Implementing Hospital-Based Supervised Consumption Services: Healthcare Provider Perspectives on an Innovation in Clinical Care

by

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Abstract

Hospital settings are considered high-risk environments for people who use drugs (PWUD). Abstinence-based policies and a lack of access to in-hospital harm reduction services can result in high-risk drug consumption practices, increase the risk of unsupervised overdose, and contribute to high rates of premature discharge and subsequent readmission and mortality among PWUD. Harm reduction is a pragmatic and humanistic approach to drug use that aims to reduce the negative health, social and legal impacts associated with drug use, drug policies, and drug laws. Supervised consumption services (SCS) are part of a spectrum of harm reduction interventions. Research in community settings has shown that SCS decrease the risk of drug-related morbidity and mortality without increasing drug use or crime. Nevertheless, to date this evidence-based intervention has not been widely implemented in acute care hospitals.

Acute care hospitals differ in important ways from community settings. Effective implementation requires context-specific knowledge to guide the implementation and potential scale-up of hospital-based SCS. Unfortunately, almost no research exists to guide the implementation of SCS in hospital settings. Recognizing these challenges, this thesis adopted an implementation science approach to conduct two qualitative studies on hospital staff perspectives before (Study 1) and after (Study 2) the implementation of a hospital-based SCS.

In Study 1, I performed an exploratory qualitative study informed by the Theoretical Domains Framework to explore perceived acceptability and key considerations for supportive operational practices and professional practice guidance prior to the opening of the hospital-based SCS. I found mixed views regarding the acceptability of the prospective hospital-based SCS. While the service was viewed as a promising solution to reduce drug use-related risks for

PWUD, participants also expressed concerns regarding the potential impact to the safety of the hospital environment. The considerations for operating the service and integrating it into patients care place and practice were influenced by competing care duties and varied in how closely they aligned with the intention to offer a low-barrier, patient-centered hospital-based SCS. Lastly, participants' interpretations of the objectives of their professional practice shaped their views of the acceptability of the SCS.

Following the opening of the hospital-based SCS, in Study 2, I conducted a focused ethnography with hospital staff to further understand the acceptability of hospital-based SCS provision as well as barriers and facilitators to supporting patient access. I found high levels of support for the hospital-based SCS among participants. Yet, there were reports of a lack of awareness regarding the services provided in the SCS and underlying principles of the harm reduction intervention. This knowledge gap was reported as a source of resistance to the service among some hospital staff. Another driver of resistance were beliefs that drug use is an individual or criminal issue. Further, participants believed that staff who were resistant to the service were more likely to deny or discourage a patient from accessing the service. Patient access was also believed to be limited by inconsistent and ineffective screening for illegal drug use, and an ambiguous referral process. Notably, the hospital's addiction medicine consult team was able to partially address these barriers. Additional barriers that were identified included a lack of transport for patients with limited mobility, the inability to accommodate supervised inhalation, and restricted access for patients' visitors.

Ultimately the findings and recommendations presented in this thesis provide novel insight on healthcare provider perspectives of hospital-based SCS and opportunities to advance equitable access to hospital-based SCS.

Preface

This thesis is original work by Savannah Weber in close collaboration with Dr. Elaine Hyshka (EH) and guidance from my supervisory committee, Dr. Ginetta Salvalaggio (GS) and Dr. Marilou Gagnon (MG). Additional research support was provided by Ms. Kelsey Speed (KS) and Ms. Jennifer Brower (JB).

The research project from Chapter 2 was initially designed and led by EH, and KS and JB completed participant recruitment and data collection. Chapter 2 was written primarily in collaboration with EH, and GS and MG provided additional feedback. In Chapter 3, the study was part of a larger research project, primarily conceived and designed by EH and GS. KS supported participant recruitment and data collection. Chapter 3 was written primarily in collaboration with EH and GS and MG provided additional feedback.

The research described herein received ethical approval from the University of Alberta Health Research Ethics Board – Health Panel (Study 1: Pro00073596, Study 2: Pro00082537) No part of this thesis has been previously published. Portions of this research were presented at:

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Glossary of Abbreviations

AMCT	Addiction medicine consult team
BCW	Behaviour change wheel
OPS	Overdose prevention site
PWUD	People who use drugs
SCS	Supervised consumption service
TDF	Theoretical domains framework

Chapter 1: Introduction

This thesis delves into the implementation of harm reduction services in hospital settings. Specifically, it describes the pre- and post-implementation perspectives of healthcare providers regarding the first known hospital-based supervised consumption service (SCS). This thesis is structured as a paper-based thesis and it is made up of two studies presented as standalone manuscripts and an overarching introduction and discussion chapter. The introduction chapter includes a literature review that outlines the experiences of people who use drugs[1] (PWUD) in hospital settings and the need for hospital-based SCS, the state of harm reduction and SCS in community and hospital settings, the drug poisoning crisis driving an urgent need to scale-up hospital-based SCS, and the rationale and research questions addressed in this thesis. Study 1 (Chapter 2), began during the planning stage of the implementation of a hospital-based SCS and features prospective healthcare provider views on the service. Study 2 (Chapter 3), took place during the first two years of implementation and includes views on the operation of the hospital-based SCS. Finally, chapter 4 presents the overarching significance of the thesis and offers policy and practice recommendations to optimize the implementation and operation of hospital-based SCS.

