. Therefore,

this critical gap requires defining the most impactful educational intervention and utilization of reliable, validated instruments to measure competency and knowledge retention.

As evidenced by various published studies (Russell et al., 2017; van Boekel et al., 2013) nurses report a lack of knowledge and the overall skills required to effectively care for patients with SUD due to inadequate training and the continuing education required to maintain competency. As a result, nurses often develop negative attitudes towards patients with SUD, which results in their stigmatization and may cause delayed medical care, patients' nondisclosure of unsafe behaviours, rushed medical visits, downplaying subjective pain, avoiding harm reduction services such as needle exchange programs, and the inability to recognize physical manifestations of withdrawal (Public Health Agency of Canada, 2020). Collectively, if unaddressed, the rate of ED visits, inpatient stays, and death may continue to increase, placing already vulnerable patients with SUDs at greater risk for negative health outcomes (Koh et al., 2019). Nurses have an ethical and moral obligation to provide the best care possible to all patients to meet their unique needs, both equitably and without stigma (Russell et al, 2017). This emergency nursing continuing education gap and consequent competency weakness ought to be ameliorated through the implementation of specialized SUD education.

2) Barriers to Substance Use Disorder Care

Sadly, there are many political leadership fiscal barriers to providing equitable care for patients with SUDs, both retrospectively and prospectively. In 2017, the Canadian Substance Use Costs and Harms estimated the healthcare economic burden of SUD in Canada to be $46 billion, representing a cost of $1,258 for every Canadian; an

almost 6% increase from $43.5 billion in 2015 (Canadian Centre on Substance Use and Addiction, 2020). The province of Ontario accounts largely for that cost with $17 billion, equating to approximately $1,235 per person, regardless of age (Canadian Centre on Substance Use and Addiction, 2020). Conceivably, more importantly, are the significant personal and economic costs associated with SUD, with the known burdens and social stressors on individuals, families, and friends. These costs translate further in the healthcare system and hospitals when they seek emergency care and treatment, subsequent inpatient admissions, and outpatient treatment. These SUD healthcare-associated costs are estimated at $13.1 billion (28.4% of the total cost of SUD) in Canada which encompasses “inpatient hospitalizations, day surgeries, ED visits, specialized treatment for SUD, physician time and prescription drugs” (Canadian Centre on Substance Use and Addiction, 2020).

CIHI (2021) published a report that examined the harm caused by substance use as an unintended consequence of COVID-19 and correlated influx in emergency department visits. The overlapping crises of the rise in SUDs and opioid toxicity-related deaths merit a closer look into the opportunity for emergency nurses to improve the care they provide to this patient population. The key findings of the data revealed that more Canadians received substance-related emergency care in 2020 than in 2019 (CIHI, 2021). Despite the growing trends in the substance-related ED visit data CIHI captures, this is merely the tip of the iceberg. The CIHI (2021) captures approximately 15% of opioid-related deaths annually as many people who suffer from SUD die in the community and do not make it to the ED. Deaths due to substance-related harm rose by 12% in the ED, from 117 deaths in 2019 to 131 in 2020 (CIHI, 2021).

Individuals with SUD and mental health disorders (MHD) often receive their primary care through the ED when specialized community-based care and resources are inaccessible (Fleury et al., 2019). Four Quebec EDs participated in a study that used case study methodology and theory-driven qualitative design to explore clinician participant expertise and the ability to treat and diagnose ED patients with MHD and SUDs (Fleury et al., 2019). Barriers to effective emergency care were characterized as insufficient budgets, inadequate training, short staffing, staff redeployment, complex operational processes, and lack of access to community resources and outpatient addictions clinics (Fleury et al., 2019). The most thematic of all responses from participants was that they reported a lack of training and expertise as well as a lack of knowledge surrounding available MHD and SUD community resources (Fleury et al., 2019).

This qualitative study was a robust and innovative design that compared key barriers and differing models of care within diverse peer EDs. The study validated the hypothesis and revealed the following recommendations: EDs should be well-funded and integrated partners with their community networks and formal specialized SUD and MHD training and education are required to improve the expertise of round-the-clock clinicians (Fleury et al., 2019). Due to the barriers described, EDs must invest in the prioritization of improving and innovating their preparation and delivery of emergency care to optimize outcomes for and meet the needs of patients with MHDs and SUDs.

Limitations of this study included the lack of perspectives from patients and visitors not being captured and that their important lenses necessitate appraisal to better understand the patients' lived experiences. Secondly, this study could be replicated from a quantitative or quasi-experimental design methodology to confirm the thematic survey

data and rigorously reinforce the understanding of the phenomenological barriers to care. Lastly, using a Likert scale formatted survey would enable the ability to rank and prioritize specialized emergency care barriers based on distinguishing the strength and correlation of variables.

3) Educational Intervention Outcomes

Economic investment requires a multimodal approach whereby funding is allocated to community and primary care as well as institutions that prioritize and deliver specialized education. In 2020, the Association of Faculties of Pharmacy of Canada (AFPC), the Canadian Association of Schools of Nursing (CASN) and the Canadian Association for Social Work Education (CASWE) collaborated to develop and publish *Interprofessional Education Guidelines on Opioid Use and Opioid Use Disorder* to address existing entry to practice SUD competency gaps. The initiative was established via a dedicated stakeholder advisory committee and multidisciplinary working group to participate in the development of the guidelines which were funded by Health Canada (AFPC, CASN & CASWE, 2020). They acknowledged the magnitude of substance-related harms in Canada, evidenced by the increasing prevalence of SUDs and opioid-related deaths (AFPC, CASN & CASWE, 2020). This was an important step and a novel movement in standardizing the preparation of entry-to-practice clinicians to care for patients who struggle with substances.

Hawk et al. (2019) wrote an article titled *"Emergency Medicine Research Priorities for Early Intervention for Substance Use Disorders"*. This publication's framework, phenomena and objectives align with improving outcomes for patients with SUDs in the context of ED care with focused opportunities for RN education and

interventions. This article contributes to the SUD care phenomenon investigation and the participant population is described as patients with SUDs who seek emergency care frequently. The brief RN intervention includes reflective listening, empathy, education, counselling, positive framing, and instilling motivation to reduce risky behaviours (Hawk et al., 2019).

The study design outcomes focussed on the importance of early identification, screening, interventions, the role of peer support navigators, initiation of treatment and evaluation of the effectiveness of RN management of acutely intoxicated patients (Hawk et al., 2019). The study methodology was a collaborative, holistic effort amongst emergency and psychiatric clinicians who assembled at the Coalition on Psychiatric Emergencies in December 2016 at the Acute Mental Illness Research Consensus Conference. The investigators used the nominal group technique to validate and rank the intervention survey questions based on the perceived significance (Hawk et al., 2019). The main objective was an improvement of early identification, diagnosis, and care of patients with SUDs in the ED. The strength of the diverse working group format was that it enabled a structure that supported a democratic, generalizable, and representative approach. The clinician-based working group conducted a rigorous, collaborative multidisciplinary literature search to uncover and validate themes. This inquiry and literature corroboration led to recommendations for a standardized evidence-based educational approach to screening all patients for SUDs, the integration of peer navigators, initiation of SUD treatment and management in the ED and intervention strategies for acutely intoxicated patients in the ED setting (Hawk et al., 2019).

Substance use and abuse are similarly on the rise among children and adolescents. By the end of high school, over 80% of teens in North America will have used alcohol and over 50% will have tried illicit drugs (Seney et al., 2020). According to Seney et al. (2020), RNs have gaps in their knowledge and lack nursing interventions when caring for children and young adults who use substances. A quality improvement initiative was operationalized at a pediatric ED to improve the RN skill set with specialized training, education, and tools to successfully care for children and adolescents with SUDs. The primary investigators completed a systematic review and found that there has been a minimal focus on the competency RNs require when connecting with adults who use substances (Seney et al., 2020).

The study setting was a pediatric hospital ED and the sample included forty-eight frontline RN participants who accounted for approximately 50% of the staff (Seney et al., 2020). Four educational sessions were conducted followed by a 20-item Likert scale survey to assess the nurses' perceived knowledge and skill gaps when caring for patients with opioid abuse. The education session intervention included the Clinical Opiate Withdrawal Scale (COWS) assessment and simulation of the validated screening tool over the course of the 4 day's curricula. A paired sample t-test was conducted to compare the pre-and post-intervention data which showed a statistically significant ($p<.05$) change between the pre and post-test results (Seney et al., 2020).

Analysis of the results indicated narrowing gaps in the nurses' confidence and competency when caring for patients who were addicted to substances (Seney et al., 2020). Due to the limitation of the small sample size, in the future, it would be of benefit to measure the effectiveness of the training by collecting data on a larger sample size of

RNs. The study concluded that RNs ought to be trained on effective screening and assessments of substance use and withdrawal and further recommended conducting training during new hire orientation and biannually to ensure ongoing competency and compliance (Seney et al., 2020).

Competency-based education and training focuses on outcomes that are structured within a strategic framework. The Canadian Royal College's addictions framework of Competency by Design was developed to address SUD patient outcomes and socioeconomic essentials (Koh et al., 2020). The framework articulates the list of recommended competencies for emergency clinicians including screening for opioids and other SUDs, initiating first-line opioid agonist treatment, providing overdose prevention education, naloxone, and harm reduction interventions, the transition of care and social stabilization, reducing opioid-related harm (Koh et al., 2020). The Competency by Design has explicit expectations of medical residents; however, these competencies are correspondingly relevant to nursing practice and should be adapted and defined within the RN scope of practice as ED RNs are part of the multidisciplinary clinical team who care for the same patients with SUDs.