Literature Review

Hospital experiences among PWUD and the need for hospital-based SCS

PWUD experience disproportionately high emergency department visits and hospitalizations compared to the general population.[1–3] This disparity is especially pronounced among people with intersecting social identities including people who inject drugs, Indigenous people, people experiencing houselessness, and people living with a mental illness.[1,4,5] In Canada, rates of hospital utilization among PWUD are also trending up. Between 2013 and 2017, opioid-related hospitalizations rose by 27%.[6] Drug use-related hospitalizations continued to rise throughout the COVID-19 pandemic. Between October 2020 to June 2021, opioid-related

[1] The term people who use drugs refers to people or patients who use illegal drugs (drugs or substances under the Controlled Substances Act) or use prescription medication in a manner other than prescribed.

emergency department visits increased by 36% and opioid-related hospitalizations rose by 30%.[7] Hospitalizations associated with stimulant use are also increasing accounting for 14% of hospitalizations in 2019-2020 compared to 11% in 2017.[8] From January to March 2023, there were 479 stimulant related poisoning hospitalizations.[9] Locally in Alberta, the rate of opioid- and methamphetamine-related hospitalizations and emergency department visits has risen substantially. Since the first quarter 2016 to the most recent report (the second quarter of 2023), the number opioid-related hospitalizations have risen from 668 to 1,219 and from 1,659 to 3,942 for methamphetamine-related hospitalizations.[10] In the same time period, the number of opioid and methamphetamine-related emergency department visits rose from to 530 to 994 and 1,537 to 2,407 respectively.[10]

Despite high rates of hospitalization, hospitals often fall short in meeting the unique needs of PWUD. Research suggests that PWUD are less likely to receive effective treatment and more likely to experience premature discharge and subsequent lengthy and complex readmissions.[4] A systematic review found that about 25% - 30% of PWUD admitted to hospital were discharged prematurely.[3] This is problematic as premature discharge is associated with costly readmissions and high in-hospital and 30-day mortality rates.[11,12]

There are many ways in which the hospital setting does not meet the needs of PWUD. For one, pain and withdrawal management among PWUD is often inadequate. [13–15] Healthcare providers often lack relevant education and standardized assessment and treatment tools for pain and withdrawal management among PWUD.[14–16] Further, research has shown that healthcare providers may feel unable or unwilling to empathize with PWUD and perceive them as aggressive and manipulative.[14–17] As a result, their healthcare concerns may be reduced to "drug-seeking" and subsequently dismissed.[13–15]

Moreover, many hospitals either formally enforce abstinence-based policies or lack clear in-hospital drug use policies leaving healthcare providers to respond at their discretion, which is typically dictated by abstinence-based approaches (e.g., patient surveillance, reprimands such as loss of off-unit privileges or medication, and threats of immediate discharge).[18,19] Importantly, even in the context of ideal pain and withdrawal management, PWUD continue to use drugs in hospital for many reasons such as a desire to use drugs, or

coping with boredom, loneliness, or sadness.[18,19] Enforcing abstinence-based policies has not been shown to be effective at reducing in-hospital drug use.[19] Instead, many PWUD resort to high-risk drug consumption practices in an attempt to conceal their use and/or are discharged prematurely as a result.[13,18,20] While hospitalized, PWUD report rushed drug consumption in washrooms and stairwells, without access to sterile supplies or timely medical intervention [13,18,19,21]; conditions which increase the risk of overdose, infection, trauma, and the transmission of blood-borne infections, bacteria, and fungi.[13,18,19] Further, for people who use opioids, increases in mortality rates are common following prolonged periods of abstinence due to decreases in physiological tolerance.[22]

The state of harm reduction in community and hospital settings

To better meet the healthcare needs of PWUD and make the hospital environment safer, researchers, clinicians, and PWUD have called for the integration of harm reduction in hospital settings.[23,24] According to Harm Reduction International "Harm reduction refers to policies, programmes and practices that aim to minimise the negative health, social and legal impacts associated with drug use, drug policies, and drug laws."[25] Harm reduction emerged as a grass roots movement in the 1980s and 1990s, catalyzed by PWUD to address increasing rates of overdoses and other drug-related harms such as HIV and Hepatitis C.[26–28] By focusing on providing sterile harm reduction supplies, referrals to community resources, peer support, and education in an open and non-judgemental manner, groups of PWUD were able to actively reduce drug-related harms and build trust—proving that abstinence was not a requirement for improvements in health and social outcomes.[29,30] Guiding principles of the harm reduction movement included authentic and effective user involvement and community empowerment.[28,31] To this day, harm reduction continues to be conceptualized by PWUD as efforts to promote the wholistic well-being of individuals and communities and support the drive for self-efficacy.[32]

Early harm reduction programs carried out by PWUD included needle exchange services, peer outreach and education, and supervised injection sites.[28,33] North America's first SCS, a supervised injection facility in Vancouver, was opened by and for PWUD without a formal sanction in 1995, in an effort to combat the rising rate of opioid-related mortality.[33] An SCS

offers a comparatively safe, clean, and supportive space where people can consume illegal drugs under the supervision of trained staff who intervene in the event of an overdose.[34,35] SCSs were designed as a low-barrier, community-based initiative to reduce overdose mortality, and provide access to education, supplies, and services for health promotion. [33–35] In Canada, SCS are federally exempted under Section 56.1 of the *Controlled Drugs and Substances Act*, or authorized by the Minister of Health in each province and territory under the subsection 56(1) class exemption from the *Controlled Drugs and Substances Act*.[36] Sites under the latter exemption are commonly referred to as overdose prevention sites (OPS) and function similarly to an SCS but are designed as a temporary intervention. There are now 38 federally sanctioned SCSs operating across Canada and numerous OPSs.[37] The outcomes of SCSs in community settings have consistently been shown to include reducing drug-use related harms, improving public order, and increasing access to health and social services while also being cost-effective.[33–35]