Competency-based frameworks leverage evidence-based content and are fundamental building blocks of ensuring the curriculum is cogent and the educational outcomes come to fruition. Frameworks such as the Registered Nurses' Association of Ontario (RNAO) Best Practice Guidelines (BPG) are established and maintained to ensure RN competency is current and accepted as guiding nursing practice. The Best Practice Guideline contains the relevant pathophysiology, pharmacology, harm reduction and clinical assessment competencies required of ED RNs (RNAO, 2021). The RNAO

BPG, *Engaging Clients Who Use Substances* is the most up-to-date evidence-based recommendation for improving the nursing care provided to patients with addictions (RNAO, 2021). These recommendations include best practices pertaining to addictions assessment, planning, implementation, evaluation, education and system, organization, and policy (RNAO, 2021). Leveraging the existing RNAO addictions educational resources that are readily available is an excellent opportunity for nursing leaders to implement and impact practice change.

4) Nursing Practice Implications

The influx in patient volumes who present to EDs with SUDs ought to elicit a shift in the adoption of appropriately correlated nursing practice standards and guidelines. Vipond and Mennenga (2019) wrote an interesting systematic literature review that significantly contributes to evidence-based emergency nursing addictions practice. Emergency nurses implemented SUD screening, brief interventions, and referrals to treatment (SBIRT) which led to improved patient outcomes (Vipond & Mennenga, 2019). This article addresses the phenomenon of nurse-driven interventions that positively impact the care provided for patients with SUDs. The review defines the population as emergency nurses and emergency patients presenting with alcohol abuse, the intervention described as SBIRT, the comparison group is standard care and outcomes included alcohol consumption and return ED admissions (Vipond & Mennenga, 2019).

ED RNs play a critical role in implementing SBIRT effectively and the ED is a crucial environment to apply this intervention due to the patient admission volumes related to alcohol consumption and AUDs. Strengths of this systematic review highlighted that the SBIRT intervention showed a decrease in patient alcohol

consumption, a reduction of alcohol-related injuries and a decrease in alcohol use disorder emergency readmissions (Vipond & Mennenga, 2019). A positive outcome of this review identified a correlation between the SBIRT program and RN empowerment and improved job satisfaction (Vipond & Mennenga, 2019). Additionally, the integration of a strategically concise and intuitive electronic alcohol assessment triage tool was key to the program's uptick, implementation, and overall success (Vipond & Mennenga, 2019).

Weaknesses of the systematic review included small participant sample size and discrepancies in participant disclosed alcohol consumption between the control and intervention groups. This consequently lower variation between groups showed an overall decrease in RN buy-in, attitudes, compliance, financial support, and motivation regarding the implementation of the SBIRT program (Vipond & Mennenga, 2019). The co-investigators recommend providing robust pre-implementation SBIRT evidence-based rationale education and concise, efficient screening tools to positively improve RN participation uptick and buy-in (Vipond & Mennenga, 2019). This systematic literature review highlights the importance of investing in emergency nurses who are on the frontline and empowering them to screen and intervene autonomously, early in the patient's visit to positively impact patient outcomes.

Nurses want to help patients and empowering them to do so by well-equipping them, is the right thing to do. In 2018, the American Nurses Association published an article titled "The Opioid Epidemic: The Evolving Role of Nursing" which shed light on the variability of addictions education and nursing practice standards amidst the current state opioid crisis (Sowicz et al., 2022). This article inspired an RN-led narrative

literature review publication focused on RN practices with OUD in the Journal of Addictions Nursing. The methodology of the review was designed to identify published research articles between June and December 2019 and upraised 21 qualitative studies to gain a broader understanding of the current state of OUD nursing practices (Sowicz et al., 2022).

Implementation and nursing assessments were the most frequently highlighted practice standards that required standardized, specialized addiction education (Sowicz et al., 2022). The description of this nursing standard is defined as, “the registered nurse specializing in addictions identified expected outcomes for a plan individualized to the healthcare consumer or situation” (Sowicz et al., 2022). Said outcomes that are actionable, measurable, and individualized are a skill and competencies that should be practiced and emphasized in formal nursing continuing education curricula (Sowicz et al., 2022).

Although the captured studies were qualitative, descriptive, and nonexperimental, they should not be discounted as they provide insight regarding how to proceed with this important area of nursing research in the future. Due to this potential limitation, testing interventions via experimental studies are required to positively impact nursing practice standards and health outcomes for patients with OUD (Sowicz et al., 2022). Developing this comprehensive understanding of nurses' practices with patients with OUD is fundamental for understanding the practice gaps and refining, expanding, and advancing them. The nursing discipline could make significant inroads in decreasing the multiple comorbidities and mortality rates associated with addictions by understanding and filling

this competency gap through the articulation of their distinctive disciplinary expertise (Sowicz et al., 2022).

In summary, addictions attitudes, barriers to SUD care, educational intervention outcomes, and nursing practice implications are key elements related to the need for specialized addictions education for emergency nurses. The literature reviewed highlights the observed issue and the existing important opportunity to fill this educational gap. This phenomenon of interest supported by the literature instigated the need for the research question which will be investigated and described in the following chapter.

Chapter 3. Methodology & Implementation

3.1 Leadership Focus & Relevance

With an annual increase of 5% in SUD ED visits and hospitalizations, by neglecting to address this problem the issue will continue to be an economic and healthcare burden (CIHI, 2021). The increased cost to the organization and higher burnout rates for staff leading to increased staff turnover highlight the pressing need for improved standards of care which, without action, reflects poorly on the organization (Health Canada, 2018). This is a very apparent leadership advocacy opportunity to improve addiction nursing care for this high ED patient volume population and in order to mitigate the increasing rate of ED patient visits, inpatient stays, and avoidable deaths related to SUDs (Hawk & D'Onofrio, 2018).

Collectively, addressing this problem with policy action will aid in mending the addictions nursing competency gap and better prepare ED RNs to provide the care patients who struggle with substances deserve. Programs are required to challenge the existing stigma surrounding addictions policy to develop a comprehensive SDH focussed framework that includes harm reduction approaches in healthcare (McKenzie et al., 2016). Improving social support and addictions emergency care with specialized ED RN education ought to be recognized and invested in by leaders in policy to promote equitable, evidence-based, stigma-free, SDH-focused healthcare for patients with SUDs.

The existing published evidence demonstrates that policymakers are responding to healthcare service SDH albeit inadequately (McPherson et al., 2017). Healthcare leadership ought to model a stigma-free, trauma-informed, culturally understanding approach to facilitate a societal shift away from discrimination of PWUDs and

accountability is required at the organizational level to ensure patients' voices are heard, and their healthcare needs are met through appropriate and effective educational interventions. Ongoing leadership prioritization of healthcare outcome analysis throughout these political shifts is required to evaluate and ensure PWUD's needs are met.

3.2 Importance of the Program

To improve patient outcomes, promote health, mitigate social inequalities, and reduce stigma many evidence-based research studies have highlighted positive outcomes when providing specialized SUD training and education for nurses and its impact on their attitudes, confidence, comfort, and knowledge in caring for this patient population (Horner et al., 2019; van Boekel et al., 2013). The creation of an organizational educational policy and educational intervention in-house would be very beneficial to the ED RNs and ED patients locally.

The rationale for this project is that it can be developed in-house, piloted with a local yet generalizable participant group, validated, rigorously researched, and then disseminated broadly provincially and nationally. This crucial intervention will lead to ED nurses' increased comfort, confidence, and clinical competency in providing care to patients with SUD through the uptick of high-quality specialized SUD education and training for ED RNs (Hawk & D'Onofrio, 2018). This commitment to SUD education endeavours to lead to regulation and standards when providing care, using an evidence-informed, harm-reduction and trauma-informed approach (Health Canada, 2018). This recommendation aims to build a local yet generalizable caring culture and environment that supports equipping ED RNs with the tools and knowledge to improve patient

outcomes, reduce stigma, improve addictions competency and social support social determinants of health for this patient population (Horner et al., 2019; van Boekel et al., 2013).

In addition to reducing harmful impacts on patients, organizational administration and government stakeholders will realize reduced expenditure through decreased ED RN staff attrition and turnover, decreased SUD patient hospital admission rates, and reduced recurrent SUD-related ED visits (Hawk & D'Onofrio, 2018). Given the significant healthcare costs associated with SUD healthcare, it can be extrapolated that organizations and governments could have significant savings through the anticipated outcomes of the introduction of mandatory SUD training and education programs for nurses.

3.3 Project Development & Design

The overall purpose of this research project is to understand the practice patterns and barriers to SUD nursing care in the ED and how best to ameliorate them with an educational intervention. The project is designed strategically by leveraging insights gained from the needs assessment survey in combination with the uptake of existing evidence-based strategies and resources to facilitate improved nursing care for patients with SUDs. This will be accomplished by using a 4-step plan including (1) the conduction of a needs assessment survey of emergency nurses at Mount Sinai Hospital to establish baseline knowledge and practice related to the nursing care of patients with SUDs, (2) utilization of this information to develop an evidence-based educational module, (3) evaluate the impact of the educational intervention on ED RNs confidence, comfort and clinical competency caring for patients with SUDs, and (4) analyze the

program impact on patient outcomes, stigmatization, nursing burnout, and overall job satisfaction.

The first step of the operationalization of this 4-step project aims to examine the current gaps amongst ED RNs via a Research Ethics Board-approved (Appendix A) pre-test post-test needs assessment survey (Appendix B) at both Sinai Health and Ontario Tech University to determine the content of a SUD educational intervention for ED RNs. This is a one-time cross-sectional survey of 75 ED RNs at Mount Sinai Hospital, an academic, inner-city tertiary-care centre. The pre-test post-test needs assessment survey questions were developed by the project nursing leader who was interested in better understanding the current state issue, identifying the educational gaps, and ascertaining the best educational modality based on feedback from the frontline. A pre-test post-test needs assessment survey design was developed to support the collection of quantitative, objective data and subjective context by asking open-ended questions to inspire elaboration that would enable an opportunity for a richer understanding of the nurses' needs. Participants were asked 13 SUD-specific questions pertaining to their level of nursing experience, training, assessment skills, perceived barriers, preferred topics, comfort, confidence, and clinical competency when caring for patients with SUDs in the ED (Appendix B). The pre-test post-test needs assessment survey was emailed to the emergency nursing group with role demographics identified upon initiating the pre-test post-test needs assessment survey to confirm exclusive ED RN participants and understand years of experience within the sample.

The second step of the overall project highlights the identified pathophysiology and pharmacology, harm reduction resources and clinical assessment gaps to provision

the creation of an asynchronous e-learning module adapted from the Registered Nurses Association of Ontario (RNAO) Best Practice Guidelines (BPG), *Engaging Clients Who Use Substances e-Learning* module for nurses who work in the organization's ED (RNAO, 2021). These evidence-based practices RNAO BPG recommendations include assessment and screening of all clients to determine whether they use substances and for clients who use substances, using universal screening questions and/or an appropriate screening tool to determine the level of support required and conduction of a comprehensive assessment with all clients who screen positive for substance use, as appropriate based on the nurses' knowledge, skill, time, setting and resources (RNAO, 2021). These RNAO BPG recommendations also include planning and building collaborative relationships with clients through the use of motivational interviewing techniques to develop the plan of care (RNAO, 2021). Additionally, the RNAO BPG recommendations include the implementation of a brief intervention to collaborate with clients identified as at risk for or experiencing a substance use disorder, advocating for and supporting access to combined pharmacological and psychosocial interventions and promoting the appropriate use of combined interventions to improve health outcomes, as well as engaging youth and adolescents at risk for or experiencing a substance use disorder using family-based therapies until recovery (RNAO, 2021). These RNAO BPG recommendations include evaluation and reassessment of the effectiveness of the plan of care until the client's goals are met (RNAO, 2021). With respect to training, the RNAO BPG recommends including education and integration of theory and clinical practice opportunities regarding the care of clients at risk for or experiencing a substance use disorder into the education for nurses and participation in continuing education to

enhance their ability to assess and work with clients at risk for or experiencing a substance use disorder as well as encouraging nurses to practice reflectively to enhance their awareness of their current and evolving attitudes, perceptions and biases, and values and beliefs when working with clients at risk for or experiencing a substance use disorder (RNAO, 2021). Lastly, from a system, organization and policy perspective the RNAO BPG recommendations include advocacy for improved health outcomes by increasing access to integrative and collaborative care for clients at risk for or experiencing a substance use disorder; and reducing health inequities by dedicating resources to preventing, treating, and supporting the recovery of individuals at risk for or experiencing a substance use disorder and they endorse organizations to integrate prevention, assessment, and management of substance use and substance use disorders as a strategic clinical priority across all care settings while integrating components of harm reduction and the social determinants of health into comprehensive, multi-faceted approaches to addressing substance use disorders and using knowledge translation processes and multi-faceted strategies to integrate best practices in the assessment and management of substance use and substance use disorders across all practice settings (RNAO, 2021).

The RNAO BPG *Engaging Clients who use Substances* recommendations will be utilized and adapted as the foundational framework for the educational intervention. The e-learning module headings will reflect that of the RNAO BPG recommendations: addictions assessment, planning, implementation, evaluation, education and system, organization, and policy (RNAO, 2021). The content of the e-learning module will also embed the results of the needs assessment survey which highlights the need for fulsome pathophysiology and pharmacology, information on local addictions resources and SUD

clinical assessments such as the Clinical Opioid Withdrawal Scale (COWS) and the Clinical Institute Withdrawal Assessment for Alcohol (CIWA) to ameliorate the comfort, confidence, and clinical competency gap.

The internal Learning Management System team will require engagement to ensure human resources capacity to support the online module development. Once the educational intervention is created it will be disseminated for all ED RNs to enroll and complete the course. The timeline (Appendix D) for the project includes institutional Research Ethics Board Review approvals, collaboration with the internal Learning Management System team, recruitment of study participants, dissemination of the pre-test post-test needs assessment survey, and implementation of the SUD ED RN educational intervention (section 3.4-3.5).

The third step of the overall project will be the conduction of the pre-test post-test survey, data collection, analysis and writing of the report of the study results. The rationale for the post-intervention survey is to evaluate the effectiveness of the educational intervention by comparing ED RNs' comfort, confidence, clinical competency, and program experience satisfaction scores pre-and post-implementation. The quantitative pre- and post-intervention needs assessment survey will be identical and the data will be measured via a standardized Likert scale questionnaire with free-text opportunities to collect and analyze the material that will inform the effectiveness and impact of the intervention. The research ethics boards, and affiliated organizations' research institutes recommended that the pre and post-surveys were required to be duplicated to determine if there was a change in the results and needs assessment before and after the specialized education. Following the data collection and analysis, the

findings will be highlighted and written in a report to disseminate to peer EDs via publication in a nursing journal. This entire process should take approximately 1-year to complete.

The fourth and final step will include the program impact evaluation (Appendix G) which will be completed by the program stakeholders (section 3.6).

3.4 Pre-Test Post-Test Needs Assessment Survey Methodology

Study Population:

The needs assessment survey was disseminated to all emergency nurses at Mount Sinai Hospital. Out of around 75 ED nurses, we aimed for 70% completion. This completion rate was identified by the research institute stakeholders to capture sufficient data amongst the group to ensure statistical significance while recognizing the current state of burnout and survey fatigue (Health Canada, 2018).

Data Collection:

The investigators made initial contact with ED nurses via email. The needs assessment survey (Appendix B) was sent out via email (Appendix C) and ED nurses were able to read through the information and provide implied consent by completing the needs assessment survey on their own time. The needs assessment surveys were distributed and collected over a period of 2 weeks. A notification was sent 2 days prior to sending the actual needs assessment survey, then 3 follow-up reminders over the following 10 days.

Informed Consent:

All relevant information pertaining to the study was provided at the beginning of the needs assessment survey and in the recruitment email. Implied consent was obtained by the nurse's voluntary completion of the needs assessment survey.

Needs Assessment Methods:

The needs assessment survey was distributed via a Qualtrics survey link which was emailed to all ED nurses on a listserv by the study's primary investigator, the ED Clinical Nurse Specialist program lead. Responses were not linked to any individual ED RNs, and they were not identifiable. All needs assessment survey responses were sent directly into the Qualtrics software tool. Once the needs assessment survey responses were completed, they were exported into a secure Microsoft Excel document and stored on the aforementioned secure server behind the hospital firewall. There was no further recruitment information gathered and the data collected will only be accessible to study personnel for analysis.

Privacy & Confidentiality:

As the survey was anonymous, there were no foreseen risks or concerns related to confidentiality or breach of anonymity that arose from participation in the study. All data was stored on a secure server behind the hospital's firewall throughout the study and all data will be destroyed after 7 years.

3.5 Needs Assessment Survey Results:

35 ED RNs completed the needs assessment, out of said participants 48.6% had less than 5 years of experience, 8.6% had between 6 to 10 years of experience, 34.3% had between 11 to 20 years of experience and 8.6% had 21 or more years of experience. Out of all respondents, 20% had previously received SUD continuing education and 80% had

never received SUD continuing education. The top 3 Barriers to providing effective nursing care to patients with SUD: 26 (74.3%) cited lack of education on SUD management 26 (74.3%) cited inadequate post-discharge resources, 19 (54.3%) said that it takes too much time. The recommended modality of education intervention: 26 (74.3%) suggested internal in-class education, 17 (48.6%) suggested internal e-learning modules, 16 (45.7%) suggested simulation, and 11 (31.4%) suggested external educational courses.

Participants were asked open-ended questions regarding their previous training in the management of SUD, comfort in the management of patients with SUD, perceived barriers to providing effective care for patients with SUD, and preferred topics for future continuing education. Participant responses to the question, "what is the best way to increase RN comfort and competency in caring for patients with SUD?" included: *"Specialty trained RNs with all-encompassing training in mental health, substance use disorder, and addictions management", "Clear information and guidelines on the steps a RN should take to support patients", "In-class training, more resources readily available to give to the patient which supports the RN in preparing the patient for discharge",* and *"Something quick to go through with the patient."* Participant-reported top 3 content themes for future intervention content that would be most helpful for improving RN comfort and competency with patients with SUDs were: pathophysiology and pharmacology, addictions resources and SUD clinical assessments.

This needs assessment survey of ED RNs at a site with a high volume of patients presenting with SUDs found low levels of formal education related to SUD management. Participants reported a moderate to low level of confidence and competency in their ability to care for patients with SUD in the ED. Pathophysiology and pharmacology,

addictions resources, and SUD clinical assessments have been identified as the most helpful content to embed in a specialized educational intervention.