Consistent with harm reduction in community settings, PWUD and healthcare providers have expressed that the provision of harm reduction in hospital settings would improve health outcomes.[38–40] By prioritizing access to healthcare regardless of ongoing drug use, responding to health needs, and supporting patient autonomy, harm reduction in the hospital has the potential to increase treatment engagement, improve patient-provider relationships, and reduce the risk of overdose and complications related to concealing in-hospital drug use. [21,24,38] Hospitals have implemented various harm reduction interventions including, needle and syringe distribution, managed alcohol programs, overdose prevention services (e.g., naloxone kit distribution), and harm reduction-oriented addiction medicine consult teams.[21,23,24] These interventions are associated with positive impacts such as improved pain and withdrawal management, improved well-being and mental health, and decreased drug use-related harms.[21,41] As a result, there have been calls to further advance hospital-based harm reduction and adapt SCS models to meet the needs of PWUD in hospital.[33–35]

PWUD have specifically highlighted hospital-based SCS as a strategy to address the risks of in-hospital drug use, reduce the rates of premature discharge, and provide more patient-centered care.[38] In addition, PWUD have expressed a high willingness to access hospital-based

SCS.[39,42] This is highly relevant for the Royal Alexandra Hospital in Edmonton which experiences disproportionately high drug use-related hospitalizations relative to other hospitals in the province.[43] In April 2018, the Royal Alexandra Hospital opened the first SCS specifically for hospital inpatients.[44] SCSs have been implemented in or adjacent to hospitals in Paris, Strasbourg, and Barcelona; however, they are administratively separate and designed for community, not inpatient access.[45–47] An OPS, at St. Paul's Hospital in Vancouver, was established soon after the opening of the Royal Alexandra Hospital SCS and served both community members and hospital patients.[48] Since then, St. Paul's Hospital OPS transitioned to an in-hospital service that primarily serves hospital patients.[49] With no published scientific literature at the time of implementation informing the provision of SCS for hospital patients, the Royal Alexandra Hospital SCS was implemented *ad hoc* using guidance from community settings and key hospital informants including preliminary findings from the pre-implementation study outlined in Chapter 2.

The overdose crisis driving an urgent need to scale up hospital-based SCS

The implementation of hospital-based SCSs is made even more pressing in the context of the current overdose crisis. Between January 2016 and March 2023, 38,514 Canadians died of an overdose.[50] Prior to 2019, this represented an average of 10 lives of Canadians lost per day.[50] Since the COVID-19 pandemic, the rate of overdose deaths has remained high at 21 deaths per day between January and March 2023.[50] The overdose crisis is a national health crisis that afflicts individuals of all ages, races, and socioeconomic statuses; however, certain regions and demographic groups are disproportionally impacted.[50,51] Males account for 74% of overdose deaths.[50] Males often engage in riskier drug use practices which may account for higher rates of overdose deaths in this group.[52] The age group most heavily impacted by opioid-related deaths in Canada are people between the ages of 20 – 59.[50] The majority of provinces and territories have experienced an increase in overdose deaths; although, there are stark regional differences in the severity of the increase.[50,53] British Columbia, Alberta, and Ontario have been especially impacted.[50] In Alberta, from January 2016 to July 2023 there were 8,126 overdose deaths.[10] The provincial demographic breakdown of overdose deaths follows closely with the national rates as males in Alberta accounted for 72% of overdose deaths in 2022 and

the age group most heavily impacted were those between the ages of 35-39.[10] Among Indigenous people in Alberta, the rate of overdose deaths is 7 times higher respectively among Indigenous populations compared to non-Indigenous populations**.**[54] Similarly, Indigenous people are overrepresented among PWUD in Alberta.[55] According to the 2021 Canadian census, Indigenous people make up 6.8% of the population in Alberta yet in Edmonton's inner city they account for approximately 65% of PWUD.[55,56]

It is widely recognized Indigenous people in Canada experience health inequities as well as a disproportionate burden of harm related to drug use.[57,58] This can be traced back to social, economic, cultural, and political inequities. [57,58] Understanding Indigenous health cannot be done outside the context of understanding colonial practices in Canadian health and social systems. Colonial practices include the Indian Act of 1867, the establishment of residential school systems, and the current and historical child welfare systems.[59] These systematically and systemically discriminate against Indigenous people and have left a legacy of cultural genocide, legislated segregation, apprehension of Indigenous children, appropriation of lands, and social and economic oppression.[59] As a result, many institutions today continue to marginalize Indigenous People in Canada. This includes Canada's healthcare systems. Although they are formally described as "universal", hospitals are tailored to meet the needs of what Hick (2019) calls "normalised citizenry," and ignore Indigenous-defined aspects of health and healthcare.[60]

The origins of the overdose crisis involve rising social and economic turmoil and the increased availability of prescription opioids as a coping mechanism for dealing with physical and psychological trauma.[61–63] Through to the early 2010s, rates of opioid-related morbidity and mortality rose in tandem with the availability and diversion of prescription opioids, triggering the development of interventions to reduce the supply of prescription opioids.[61,62] These interventions included prescription monitoring programs, abuse-deterrent opioid formulations, and more restrictive opioid prescribing guidelines.[61] While these measures were successful in reducing the availability of prescription opioids on the illegal market, the underlying socio-structural conditions driving demand for opioids remained unaddressed and there was insufficient support for people unwilling or unable to refrain from using opioids.[62]

The resulting opioid supply gap was ultimately filled by potent illegal novel synthetic opioids such as fentanyl and its analogues.[50,51,61,64,65]

Fentanyl has since become an expected opioid for many PWUD[66] yet, the overdose crisis continues to evolve. Since 2013 there have been increases in stimulant-related morbidity and mortality.[67] Most recently during the COVID-19 pandemic, substantial changes observed were drug shortages, increases in prices, decreases in purity, and the emergence of toxic and unpredictable adulterants such as tranquilizers and benzodiazepines. [66,68,69] These adulterants are associated with numerous health risks such as sedation, amnesia, and hallucinations which can increase the risk of respiratory depression, victimization, or unintentionally engaging in riskier or harmful behaviours.[69] Notably, these changes coincided with heightened economic, political, and social instability due to the COVID-19 pandemic.[70] PWUD reported increased stress and anxiety and reduced access to support services, especially harm reduction services during a time of significant risk.[70]

Rationale and Research Questions

The negative hospital experiences and outcomes among PWUD and the worsening drug poisoning crisis are driving an urgent need for hospital-based SCS. Yet, the scale-up of hospital-based SCS continues to lag and they remain understudied. To date, only a few studies have examined hospital-based SCS and there is no research examining the perspectives of healthcare providers regarding the implementation and operation of hospital-based SCS.