The results of the survey were quite informative and supported the adoption of the RNAO BPG *Engaging Clients who use Substances* recommendations while embedding the most relevant frontline findings. The needs assessment survey highlighted the pathophysiology and pharmacology, addictions resources and SUD clinical assessment's comfort, confidence, and clinical competence gaps. The ED RNs expressed the need to learn more about addiction screening, the COWS and CIWA nursing assessments, pathophysiology and pharmacology, harm reduction, and local addiction resources, all of which are included in the e-learning module. The structure of the module is developed and adopted from the RNAO evidence based BPG recommendations which include addictions assessment, planning, implementation, evaluation, education and system, organization, and policy (RNAO, 2021).

3.6 Program Evaluation

Following the needs assessment survey, implementation of intervention and post-intervention survey, the program will require evaluation in its entirety. The 4-step project plan will require feedback and reassessment by analyzing patient outcomes through the organization's patient and staff experience survey. The functional operationalization of this evaluation plan and framework are developed in collaboration with the organizational stakeholders. The scope of the program evaluation will be internally appraised and thus evaluation costs will be absorbed into the roles and responsibilities of the organization's stakeholders and program leaders who are invested in the program and its evaluation. Parameters of scope will be defined in the cost-utility plan determined by the program

design stakeholders, the organization's finance department and the clinical program leaders prior to the program rollout. A cost-effectiveness evaluation will be analyzed on an annual basis to understand the fiscal impact of the program.

The program evaluation plan for collecting and analyzing the program's results, outcomes, and impact will include comparing the ED RN SUD Needs Assessment Pre- and Post-Test Survey (Appendix B) and the corporate patient and staff experience surveys. The data collection methods mentioned above will provide program performance insight into the causal relationship between the logic model, the evaluand, the source of data and the overall impact of the program. The rationale and method of this program evaluation focus primarily on the change management strategy activities with an emphasis on knowledge acquisition and staff satisfaction outputs. The program evaluation will require involvement from program stakeholders to ensure sound validity, reliability, and focused intention of the evaluation on the intended outcomes and overall impact of the program. The findings of the program evaluation will determine the utility of the program based on its effectiveness and will subsequently prescribe the programs permanence.

As the leader of the project as well as a leader in the Emergency Department I ensured this project was well communicated to the team and encouraged participation. Understanding the team and the patient population enabled me as a leader to have clout in hypothesizing the ameliorating the problem by collaborating with the frontline end-users in the development of the content of the intervention based on their feedback. Since my role as a nursing leader enables me to have the opportunity to host annual education days, I was able to present the results of the needs assessment survey to the ED RNs, validate

the responses, thank them for their feedback and remind them that the corroborated information will inform the educational intervention.

3.7 Significance

The results of this need assessment survey determined the competency gaps to integrate the most relevant curricula to implement into the novel educational module. These data are analyzed and corroborated to determine the educational intervention content, SDH foci, specialized curricula, and overall approach. This project will contribute to evidence-informed scholarly literature and the identification of effective specialized SUD ED RN education that improves RN and patient outcomes. Following implementation, the program will be evaluated to determine if the specialized educational addictions content ameliorates these gaps, improves ED RNs' comfort, confidence, or clinical competency and if the program has an impact on patient outcomes, stigmatization, nursing burnout, and overall job satisfaction.

The objectives and outcomes of this intervention are generalizable to EDs provincially and nationally and have an important sustainable opportunity to significantly contribute to practice change broadly. Leadership ought to be accountable for amending these problems through sustained investment in equipping ED RNs with the specialized education required to provide appropriate, equitable, evidence-based, stigma-free care for patients with SUDs.

The following and final chapter will elucidate the project’s leadership accountability necessity, the systemic impact and the importance of knowledge translation and dissemination. As an emergency nursing leader, it is imperative that I share the findings of the study and the outcomes of the program with fellow peer ED

teams. Based on the literature review corroborated with my experience it is quite apparent that this issue is present in EDs across the province and country. As a nursing leader, I ought to identify issues such as these, develop and implement strategies, and invest in the necessary changes broadly to improve nursing practice and patient care.

Chapter 4. Discussion & Conclusions

The content of this chapter elucidates the necessity of this educational intervention and the leadership accountability that is required to support, fund, and operationalize it to improve ED patient outcomes such as overdose, withdrawal and death and ED RN outcomes such as job satisfaction related to the education preparedness required to care for folks with SUDs (Vipond & Mennenga, 2019).

4.1 Leadership Accountability

An ED visit represents an excellent opportunity to intervene and offer help to patients who struggle with SUDs; however, nurses do not receive evidence-based continuing education to prepare them for caring for said patients, representing an important gap. This project will determine barriers and opportunities to implement an intervention that improves the care provided for patients with SUDs in the ED. The results of this study will support ameliorating this educational gap and have the potential to significantly impact patient outcomes, including quality of life, decrease healthcare resources utilization, and cost savings for the healthcare system (Koh et al., 2019).

Providing ED nurses with specialized SUD education improves the provision of care for patients who experience SUDs, provides appropriate specialized care for the patient population, and enhances their overall livelihood (RNAO, 2021). With specialized education, ED nurses will be able to address SUD patients' social support needs by broadening their understanding of SDH factors that affect their lived experience, which includes engaging in their care plan goals while providing addictions care that is equitable, stigma-free and advocacy for SUD specific social support resources and organizational addictions policy change (RNAO, 2021). Organizations systemically

ought to endorse the specialized continuing education required to support the rapid increase in ED visits, inpatient stays, and deaths related to SUD (Russell et al., 2017; van Boekel et al., 2013). Together, internal, and external organizations should collaborate to develop policies and procedures, conduct research, and implement best practices to provide optimal care for this patient population.

This builds a local yet generalizable caring culture and environment that supports equipping the organization's ED RNs with the tools and knowledge to improve outcomes (Horner et al., 2019; van Boekel et al., 2013). Given the significant healthcare costs associated with SUD healthcare, it can be extrapolated that the organization could realize significant savings through the anticipated outcomes included in the evaluation of the addiction education program. These anticipated outcomes include decreased SUD-related ED readmission, decreased frequency of overdoses and decreased infections related to intravenous drug use (Vipond & Mennenga, 2019). In addition to the evaluation of the ED RNs impact, organizational administration stakeholders may experience reduced expenditure through decreased ED RN staff attrition and turnover, decreased SUD patient hospital admission rates, and reduced recurrent SUD-related ED visits (Hawk et al., 2019).

4.2 Systemic Impact

With an annual increase of 5% in SUD ED visits and hospitalizations, by neglecting to address this problem the issue will continue to be an economic and healthcare burden organizationally, provincially, and nationally (CIHI, 2021). The increased cost to the healthcare system and higher burnout rates for staff leading to increased staff turnover highlight the pressing need for improved standards of care which,

without action, reflects poorly on organizations and governments (Health Canada, 2018). The organization should take advantage of this identified gap imminently as an opportunity to implement SUD educational opportunities to improve social support and addiction care for this high ED patient volume population and mitigate the increasing rate of ED patient visits, inpatient stays, and avoidable deaths related to SUDs (Hawk & D'Onofrio, 2018).

Collectively, addressing this problem with policy action will aid in mending the addictions nursing competency gap and better prepare ED RNs to provide the care patients who struggle with substances deserve. Improving social support and addictions emergency care with specialized nursing education ought to be recognized and invested in through policy (Appendix H) to promote equitable, evidence-based, stigma-free, social determinants of health-focused healthcare for patients with SUDs.

The COVID-19 pandemic has reinforced and exacerbated the SUD nursing comfort, confidence, and clinical competency gaps that exist and now is the time to better equip front-line RNs to care for this patient population. The operational structure of the ED poses a unique opportunity and important leadership advocacy obligation to improve care and outcomes for patients with SUDs. To ameliorate this issue, the phenomena of interest and research-based, quality improvement initiative is identified as the implementation of a structured, specialized, SUD educational program to improve emergency nurses' comfort, confidence, and clinical competency. Amending this gap with specialized nursing education will prepare ED RNs to provide appropriate, equitable, evidence-based, stigma-free care for patients with SUDs.

This comprehensive and clinically significant project is practically meaningful and supports the recommendation of nursing leadership advocacy and endorsement to ameliorate this emergency nursing continuing education gap and consequent competency weakness. Outside of academic circles, this leadership opportunity will empower nursing practice change and patient care outcomes because of leadership activism for marginalized and stigmatized populations (Farrell, 2020). In conclusion, the utilization of specialized SUD RN education research is nominal and the continuation of researching the breadth of this phenomenon and defining adequate educational interventions is fundamental to advance the understanding and rectification of this issue.

4.3 Knowledge Translation & Dissemination

This program can be developed, validated, piloted, implemented, and rigorously evaluated within the organization's existing staff complement. The outcomes of this local, single ED site RN participant group could be applied to peer EDs nationally since all Canadian ED RNs provide care for the specialized SUD patient population group (Morin et al., 2017). The long-term post-evaluation objective is to implement the specialized ED RN addictions program in peer EDs provincially and nationally. The results of the project will be disseminated in forums such as publications, conferences and community of practice groups and can support and inform the development of educational materials and additional projects that help improve the care of patients with SUD in the ED.

The needs assessment survey results were shared on April 29, 2023, via presentation at the National Emergency Nurses Association conference in Calgary, Alberta (Appendix E). This opportunity enabled the dissemination of findings to

approximately 400 ED RNs and hospital leaders from across Canada. Additionally, the needs assessment survey results will be shared via poster presentation at the Canadian Association of Emergency Physicians conference on May 28, 2023, in Toronto, Ontario (Appendix F).

4.4 Conclusion

In conclusion, the ED RN addictions education program's short and long-term outcomes and impact goals are to improve outcomes for ED RNs and PWUDs. This impact evaluation is required to ensure due diligence is undertaken in the appraisal of this novel program. Reflecting on the evaluation of all of the indicators, data collection tools and limitations of this evaluation plan are important to ensure the unique lessons learned are implemented into program revisions. Furthermore, the program's outcomes will necessitate broad dissemination of findings in order to support achieving the program's overall impact and sustainability goals to improve ED care for PWUDs amidst the addiction crisis. These findings acknowledge the contributions of the human resources who dedicate their time, energy, and effort to the development and execution of this important project.

Sustained investment in providing ED nurses with the education required to provide high-quality, evidence-based, and trauma-informed care for patients with SUD is expected to yield the following outcomes: ED nurses increased comfort, confidence, and clinical competency in caring for patients with SUDs, improve patient outcomes, improve accessibility to healthcare resources for this vulnerable patient population by decreasing stigma and barriers, and reduce recurrent ED visits for patients with SUD. As leaders, amending this gap with specialized nursing education will better prepare ED RNs to

provide appropriate, equitable, evidence-based, stigma-free care for our patients with substance use disorders.

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APPENDICES

Appendix A. Research Ethics Board Approvals

Research Ethics Board

700 University Avenue, 8th fl., Suite 8-600
Toronto, Ontario, Canada, M5G 1Z5
t: (416) 586-4875 f: (416) 586-4715
www.mtsinai.on.ca

Notification of REB Initial Approval (Delegated)

Date: May 19, 2022

To: Dr. Bjug Borgundvaag
Department of Family Medicine
Division of Emergency
Attention: Shelley McLeod
600 University Avenue
Emergency Department Room 206
Toronto, Ontario M5G 1X5 Canada

Re: **22-0074-E**
Development of an Electronic Educational Intervention to Improve Nursing Competency, Confidence, and Comfort in Caring for Patients with Substance Use Disorders in the Emergency Department - Needs Assessment Survey (eSubmission)

Sponsor:	No Funding Required
REB Review Type:	Delegated
REB Initial Approval Date:	19 May, 2022
REB Expiry Date:	19 May, 2023
Documents Approved:	Protocol (Dated: 2022/01/04)
Questionnaire/Survey (Dated: 2022/01/05)	
Recruitment Letters/Tools: Email Script to Emergency Nurses (Received Date: 2022/01/05)	
Documents Acknowledged:	N/A
Health Records Access:	N/A

The above named study has been reviewed and approved by the Mount Sinai Hospital Research Ethics Board. If, during the course of the research, there are any serious adverse events, confidentiality concerns, changes in the approved project, or any new information that must be considered with respect to the project, these should be brought to the immediate attention of the REB. In the event of a privacy breach, you are responsible for reporting the breach to the MSH REB and the MSH Corporate Privacy Office (in accordance with Ontario health privacy legislation – Personal Health Information Protection Act, 2004). Additionally, the MSH REB requires reports of inappropriate/unauthorized use of the information.

If the study is expected to continue beyond the expiry date, you are responsible for ensuring the study receives re-approval. The REB must be notified of the completion or termination of this study and a final report provided. As the Principal Investigator, you are responsible for the ethical conduct of this study.

The MSH Research Ethics Board operates in compliance with the Tri-Council Policy Statement 2, ICH/GCP Guidelines, Part C, Division 5 of the Food and Drug Regulations of Health Canada, Part 4 of the Natural Health Product Regulations, and Part 3 of the Medical Devices Regulations.

During the COVID-19 Publicly Declared Emergency, the REB continues to review and approve submissions, but initiation or implementation of newly approved submissions will be contingent upon evolving institutional policies and guidelines. Principal Investigators are encouraged to consult with their Department Heads for further guidance.

Sincerely,

Vibhuti Shah, MD, FRCPC, MSc
Chair, Mount Sinai Hospital Research Ethics Board

Date: *September 09, 2022*
To: *Manon Lemonde*
From: *Ruth Milman, REB Chair*
File # & Title: *16828 - Development of an electronic educational intervention to improve nursing competency, confidence and comfort in caring for patients with Substance Use Disorders in the Emergency Department - Needs Assessment Survey*
Status: ***APPROVED***

Review Type: ***Delegated Review***
REB Expiry Date: ***September 01, 2023***
Documents Approved:

Document Name	Comments	Version Date
Data Collection Materials	2. Appendix B - Email transcript	2022/02/22
Data Collection Materials	Appendix C - SUD ED RN Survey	2022/02/22
Data Collection Materials	Appendix A - ED RN SUD Education - Staff Survey Protocol_v1_4Jan2022	2022/07/26

Notwithstanding this approval, you are required to obtain/submit, to Ontario Tech Research Ethics Board, any relevant approvals/permissions required, prior to commencement of this project.

The Ontario Tech Research Ethics Board (REB) has reviewed and approved the research study named above to ensure compliance with the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS2 2018), the Ontario Tech Research Ethics Policy and Procedures and associated regulations. As the Principal Investigator (PI), you are required to adhere to the research protocol described in the REB application as last reviewed and approved by the REB. In addition, you are responsible for obtaining any further approvals that might be required to complete your project.

Under the TCPS2 2018, the PI is responsible for complying with the continuing research ethics reviews requirements listed below:

Renewal Request Form: All approved projects are subject to an annual renewal process. Projects must be renewed or closed by the expiry date indicated above

("Current Expiry"). Projects not renewed 30 days post expiry date will be automatically suspended by the REB; projects not renewed 60 days post expiry date will be automatically closed by the REB. Once your file has been formally closed, a new submission will be required to open a new file.

Change Request Form: If the research plan, methods, and/or recruitment methods should change, please submit a change request application to the REB for review and approval prior to implementing the changes.

Adverse or Unexpected Events Form: Events must be reported to the REB within 72 hours after the event occurred with an indication of how these events affect (in the view of the Principal Investigator) the safety of the participants and the continuation of the protocol (i.e. un-anticipated or un-mitigated physical, social or psychological harm to a participant).

Research Project Completion Form: This form must be completed when the research study is concluded.

Always quote your REB file number (**16828**) on future correspondence. We wish you success with your study.

Sincerely,

Dr. Ruth Milman	Janice Moseley
REB Chair	Research Ethics Officer

Appendix B. ED RN Needs Assessment Survey

Q1 What is your role in the emergency department?

- ○ Registered Nurse (1)
- ○ Other (please specify): (2) _____

Q2 What year of practice are you in?

- ○ 0-5 (1)
- ○ 6-10 (2)
- ○ 11-20 (3)
- ○ 21+ (4)

Q3 Have you previously received continuing education on caring for patients with Substance Use Disorder (SUD)?

- ○ Yes (1)
- ○ No (2)

Q3b What general topics were covered in this education? (Select all that apply)

- [ ] Risk factors (1)
- [ ] Biases and stigma (2)
- [ ] Mental health (3)
- [ ] Clinical assessment (4)
- [ ] Pathophysiology (5)
- [ ] Pharmacology (6)
- [ ] Social and community supports (7)

Start of Block: Confidence

Q4 Regardless of your training or current clinical practice, please indicate the extent of your agreement with the following questions:

	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
I am confident in my clinical ability to care for patients with SUDs. (1)	○	○	○	○	○
I am confident in my ability to counsel ED patients with SUDs on harm reduction resources. (2)	○	○	○	○	○
I am comfortable discussing SUDs with my patients. (3)	○	○	○	○	○

End of Block: Confidence

Start of Block: Perspective

End of Block: If 'Yes' to training

Q5, Do you feel comfortable and competent caring for patients with SUDs in the ED?

○ Yes (1)

○ No (2)

End of Block: Demographics

Start of Block: If 'Yes' to training

Q6 When patients present to the ED with SUDs, how comfortable for you feel caring for them:

	Not at all (1)	Mildly (2)	Somewhat (3)	Comfortable (4)	Very comfortable (5)
Caring for patients with SUD. (1)	○	○	○	○	○
Completing assessments substance related complaints. (2)	○	○	○	○	○
Assessing patients and administering medications to treat substance withdrawal. (3)	○	○	○	○	○
Counselling and health promotion for patients with SUDs. (4)	○	○	○	○	○
Providing SUD resources prior to discharge. (5)	○	○	○	○	○
Dispensing naloxone kits and providing harm reduction education. (6)	○	○	○	○	○

Q7 For patients presenting with SUDs, how frequently have you:

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)
Counselled the patient on harm reduction strategies. (1)	○	○	○	○	○
Connected the patient with SUD community resources. (2)	○	○	○	○	○
Given the patient printed materials on SUD and harm reduction. (3)	○	○	○	○	○

Q8, Would you be willing to learn about SUD nursing care in the context of the emergency department?