Early available evidence on hospital-based SCS provision includes a descriptive account of the lessons learned regarding the implementation of a hospital-based OPS.[49] As a promising starting point for enhancing the safety and quality of care for PWUD, the authors noted that healthcare provider knowledge and awareness were key areas to address to support the operation of the service. Additionally, there was a corresponding process evaluation of patient perspectives of the hospital-based SCS reported in this study which found that although some patients were motivated to access the service to reduce the risks of in-hospital drug use and criminalization, for others, their access was limited by anticipated judgement from hospital staff

and unwanted changes to their care. [71] This study also found patient access was limited by service model limitations such as the lack of supervised inhalation.[71]

More broadly, research suggests that the scale-up of harm reduction in hospital settings is challenged by complex philosophical, ethical, and practical dilemmas for healthcare providers.[21,44,72,73] For instance, traditionally hospital care and harm reduction have operated with conflicting frameworks for understanding drug use and structuring service delivery. Harm reduction was developed as a community-based model that considers drug effects alongside an individual's mindset, and social and environmental settings.[72] Service delivery is low-barrier where providers offer information in a non-judgemental manner, engaging the client and supporting their pursuit of self-determination.[72] Whereas, hospitals have traditionally operated according to the biomedical model which prioritizes expert knowledge and is structured on hierarchical decision-making.[72] In this high-threshold setting, providers are focused on "curing" or "fixing" patients and expect rigid adherence and compliance to treatment regimes.[72,73] These conflicts can create confusion or moral distress for healthcare providers who may view harm reduction as enabling illegal drug use or opposing their duty to treat substance use disorder.[41,73] Conflicts may be especially pronounced in the presence of conflicting individual and organizational values, policies, and laws.[74] Further challenging the implementation of hospital-based SCS is the paucity of education specific to illegal drug use and practical applications of harm reduction for healthcare providers.[75,76] As a result, many healthcare providers report feeling unprepared to care for PWUD. [16,75,77,78]

Overall**,** these challenges may significantly impact the implementation of hospital-based SCS and underscore the importance of assessing healthcare provider perspectives. To help hospitals prepare for, sustain, and optimize hospital-based SCS provision this thesis is made up of two complementary studies that focus on healthcare provider perspectives in pre-implementation and post-implementation contexts.

The aim of Study 1 was to understand what healthcare providers might expect regarding the implementation of hospital-based SCS. Specifically, this exploratory qualitative study addressed the following three research questions:

1. How do healthcare providers perceive a hospital-based SCS?
2. What are key practice considerations for operating a hospital-based SCS?
3. What are key considerations for professional practice guidance?

The aim of Study 2 was to understand perspectives regarding the implementation of a hospital-based SCS and extant barriers and facilitators to supporting patient access. Study 2, a focused ethnography addressed the following two research questions:

1. To what extent do hospital staff view the SCS as an acceptable component of hospital care for PWUD?
2. What are the barriers and facilitators to ensuring hospital patient access to SCS?

Overarching approach

This thesis adopts an implementation science approach underpinned by a critical realist perspective. An implementation science approach recognises that healthcare systems are complex systems that adapt in unpredictable ways.[79] As a result, interventions do not always translate with full intervention fidelity, especially when implementation requires a change in healthcare provider behaviours.[79] The goal of implementation science is to understand the factors that influence the implementation, adoption, and sustained operation of an intervention.[80] Implementation science strongly aligns with the research questions as, implementation science is not only concerned with whether an intervention works but, why it works, for whom, and under what circumstances.[79]

The underpinning critical realist perspective assumes a stratified ontology made up of three nested domains; empirical (events that can be observed and experienced), actual (events that may be observed or unobserved that are generated by causal mechanisms), and real (structures and mechanisms that can generate events).[81] From an epistemological standpoint, critical realism accepts that one's understanding of the world will always be constructed by their experiences and perceptions yet, there is a deeper reality that exists independent of our

knowing.[82] Critical realism is well suited to explore the implementation of hospital-based SCS as the focus is "elucidating complex structures and systems".[82]

The stratified ontology of critical realism is considered to be "maximally inclusive" and therefore, researchers are not bound to a particular set of methods.[82,83] Because critical realism claims that a real world exists and can be empirically observed, the use of a theoretical framework to inform a qualitative investigation (such as the methods used in Chapter 2) is appropriate.[82] However, critical realism also retains the notion that to a certain extent, reality is socially constructed based on what we know and have experienced.[82] Therefore ethnography, which explores a particular social setting (in the case of Chapter 3, focused ethnography is used which centres on a distinct social issue) is also valid.[82] In fact, critical realist ethnography can be particularly useful in healthcare settings where the emphasis is on practical knowledge that can help advance social issues.[84] Although, assuming a critical realist perspective has important implications for how an implementation science study is interpreted and built upon. Resulting claims are seen as attempts to clarify the conditions that make an event more likely to occur, rather than objective truth.[82]

Researcher Positionality

As acknowledged by a critical realist perspective, one's understanding of the world is influenced by their personal and social identities, experiences, and biases. [82] Thus, the researcher inevitably influences the research process and outputs.[85] This calls for researchers to practice reflexivity.[85] Reflexivity is a continuous process of critically evaluating one's positionality in relation to the research setting and how and why that may impact decisions and interpretations along the research process.[85] Positionality includes, but is not limited, to personal characteristics such as age, gender, race, sexual orientation, personal experiences, beliefs, and biases.[86] Though it is unlikely that these collective traits will place a researcher entirely as an outsider or insider to their research, the two stances exemplify how positionality can impact the research process. [86] For example, an outsider to their research may offer a fresh and innovative perspective but, may not be able to fully comprehend or represent the lived reality of their participants. [86] An insider may build stronger rapport with their research

participants through shared experiences but, might blur their experiences and perceptions with that of their participants. [86] Through critical reflection, researchers can evaluate and mitigate how their inherent bias impacts their research process.[85,86]

I am a 26-year-old first-generation university student. I identify as a cis-female settler woman. I do not have professional experience as a healthcare provider, experience of hospitalization, or lived experience of illegal drug use.

Contextualizing this positionality recognizes that I come from a position of privilege and that I am a relative outsider to the topics explored in this thesis.

Thesis Structure

The following chapters present two independent studies that explore the implementation of a hospital-based SCS from pre-implementation (chapter 2) and post-implementation (chapter 3) healthcare provider perspectives. Chapter 2 explores healthcare providers' perceptions of a forthcoming hospital-based SCS and key considerations for operational practice and supportive organizational policy development. Post-implementation, chapter 3 focuses on perceived acceptability and barriers and facilitators to supporting patient access. These chapters are followed by an overarching discussion chapter that collectively considers the findings and implications of each study. Overall, this thesis aims to support the optimization and scale-up of hospital-based SCS as an intervention to improve the quality of hospital care for PWUD.

Chapter 2: Healthcare provider perspectives on implementing hospital-based supervised consumption services: an exploratory pre-implementation study

Introduction

People who use drugs[2] (PWUD) are at risk of a range of health conditions associated with drug use such as skin and soft tissue infections, endocarditis, heart attack, stroke, and infectious diseases such as human immunodeficiency virus (HIV) and hepatitis C virus.[87,88] These conditions are often exacerbated by intersecting barriers PWUD face accessing or remaining engaged in primary health services such as houselessness, poverty, and stigma.[2,89–91] As a result, PWUD rely heavily on hospital services for care and have rates of emergency department visits and hospitalizations 4.8 and 7.1 times that of the general population.[4] Hospital access rates are especially high among specific subpopulations of PWUD such as people who inject drugs, Indigenous people, people experiencing houselessness, and people living with a mental illness.[4]

Historically, hospitals have implemented abstinence-based policies that prohibit illegal drug use or the use of prescription medication in a manner other than prescribed. [18,23] These policies are typically enforced by healthcare providers through increased surveillance, threats of immediate discharge, patient agreements outlining care and behaviour expectations, and reprimands such as being required to stay on their ward. [18,23] Abstinence-based policies have not been shown to be successful in reducing in-hospital drug use; approximately 30-40% of PWUD who have been hospitalized report drug use during admission.[19,92] Rather, they have been found to exacerbate the risks of in-hospital drug use and contribute to high rates of premature discharge among PWUD.[13] In-hospital drug use is often associated with undertreated pain and withdrawal in hospital settings.[18,93] Although, even in the context of

[2] The term people who use drugs refers to people or patients who use illegal drugs (drugs or substances under the Controlled Substances Act) or use prescription medication in a manner other than prescribed.

ideal pain and withdrawal management, PWUD continue to use drugs in hospital for many reasons such as a desire to use drugs or, coping with boredom, loneliness, or sadness.[18,19] In an effort to conceal in-hospital drug use, PWUD may consume drugs in hospital washrooms or stairwells, without access to sterile supplies or timely medical intervention in case of overdose or other complications.[94] Still, many PWUD are caught and involuntarily discharged prematurely as a result. [13,18,20] Alternatively, some PWUD may voluntarily choose to leave the hospital early due to undertreated pain and withdrawal, stigma and discrimination by hospital staff, and overly rigid hospital restrictions.[95] High rates of premature discharge, either patient or staff-directed, are problematic as premature discharge is associated with high in-hospital and 30-day mortality rates and drives a cycle of subsequent complex and lengthy readmissions that place a substantial burden on the healthcare system.[4,11,12]

To address the risks of in-hospital drug use, decrease the rate of premature discharge, and improve the quality of care for PWUD, harm reduction is incrementally being implemented in hospital settings.[23,24,38] According to Harm Reduction International, "Harm reduction refers to policies, programmes and practices that aim to minimise the negative health, social and legal impacts associated with drug use, drug policies, and drug laws."[25] Hospital-based supervised consumption services (SCS) have been specifically highlighted by PWUD in Canada as a potential strategy to improve safety and treatment engagement.[38] SCS were designed as a low-barrier, community-based initiative where individuals can consume pre-obtained drugs under the supervision of staff who respond in the event of an overdose, and can access education on safer consumption practices, sterile drug consumption supplies, and referrals to and/or in-house health and social services.[96] In community settings, the outcomes of SCS include reduced drug use-related harms and improved access to health and social services while also being cost-effective.[33–35]

PWUD have also described how harm reduction would improve their hospital experiences. By prioritizing access to healthcare regardless of ongoing drug use, responding to health needs, and supporting patient autonomy, harm reduction has the potential to increase treatment engagement, improve patient-provider relationships, and reduce the risk of overdose and complications related to PWUD having to conceal their drug use.[21,24,38] Examples

of hospital-based harm reduction interventions include needle and syringe distribution programs, managed alcohol programs, overdose prevention services (e.g., naloxone kit distribution), and harm reduction-oriented addiction medicine consult teams. [21,23,24] These interventions are associated with positive impacts such as improved pain and withdrawal management, improved well-being and mental health, and decreased drug use-related harms.[21,41]