○ Yes (1)

○ No (2)

Q9 Which of the following modalities would be helpful in improving your comfort in caring for patients with SUD in your practice? (Select all that apply)

- ☐ Internal in-class education (1)
- ☐ Internal e-learning modules (2)
- ☐ Simulation (3)
- ☐ External educational courses (4)
- ☐ Other (please specify): (5) _____
- ☐ None of the above (6)

Q10 What education would be helpful? (Select all that apply)

- ☐ Education on SUD (pathophysiology, pharmacology, psychosocial, crucial conversations) (1)
- ☐ Education on medication administration for SUDs (2)
- ☐ Education on screening or intervention of SUDs (3)
- ☐ Education on community and internal addictions resources (RAAM clinics) (4)
- ☐ Education on SUD risk factors (5)
- ☐ Education on SUD Biases and stigma (7)
- ☐ Education on Mental health correlation (8)
- ☐ Education on SUD clinical assessments (9)
- ☐ Education on social and community supports (10)

Other (please specify): (11) _____

Q11 In your opinion, what are the main barriers to providing effective nursing care to patients with SUD in the emergency department? (Select all that apply):

- ☐ Takes too much time (1)
- ☐ It isn't an emergency nurse's job (2)
- ☐ Do not believe there is a problem (3)
- ☐ Inadequate post-discharge resources (4)
- ☐ Other (please specify): (5) _____
- ☐ None of the above (6)

Q12 In your opinion, what would be the best way to increase RN comfort and competency when caring for patients with substance use disorders in the emergency department? Do you have any other suggestions for ways to improve care for this patient population? Please share your thoughts below.

_____

_____

_____

_____

_____

Appendix. C ED RN Needs Assessment Email

SUD Baseline Staff Survey

Dear Mount Sinai Hospital Emergency Nurses,
Patients with substance use disorders (SUD) are frequently seen in the emergency department (ED) presenting intoxicated or in withdrawal. Brief interactions in the ED often represent the only portal of entry to the healthcare system for many of these patients. Disenfranchised patients suffering from substance use disorders have faced legacy barriers when accessing health care, particularly in the emergency department for a myriad of reasons. COVID-19 has exacerbated an already pressing issue of inequitable emergency care and access. This has only added fuel to the very real and ongoing need for emergency departments to develop strategies with strong evidence-based resources to mitigate the perpetual risks to this population, both system-level issues and those rooted in bias and stigma.
Currently, Sinai Health does not offer any continuing education opportunities in the ED that support nurses to increase their competency, comfort, and confidence in caring for patients with SUD. Consequently, there is no current obligation or level of competency expected of emergency nurses to provide safe care to patients with SUDs, nor are they supported by mandatory and funded SUD continuing education.
For this reason, we are interested in improving emergency nurses' comfort and clinical competency in caring for patients with substance use disorders. The objective of this survey is to understand the perspectives of emergency nurses, focusing on current understanding and comfort in caring for patients with SUD in the emergency department. We hope that by better understanding the perspectives of the nursing group we can develop future interventions and tools to improve the management of SUD in the ED. We want to hear about your perspectives on caring for patients with SUD and addictions in the ED. This research questionnaire should take no longer than 5 minutes to complete. You are free to not respond to any questions you choose or stop the survey at any time without affecting your employment status. Completion of the survey implies consent for your responses to be used in research. The information that is collected for the study will be kept in a locked and secure area by the study doctor for 7 years. Only the study team and the Mount Sinai Research Ethics Board will be allowed to look at your records.

All of these people have an interest in completing this study. Their interests should not influence your decision to participate in this study. You should not feel pressured to join this study.

Completion of the survey implies consent for your responses to be used in research. Thank you for your support.

If you have any questions, please contact Bjug (Bjug.Borgundvaag@sinaihealth.ca, 416 586 4800 x.2144) or Kelly (Kelly.Shillington@sinaihealth.ca 647-273-6899).

If you have any questions about your rights as a research participant or have any concerns about this study, call the Mount Sinai Hospital Research Ethics Board (REB) office number at 416-586-4875. The REB is a group of people who oversee the ethical conduct

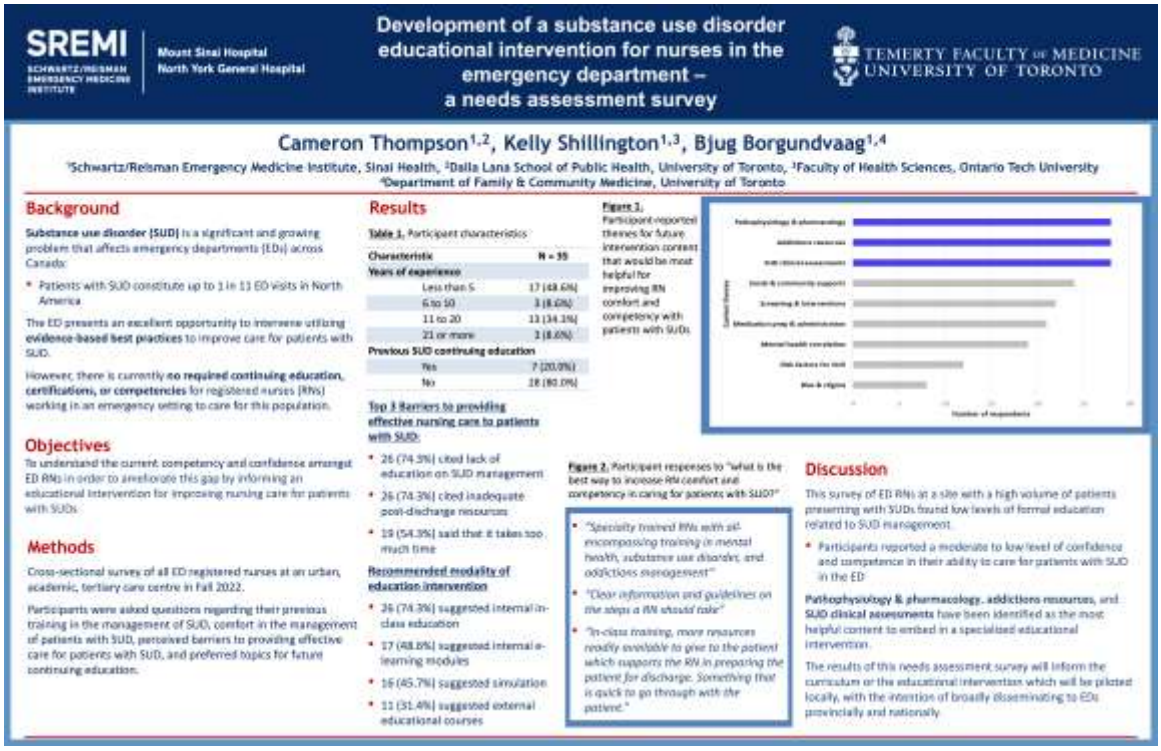
of research studies. These people are not part of the study team. Everything you discuss will be kept confidential.
Kelly Shillington

Appendix. D Project Timetable

Project Timetable Prepared as Gantt Chart								
Activity	Months 1-2	Months 3-4	Month 5	Months 6-7	Months 7-8	Months 8-9	Months 9-10	Months 11-12
Institutional Research Ethics Board Review								
Obtain study materials from internal Learning Management System and create survey								
Recruit study participants and conduct pre-test survey								
Implement Substance Use Disorder Nurse education intervention								
Conduct post-test survey								
Collect Data								
Analyze Data								
Prepare reports of study results								

Appendix E. National Emergency Nurses Association Conference Presentation

Appendix F. Canadian Association of Emergency Physicians Conference Poster



SREMI
SCHWARTZ/REISMAN EMERGENCY MEDICINE INSTITUTE
Mount Sinai Hospital
North York General Hospital

Development of a substance use disorder educational intervention for nurses in the emergency department – a needs assessment survey

TEMERTY FACULTY OF MEDICINE
UNIVERSITY OF TORONTO

Cameron Thompson[1,2], Kelly Shillington[1,3], Bjug Borgundvaag[1,4]

[1]Schwartz/Reisman Emergency Medicine Institute, Sinai Health, [2]Dalla Lana School of Public Health, University of Toronto, [3]Faculty of Health Sciences, Ontario Tech University
[4]Department of Family & Community Medicine, University of Toronto

Background

Substance use disorder (SUD) is a significant and growing problem that affects emergency departments (EDs) across Canada:

- Patients with SUD constitute up to 1 in 11 ED visits in North America

The ED presents an excellent opportunity to intervene utilizing **evidence-based best practices** to improve care for patients with SUD.

However, there is currently **no required continuing education, certifications, or competencies** for registered nurses (RNs) working in an emergency setting to care for this population.

Objectives

To understand the current competency and confidence amongst ED RNs in order to ameliorate this gap by informing an educational intervention for improving nursing care for patients with SUDs.

Methods

Cross-sectional survey of all ED registered nurses at an urban, academic, tertiary care centre in Fall 2022.

Participants were asked questions regarding their previous training in the management of SUD, comfort in the management of patients with SUD, perceived barriers to providing effective care for patients with SUD, and preferred topics for future continuing education.

Results

Table 1. Participant characteristics

Characteristic	N = 35
Years of experience	
Less than 5	17 (48.6%)
6 to 10	3 (8.6%)
11 to 20	11 (34.3%)
21 or more	3 (8.6%)
Previous SUD continuing education	
Yes	7 (20.0%)
No	28 (80.0%)

Top 3 Barriers to providing effective nursing care to patients with SUD:

- 26 (74.3%) cited lack of education on SUD management
- 26 (74.3%) cited inadequate post-discharge resources
- 19 (54.3%) said that it takes too much time

Recommended modality of education intervention

- 26 (74.3%) suggested internal in-class education
- 17 (48.6%) suggested internal e-learning modules
- 16 (45.7%) suggested simulation
- 11 (31.4%) suggested external educational courses

Figure 1. Participant-reported themes for future intervention content that would be most helpful for improving RN comfort and competency with patients with SUDs

Figure 2. Participant responses to "what is the best way to increase RN comfort and competency in caring for patients with SUD?"