Despite this promising potential, the widespread adoption of harm reduction in hospitals, including SCS, has been systemically challenged by drug laws, competing organizational priorities, and resource constraints.[97–99] For healthcare providers, navigating the transition from traditional hospital care to harm reduction-informed hospital care may present complex philosophical, ethical, and practical tensions as, traditionally hospitals and harm reduction operate with conflicting frameworks for understanding drug use and structuring service delivery.[21,44,72,73,100] Harm reduction emphasizes a community-based model that considers drug effects alongside an individual's mindset, and social and environmental settings.[72] Service delivery is low-barrier where providers offer information in a non-judgemental manner, engaging the client and supporting their pursuit of self-determination.[72] Whereas, hospitals operate according to the biomedical model which prioritizes expert knowledge and is structured on hierarchical decision-making.[72] In this high-threshold setting, providers are focused on "curing" or "fixing" patients and expect rigid adherence and compliance to treatment regimes.[72,73] These conflicts can create confusion or moral distress for healthcare providers who may view harm reduction as enabling illegal drug use or opposing their duty to treat substance use disorder.[41,73] This tension may be especially pronounced in the presence of conflicting organizational values, protocols, and policies. [74] Further, practical challenges can arise as healthcare providers receive minimal education specific to illegal drug use and many report feeling unprepared to care for PWUD.[75,78] Given the current context of healthcare provider training, additional education, hospital-based training, and resources may be necessary to provide adequate role support for healthcare providers caring for patients who access hospital-based SCS.

These considerations underscore the importance of exploring healthcare providers' perspectives of hospital-based SCS. In 2018, a large, urban acute care hospital in Western Canada began preparing for the implementation of the first hospital-based SCS with available guidance and experience from community settings, but with no available guidance specific to hospital settings. We performed an exploratory, qualitative pre-implementation study with healthcare providers to explore the perceived acceptability of a hospital-based SCS and prospective barriers and facilitators to implementation. Specifically in this study, we proposed the following three research questions;

1. How do healthcare providers perceive a hospital-based SCS?
2. What are key practice considerations for operating a hospital-based SCS?
3. What are key considerations for supportive organizational policy development?

Theoretical framework

This study is guided by an implementation science approach which aims to understand the factors that influence the implementation, adoption, and sustained operation of an intervention.[80] We applied the Theoretical Domains Framework (TDF) which is a validated framework of behaviour change theories that has been widely used to explore implementation barriers and facilitators in healthcare settings.[101–103] The TDF is organized into 14 domains regarding the cognitive, affective, social, and environmental influences on behaviour.[101] We selected the TDF as it proved to be a high-quality synthesis of determinants of behaviour, consistent with the content and depth of data, and was designed to be understood and operationalized by relevant interest groups such as healthcare providers, researchers, and policymakers.[101] In addition, we selected the TDF to support our exploratory approach because using the TDF in exploratory health services research provides an enriched understanding of the determinants underlying healthcare provider perspectives and has been shown to elicit determinants that would have otherwise been overlooked.[104]

Method

Design and Procedures

We performed an exploratory, qualitative pre-implementation study with hospital staff prior to the opening of the hospital-based SCS. We conducted formal group interviews to understand healthcare providers' perspectives on embedding an evidence-based intervention, SCS, into a novel setting, and identify policy and practice considerations related to the SCS service model and on-unit care for patients accessing SCS. Ethical approval for this study was obtained by the University of Alberta Health Research Ethics Board - Health Panel (Pro00073596).

Data Collection

JB, a clinician with specialized knowledge of nursing and the research setting led data collection supported by two research team members with experience in qualitative research (KS, EH). We used formal group interviews, which involve the systematic, simultaneous questioning of multiple individuals.[105] The purpose of a formal group interview is to stimulate discussion and capture a wide range of meanings and interpretations on a particular topic. [105] Participants were recruited using voluntary convenience sampling. KS and JB provided hospital unit managers with recruitment flyers to disseminate to their staff. Hospital staff who care for, or support the care of, patients who use drugs or expressed interest in discussing and asking questions about the hospital-based SCS were eligible to participate. Interested participants contacted KS who had them complete electronic informed consent and a short demographic survey. We (JB, KS, EH, KD) developed a semi-structured interview guide with broad questions related to perspectives of SCS, perceived risks and benefits of SCS implementation, and operational considerations such as potential policy and practice recommendations.

Data Analysis

The group interviews were audio-recorded, transcribed verbatim, and field notes were recorded. We (KS) cross-checked transcripts with the audio recordings to ensure consistency and all direct participant identifiers were removed prior to analysis. The anonymized transcripts were organized using ATLAS.ti (version 8.4.5). Our analysis was guided in part by the Theoretical Domains Framework (TDF). The data were analysed using a two-stage approach beginning with inductive latent content analysis followed by a deductive categorization according to the TDF. An inductive to deductive approach is recommended when applying a theoretical framework in exploratory health services research for several reasons. First, beginning with inductive inquiry prevents the findings from becoming self-contained and allows for rich descriptions of emergent concepts and ideas.[104,106] As well, applying the TDF after initial inductive analysis can elicit determinants of implementation that may be otherwise overlooked.[104] Lastly, it provides a strong theoretical basis for understanding barriers and facilitators to implementation to inform future evidence-based implementation intervention strategies.[104]

Accordingly, we (SW) analysed the data using a two-stage approach where we first developed themes inductively (stage 1), then deductively applied the TDF (stage 2). In stage 1, we conducted latent content analysis starting with open line-by-line coding where sections of the text (i.e. quotes) were coded to capture "*meanings, intentions, consequences, and context*" discussed by participants.[107] The codes were iteratively expanded, and collapsed as new concepts were identified and our understanding of the data deepened. A second coder (KS) reviewed 20% of the coded transcripts to ensure they were thoroughly assessed, key concepts weren't missed, and the codes accurately reflected what was present in the data.[108,109] The research team members also met to discuss the content, quality, and organization of the codebook. Once the codebook was finalized, we abstracted codes into higher-order categories while interpreting the data.[110] In latent content analysis, interpretation is used to uncover "what is hidden deep within the text" and "to discover the implied meaning in participant's experiences".[111] The highest-ordered categories represented the final themes. In the second stage, we (SW) identified relevant TDF domains and constructs present in each theme. We applied the TDF after developing themes as premature categorization of codes into the TDF

risks stripping the data of its context and breaking apart interdependencies.[106] As well, it allows for the development of a nuanced understanding of naturally relevant topics, rather than superficial lists of determinants.[106] Two authors (EH, GS) reviewed the categorization of the data within the TDF for coherence and comprehensiveness.