- *"Specialty trained RNs with all-encompassing training in mental health, substance use disorder, and addictions management"*
- *"Clear information and guidelines on the steps a RN should take"*
- *"In-class training, more resources readily available to give to the patient which supports the RN in preparing the patient for discharge. Something that is quick to go through with the patient."*

Discussion

This survey of ED RNs at a site with a high volume of patients presenting with SUDs found low levels of formal education related to SUD management.

- Participants reported a moderate to low level of confidence and competence in their ability to care for patients with SUD in the ED

Pathophysiology & pharmacology, addictions resources, and **SUD clinical assessments** have been identified as the most helpful content to embed in a specialized educational intervention.

The results of this needs assessment survey will inform the curriculum or the educational intervention which will be piloted locally, with the intention of broadly disseminating to EDs provincially and nationally.

Appendix G. Addictions Education for ED RNs Program Evaluation

Program

Canada is in the midst of a growing opioid epidemic that requires immediate healthcare interventions and policies to minimize the risks to people who use drugs (PWUD) (Goyer et al., 2022). PWUDs are seeking Emergency Department (ED) healthcare at more frequent rates, in fact, ED visits in Ontario increased from 9.42 per 100,000 population in 2003 to 19.55 per 100,000 population in 2015 (Morin et al., 2017). ED Registered Nurses (RNs) are caring for patients with substance use disorders (SUD) at an increasing rate, albeit they are underprepared to provide the high-quality, evidence-based care this patient population deserves. To improve patient outcomes, promote health, mitigate social inequalities, and reduce stigma much evidence-based research has highlighted that providing specialized SUD training and education for ED RNs has an impact on their attitude, confidence, comfort, and competency in caring for this patient population (Horner et al., 2019; van Boekel et al., 2013).

The program requiring impact evaluation is a specialized, addictions educational intervention, adapted from the Registered Nurses' Association of Ontario (RNAO) (2021) Best Practice Guidelines (BPG), *Engaging Clients Who Use Substances e-Learning* module. The purpose of this evaluation is to determine if the intervention of specialized addiction education effectively improves outcomes for ED RNs who care for PWUDs. This builds a local yet generalizable caring culture and environment that supports equipping the organization's ED RNs with the tools and knowledge to improve outcomes related to addiction (Horner et al., 2019; van Boekel et al., 2013).

Given the significant healthcare costs associated with SUD healthcare, it can be extrapolated that the organization could realize significant savings through the anticipated outcomes included in the evaluation of the addiction education program. In addition to the evaluation of the ED RNs impact, organizational administration stakeholders may experience reduced expenditure through decreased ED RN staff attrition, decreased SUD patient hospital admission rates, and reduced recurrent SUD-related ED visits (Hawk et. al, 2019).

The scope of the program evaluation will be internally appraised and thus evaluation costs will be absorbed into the roles and responsibilities of the organization's stakeholders and program leaders who are invested in the evaluation. Parameters of scope will be defined in the cost-utility plan determined by the program design stakeholders, the organization's finance department and the clinical program leaders prior to the program rollout. A cost-effectiveness evaluation will be analyzed on an annual basis to understand the fiscal impact of the program.

Stakeholders

The program stakeholders include the ED Clinical Nurse Specialist (CNS) addictions education project leader, professional practice and education executive sponsors, the organization's affiliated research institution director, the chief emergency physician, and the ED nursing manager. Each stakeholder has a unique role, involvement, and accountability to the program's evaluation. The ED CNS develops and operationalizes the program evaluation holistically while the supporting and sponsoring stakeholders leverage their expertise respectively to recommend, revise and approve the evaluation.

Stakeholders are engaged in the design and execution of the addiction education program evaluation plan. Stakeholder partnership strategic priorities include ethical and legal agreements, resource feasibility, ED RN outcomes, plausibility, conscientiousness, initial and ongoing capital budget requirements, and program sustainability (Rossi, Lipsey, & Henry, 2019). The program's participatory model incorporates multidisciplinary expertise through organizational stakeholder collaboration to align best practice standards and organizational key performance indicators.

Resource Assessment & Evaluability

Once the commitment is achieved by internal organization leadership partners and stakeholders, the initial review process will commence to determine the budget, assess the resources required, vet the approval methodology and establish the evaluation questions. The ED CNS program leader will consult and collaborate with all stakeholders to ensure decision-making consensus is obtained throughout the evaluation process. The evaluability requires an appraisal to ensure the evaluation is logical, feasible, valid, and adequate and uses appropriate tools for measuring and verifying that the results provide useful information (Kellogg, 2004). Assessing the human and financial resources is required to ensure respective availability and capacity for the activities required for the program evaluation implementation (Kellogg, 2004). Fortuitously, the ED CNS program leader develops and operationalizes the evaluation and stakeholder resources are required to review and provide recommendations and endorsements. The affiliated research institution director's expertise is required to support the data extraction and analysis. Once data is prepared for interpretation, outcomes will be disseminated by the ED CNS program leader. Overall, the necessary human resources for this program evaluation will

necessitate nominal, dedicated time to support this endeavour. Approximately a 1-year commitment is required from stakeholders, which is reasonable and achievable.

Evaluation Questions

The pre-program needs assessment survey articulates the evaluation requirements at the outset by asking key preliminary questions that are used to evaluate the program post-implementation. The findings of the ED RN needs assessment survey defines the gaps and informs the contents of the SUD ED RN educational program. Following the implementation of the educational intervention, these data collection points gather important information pertaining to meaningful indicators, and the input activities and measure the impact of the program to gain insight into how the program is performing and its sustainability (Luo, 2010).

Key questions that will aid in the program impact evaluation data collection include:

- What is the impact of specialized addiction education on ED RNs' attitude, comfort, confidence, and clinical competency levels in caring for PWUDs?
- How satisfied are ED RNs with the dimensions of their experience in participating in the specialized ED RN addiction educational program?

Measurement & Methodology

The ED RN addictions education program methodology and implementation strategy were developed using a participatory approach. A participatory approach is a robust method used to develop a logic model since each program sponsor and stakeholder involved has input and contributes to the program theory (Joly et al., 2007). Strategic priorities include change management, communication, ED RN experience, human

resource retention strategy indicators and outcomes. A mixed-method design is used to support the collection of quantitative, objective data and qualitative, subjective context.

The comparison within-subjects ED RN group will be evaluated by comparing ED RNs' comfort, confidence, clinical competency, and program experience satisfaction scores pre-and post-intervention to assess short and long-term outcomes. Research Ethics Board approvals are obtained from both the organization and academic affiliation. The outcome results will be measured via a standardized Likert scale questionnaire with free-text opportunities to collect and analyze quantitative and qualitative data that will inform the effectiveness and impact of the intervention. The needs assessment survey will be distributed via a Qualtrics survey link which will be emailed to all ED nurses on a listserv by the study's primary investigator, the ED CNS program lead. Responses will not be linked to any individual ED RNs, and they will not be identifiable. All needs assessment survey responses will be sent directly into the Qualtrics software tool. Once needs assessment survey responses are complete, they will be exported into a secure Microsoft Excel document and stored on the aforementioned secure server behind the hospital firewall. There is no further recruitment information gathered and data collected will only be accessible to study personnel.

Evaluation Plan

The functional operationalization of this evaluation plan and framework are developed in collaboration with the organizational stakeholders. The ED RN data collection needs assessment survey will be disseminated by email alongside pertinent information about the importance of evaluating the novel intervention. Implied consent will be obtained by the ED RN's voluntary completion of the needs assessment survey.

All relevant information pertaining to the program evaluation will be provided at the beginning of the needs assessment survey and in the recruitment email.

The program evaluation plan for collecting and analyzing the program's activities, outputs, outcomes, and impact will include the ED RN SUD Needs Assessment Survey and the post-implementation ED RN program evaluation survey. The data collection methods mentioned above will provide insight into the proposed evaluation questions to link the causal relationship between the logic model, the evaluand, the source of data and the impact of the program.

The rationale and method of this program evaluation focus primarily on the change management strategy activities with an emphasis on knowledge acquisition and staff satisfaction outputs. The pre-and post-intervention surveys will require involvement from program stakeholders to ensure sound validity, reliability, and focused intention of the evaluation on the intended outcomes and impact of the program.

Data Collection & Analysis

The process for data collection is the responsibility of the leadership team who will also share the results with the ED team, executive stakeholders, and program sponsors. This data collection tool will provide insight to inform future program improvements in order to ensure that the program is meeting its intended purpose. The duration of the evaluation process including subject enrollment, intervention development, implementation of an educational intervention, data collection and analysis of findings will take one year. The data collection surveys will be analyzed using simple descriptive statistics (means, medians, percentages). Data cleaning and subsequent

survey result dissemination are important to maintain transparency and strengthen the trust-building relationship within the team and gain program buy-in.

Limitations in this program evaluation may hypothetically reside within the program's absence of a control group and potential data collection compliance with frontline staff completing the online needs assessment survey due to survey fatigue. Since the entire ED RNs participant group is exposed to the intervention, it is difficult to ascertain if the intended benefits and outcomes are the causality of the program or other potential variables. The validity of the program effect estimates are evaluated to determine if they are an accurate representation of the actual effect on the program's participants (Rossi, Lipsey, & Henry, 2019). Instead of a comparator group the program counterfactual group is approximated and generates an inherent probability and estimation of outcomes. The program evaluation leaders are accountable for the organization, data collection, analysis, and dissemination of evaluation deliverables.