Results

Participant Sample

In total, we recruited 41 participants and conducted 10 group interviews. The groups had between 2-7 participants and sessions were 28 - 92 minutes in length (mean: 64 minutes). Participant sample characteristics are shown in table 1. Participants occupied a variety of roles including unit nurses, clinical nurse educators, unit managers, and allied health professionals.

Table 1: Participant characteristics (n = 41)

Age Range:	
20-24	2
25-29	9
30-34	6
35-39	8
40-44	1
45-49	3
50-54	3
55-59	2
No information provided	7
Gender:	
Female	35
Male	6
Profession	
Registered Nurse	27
Licenced Practical Nurse	6
Other	8
Unit	
Medicine	13

Women's Health	5
Critical Care & ICU	7
Surgical Inpatients	14
No information provided	2
Years of experience as a healthcare professional	
1-5 years	9
5-10 years	7
>10 years:	20
No information provided	5

Perspectives on hospital-based SCS

Participants held a range of beliefs and anticipated outcomes regarding the prospective implementation of an SCS in the hospital. While some viewed SCSs as an essential health service that would lead to "*overall better patient care" (*Grp 9*)* for PWUD, participants also held concerns the SCS would create or worsen drug-related risks or jeopardize staff safety.

Many participants highlighted the potential for an SCS to reduce the existing risks of in-hospital drug use under abstinence-based policies and better meet the needs of PWUD in acute care. They anticipated the hospital-based SCS would reduce the rate of unsupervised overdose, increase the use of and safe disposal of sterile injection supplies, and promote safer injection techniques. Participants shared that they were already caring for patients who use drugs and recounted several ways in which the status quo created risks for patients, hospital staff, and visitors. For example, participants reported that although drug use was not permitted in the hospital, patients still used drugs in their rooms without access to timely medical intervention, sterile supplies, or safe sharps disposal, increasing a patient's risk of harm from an overdose, injection-related infections, and staff's risk of exposure to biohazards such as improperly discarded sharps. The SCS was viewed as a risk mitigation strategy for this reality.

> *P: […]. Like our patients are not going to be leaving their sharps in their beds and they're going to be supervised and…*
>
> *P: Yeah.*

P: … you know, if harm does come to them, there's somebody there who can react in that moment." (Grp 10)

Further, they believed that being unable to use drugs while admitted contributed to patients' premature discharge, which left some patients without care. In other cases, staff reported that patients having to use drugs off hospital property made it more challenging to provide safe medical care.

[*T]he patients often will go out, leave the hospital against medical advice or go out and use and come back in and then you don't know what they've used, how much they've used or how that's going to interact with whatever's going on for them in the hospital*. (Grp 3)

A few participants reported previously caring for patients who went on to overdose on hospital property. In the context of this risk, participants expressed relief that they would be able to offer a hospital-based SCS.

I had a patient, as soon as he was ambulatory, […] leave the unit, overdose on fentanyl in the parking lot, and then he had to come back through ICU and all that stuff. Whereas, if he could have been supervised then maybe we could have gotten him Narcan sooner and maybe he wouldn't have been so hypoxic. (Grp 6)

Additionally, many participants believed implementing hospital-based SCS would pave the way for improved relationships between patients and staff, improving patients' access to and retention in care. They described how moving away from enforcing abstinence-based policies would no longer require staff to act as enforcers, leading to "*[fewer] arguments on the floors between the nurses and the patients*" (Grp 7) and improving communication and rapport. Further, by adopting a more patient-centered orientation that recognizes the legitimate need to accommodate ongoing drug use and offering a safe and non-judgemental space to consume

drugs, free from punishment or criminalization, the hospital is "*actually addressing this patient specifically and meeting that [need], and we don't do that now.*" (Grp 6). Many participants believed implementing hospital-based SCS could facilitate more trust between patients and the hospital system and improve hospital access.

> *[S]o if we can give them something to show that we respect them and we're not trying to force them into a life change that they're not ready for I think it'll give them that trust back into the hospital […]* (Grp 7)

> *And then, we start building that trust and then that way the patients, because a lot of times, they wait until the bitter end to come see us, because they hate the stigma that's attached to them, if we break down that barrier […] they're going to access help sooner.* (Grp 8)

Some participants also anticipated that offering hospital-based SCS would improve patients' ability to manage their pain and withdrawal symptoms further supporting them to remain engaged in care. Retention in care was seen as beneficial to patients as well as staff by potentially reducing the need for more resource-intensive readmissions.

> *[B]ecause they will leave AMA [patient-directed discharge] and not get the medical attention they need because they want the high, so this might allow them to come back and still get that medical attention, the antibiotics, the treatment, whatever. We might have less AMA [patient-directed discharge] patients, that continue to get care, therefore less bounce-backs into [emergency] and things like that.* (Grp 5).