Interpret & Disseminate Results

The program evaluators are responsible for interpreting and disseminating the results to the participants. The purpose of the communication plan is to transparently share the program's progress and impact with the frontline users, program partners, stakeholders, and organizational funders. Since the ED RN addictions education program is so unique, this fulsome program evaluation with all data collection tools will be formally written and disseminated broadly to all program participants, stakeholders, and sponsors. The ED CNS program leader will present the program evaluation findings via presentation at the organization's annual ED education day, email communications to end users and by submitting a lesson-learned manuscript for academic journal publication.

As stated, this program can be developed, validated, piloted, implemented, and rigorously evaluated within the organization's existing staff complement. This local program evaluation will illicit generalizable results since all Canadian ED RNs provide care for the specialized PWUD patient population group (Morin et al., 2017). The long-term post-evaluation objective is to implement the specialized ED RN addictions program to peer EDs nationally.

In conclusion, the ED RN addictions education program's short and long-term outcomes and impact goals are to improve outcomes for ED RNs who care for PWUDs. This impact evaluation is required to ensure due diligence is undertaken in the appraisal of this novel program. Reflecting on the evaluation of all of the indicators, data collection tools and limitations of this evaluation plan are important to ensure the unique lessons learned are implemented into program revisions. Furthermore, the program evaluation and post-evaluation dissemination of findings will support achieving the program's impact goals and program sustainability in order to improve ED care for PWUDs amidst the addiction crisis. These findings acknowledge the contributions of the human resources who dedicate their time, energy, and effort into the development and execution of this important program evaluation.

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Appendix H. Addictions Education for ED RNs Policy Paper

Context & Importance

Canada is amid a growing opioid epidemic requiring immediate healthcare interventions and policies to minimize the risks to people who use drugs (PWUD) (Goyer et al., 2022). PWUDs are seeking Emergency Department (ED) healthcare at more frequent rates ED visits in Ontario increased from 9.42 per 100,000 population in 2003 to 19.55 per 100,000 population in 2015 (Morin et al., 2017). PWUDs have complex social, physical, and mental health needs related to using substances, yet they continue to face a myriad of barriers to accessing care and consequently have poorer health outcomes (Russell et al., 2021). Current Canadian political healthcare policy structures perpetuate existing inequalities and have disproportionately negative impacts on the sociodemographic and culturally competent healthcare services available to support and reduce the harm to marginalized PWUD populations (McPherson et al., 2017). This has added fuel to the very real and ongoing need for EDs to develop strategies with strong evidence-based resources to mitigate the perpetual risks to this population, both system-level issues and those rooted in bias and stigma.

As evidenced by various published studies (Russell et al., 2017; van Boekel et al., 2013) ED registered nurses (RN) report a lack of knowledge and the overall skills required to effectively care for patients with substance use disorders (SUD) due to inadequate training and the absence of continuing education required to maintain competency through their practice organizations curriculum. As a result, ED RNs often develop negative attitudes towards patients with SUD, which results in their stigmatization and may cause delayed medical care, patients' nondisclosure of unsafe

behaviours, rushed medical visits, downplaying subjective pain, avoiding harm reduction services such as needle exchange programs, and the inability to recognize physical manifestations of withdrawal (Public Health Agency of Canada, 2020). I would argue that the current state of national addiction care and harm reduction policies requires immediate political action to inform strategies that support and ameliorate the inequities of the healthcare service social determinants of health (SDH) for marginalized PWUDs (Stockwell et al., 2020). To address this broad, systemic issue, policymakers must ensure trauma and culturally informed, specialized addiction education and therefore care are prioritized to adequately address these human rights issues.

The policy issue embedded in the addictions crisis is that there is no current obligation or level of competency expected of ED RNs to provide safe care to patients with SUDs, nor are they supported by mandatory and funded SUD continuing education. Ameliorating this issue is important because currently, organizations do not offer any continuing education opportunities in the ED that support nurses to increase their competency, comfort, and confidence in caring for patients with SUD (Koh et al., 2019). This commitment ought to be made locally, at the organizational level, as an important investment toward mitigating the inequities this patient population endures (World Health, 1987).

Policy Options

ED nurses are caring for patients with SUDs at an increasing rate, albeit they are underprepared to provide the high-quality, evidence-based care this patient population deserves. To improve patient outcomes, promote health, mitigate social inequalities, and reduce stigma much evidence-based research studies have highlighted positive outcomes

when providing specialized SUD training and education for nurses and its impact on their attitudes, confidence, comfort, and knowledge in caring for this patient population (Horner et al., 2019; van Boekel et al., 2013). Therefore, to support ED nurses and in alignment with the organizational strategic goals, the policy options for review include:

1. Creating and implementing a policy that obligates all staff ED RNs to become certified in addiction care via an educational intervention adopted from the Registered Nurses Association of Ontario (RNAO) Best Practice Guidelines (BPG), *Engaging Clients Who Use Substances.*
2. Implement a policy that prerequisites applicant ED RNs obtain the Centre for Addiction and Mental Health's (CAMH) Continuing Education, *Fundamentals of Addiction* online course prior to offering employment.

Criteria for Policy Analysis

The criteria for selecting the most beneficial policy option introduces values and philosophy to assess the opportunities based on the health outcomes they are expected to produce (Bardach, 2012). This criterion is important to examine as it determines the best policy approach by evaluating each policy's cost-effectiveness, generalizability, and sustainability, respectively (Bardach, 2012). Developing the categories and scoring system from mitigating risk and maximizing benefit and analyzing weak to strong outcomes determines the best strategy to support the policy recommendation (Bardach, 2012). Effectively establishing this policy analysis criterion ensures rigorous examination of potential outcomes and weighing the advantages and disadvantages of alternatives (Bardach, 2012). Subjective criteria elements to the policy options that add value to this

analysis include weighing the validity and latent bias of the intervention's origin as well as the potential impact on staff onboarding, retention, and satisfaction.

Policy Recommendation

The option that should be selected is the creation of an organizational addictions education policy and intervention for ED RNs. The rationale for this recommendation is that the policy can be implemented within the existing staff complement, developed in-house, piloted with the local ED RN participant group, validated, and rigorously evaluated, with the potential for dissemination to peer EDs. The local ED RN participants would illicit generalizable results because all ED RNs provide care for the specialized PWUD patient population group (Morin et al., 2017).

The creation of an organizational educational policy and intervention in-house would be very beneficial to ED RNs and ED patients with SUDs. The disadvantage is that its development would require a significant amount of internal human resources to create and initiate as well as stakeholder and frontline ED RN buy-in. A needs assessment survey conducted pre-intervention gains the frontline RN perspectives on their experience and competency needs related to caring for patients with SUDs in the ED to integrate the most relevant curricula into the tool. This data would be analyzed and corroborated to determine the educational intervention methodology, SDH foci, specialized curricula, and overall approach. An asynchronous addictions e-learning module, adapted from the Registered Nurses Association of Ontario (RNAO) (2021) Best Practice Guidelines (BPG), *Engaging Clients Who Use Substances e-Learning* module would be utilized as the guiding best practice resource. This approach would enable a cohort pilot to

determine the effectiveness of the mandatory education policy and if this specialized education modality was the best approach.

The overall benefit of the recommended option is that the organization's end-users would receive the standardized intervention, investing in existing ED RN staff and their retention and satisfaction while improving ED addiction SDH care and outcomes for this patient population. In addition to reducing harmful impacts to patients, organizational administration and government stakeholders will realize reduced expenditure through decreased ED RN staff attrition, decreased SUD patient hospital admission rates, and reduced recurrent SUD-related ED visits (Hawk & D'Onofrio, 2018). Given the significant healthcare costs associated with SUD healthcare, it can be extrapolated that this organization could have significant savings through the anticipated outcomes of the introduction of this mandatory SUD training and education program. This recommendation builds a local yet generalizable caring culture and environment that supports equipping the organization's ED RNs with the tools and knowledge to improve local patient outcomes, reduce stigma, improve addictions competency, and support SDH (Horner et al., 2019; van Boekel et al., 2013).

Leadership Focus and Relevance

With an annual increase of 5% in SUD ED visits and hospitalizations, by neglecting to address this problem the issue will continue to be an economic and healthcare burden (Canadian Institute for Health Information, 2021). The increased cost to the organization, and higher burnout rates for staff leading to increased staff turnover highlight the pressing need for improved standards of care which, without action, reflects poorly on the organization (Health Canada, 2018). The hospital should take advantage of

this identified gap imminently as an opportunity to implement SUD educational opportunities to improve social support and addiction care for this high ED patient volume population and mitigate the increasing rate of ED patient visits, inpatient stays, and avoidable deaths related to SUDs (Hawk & D'Onofrio, 2018).

Collectively, addressing this problem with policy action will aid in mending the addictions nursing competency gap and better prepare ED RNs to provide the care patients who struggle with substances deserve. Policies such as this, are required to challenge the existing stigma surrounding addictions to develop a comprehensive SDH focussed framework that includes harm reduction approaches to healthcare (McKenzie et al., 2016). Improving social support and addictions emergency care with specialized ED RN education ought to be recognized and invested in through policy to promote equitable, evidence-based, stigma-free, SDH-focused healthcare for patients with SUDs.

The existing published evidence demonstrates that policymakers are responding to healthcare service SDH albeit inadequately. Healthcare leadership ought to model a stigma-free, trauma-informed, culturally understanding approach to facilitate a societal shift away from discrimination of PWUDs and accountability is required at the organizational level to ensure PWUD voices are heard, and their healthcare needs are met through appropriate and effective policy interventions. Ongoing leadership prioritization of healthcare outcome analysis throughout these political shifts is required to evaluate and ensure PWUD's needs are met.

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