Although many participants highlighted the potential benefits of SCS in acute care, others expressed concerns that SCS implementation would lead to increased drug use and associated safety risks. These concerns were largely based on misconceptions, misinformation, and stigmatizing perspectives of PWUD. For example, some participants were concerned that,

contrary to available evidence on SCS in community settings, the SCS would increase the presence of "*drug dealers", "drug trafficking",* and promote drug use by patients and public members on hospital property. "*P: Because at that point, where does it cross the line from harm reduction to… P: Us enabling."* (Grp 6) These beliefs derived, in part, from inaccurate information circulating within the hospital and local media coverage that suggested the service would be accessible to the general public, rather than admitted patients only.

> *P: I think there's some misconceptions too I was under the impression that it was like a community site.*
> *P: Yeah, that's what it came up as.*
> *P: And I feel like that's probably why everyone's talking about it so much right now from like the news articles […] Where people are coming from all over downtown like flocking to the hospital to do their drugs. I wasn't aware that it was actually just going to be…*
> *P: Inpatient.*
> *P: …intended for inpatients.*
> *P: Yeah. (Grp 2)*

Assuming an increased presence of drug use and PWUD, some participants were primarily concerned the SCS would jeopardize hospital safety. Many concerns were non-specific regarding safety and security such as these two exemplary concerns; "*The security staff have expressed concern about their staffing numbers […]. They presume there'll be an increased need for security staff when this is up and running*." (Grp 1), and "*[A]re we drawing like more people here, more risk for crime, more safety issues.*" (Grp 2). Other anticipated safety concerns included increases in drug-induced violence, "*if he decides he's going to use meth in your facility, and then goes bananas, like, I don't know, that's scary"* (Grp 5) or accidental contact with illegal drugs by staff or other patients leading to perceived risk of adverse effects, such as intoxication or overdose.

Overall, many participants were able to identify a need for a hospital-based SCS and anticipated positive outcomes for patients who use drugs. However, when considering impacts

to the broader hospital environment, some participants expressed a general sense of unease and safety concerns. Underlying TDF domains and constructs related to SCS perceptions are outlined in Table 2.

Table 2. TDF Domains underlying perspectives about hospital-based SCS

Overview of key ideas	**TDF Domain** *Adapted definition**	**Construct:** Participant perspective
Hospital-based SCS is a necessary health service that would improve hospital care for patients who use drugs	**Knowledge** *Awareness of the current state of hospital risk environment*	**Knowledge of task environment:** Awareness that the hospital environment creates risks for patients who use drugs
	Beliefs about consequences *Participants' beliefs about the goals of a hospital-based SCS, PWUD, and anticipated implementation outcomes*	**Belief, Consequents:** By meeting the needs of patients who use drugs and promoting patient-centered care, hospital-based SCS provision would reduce drug-use related risks, improve patient-provider relationships and hospital accessibility, and decrease rates of premature discharge
Hospital-based SCS would create or worsen drug-use related risks in the hospital and jeopardize hospital safety	**Beliefs about consequences** *Participants' beliefs about the goals of a hospital-based SCS, PWUD, and anticipated implementation outcomes*	**Belief, Consequents:** Participants believed; implementing hospital-based SCS would encourage drug use, increase the presence of PWUD buying and selling on hospital property and that PWUD are inherently dangerous leading to safety concerns such as crime, or drug-induced violence
	Environmental Context and Resource *Participants' situation, environment, or resources that may impact implementation of hospital-based SCS*	**Salient Events:** Participants perceived media coverage and information shared within the hospital as suggesting the hospital-based SCS would be accessible to the public rather than in-patients only

*Domain definitions adapted to fit specific research context from: *Cane J, O'Connor D, Michie S. Validation of the theoretical domains frameworks for use in behaviour change and implementation research. Implement Sci. 2012;7:37.*

Operational and Practice Considerations

Irrespective of whether they held positive or negative perspectives on the SCS, participants identified a range of prospective policy and practice considerations relevant to integrating SCS into hospital settings. Participants voiced divergent views on several topics with no clear consensus emerging. Key areas of debate included; the need for and nature of security measures within the SCS, the need for and feasibility of patient transport, and whether patients' visitors should be permitted to access the SCS to consume drugs. Most participants agreed, however, that their existing clinical skill set was not sufficient to confidently care for patients who access the SCS.

Most participants suggested developing specific security policies to support operation of the hospital-based SCS, yet differed in whether they proposed more or less restrictive policies. A few participants were "*worried about the security of the nurses that work there."* (Grp 5) and proposed that patients be required to sign strict agreements that include; a code of conduct, limits on how often a patient can access the service, and service bans if patients choose not to stay for the recommended monitoring period.

> *P: […] Like you say normally we would monitor you for, let's say, two hours. And ten minutes after injecting they want to leave. You can't stop them. Right? So.*
> *P: Or is it like you can't come back for a week or, is there a punishment, a consequence?*
> *[…]*
> *P: That's the question.*
> *P: They have a contract with MAP [managed alcohol program] currently, right? If they sign on they have to abide by the rules.*
> *[..]*
> *P: Or they lose the privilege, right?*
> *P: Right.*
> *[…]*
> *I: So, this would be similar?*
> *P: Yeah.*

P: Mm-hm.

P: Mm-hm.

P: Or then is that pushing people away that you're trying to prevent harm from?

P: It depends on the delivery. It's important to ah…

P: Set boundaries.

P: … talk about the treatment and if you're not abiding by our treatment for this then that's what we offer. So, part of it is the delivery.

P: 'Cause we're not reducing harm if we're letting them leave so, I feel that would be appropriate in terms of the treatment to be able to… (Grp 6)

Suggestions in the previous discussion reflect paternalistic approaches to care where it is assumed hospital staff know best how and when a patient should access an SCS. Some participants suggested heavy policing in and around the SCS. In community settings, PWUD access SCS to avoid criminalization and routine policing has been shown to limit service access.[112] Participants claimed, through a limited understanding of the impact of criminalization in and around SCS, that an armed security presence would not deter patients from accessing the hospital-based SCS.

P: I think a special officer should be sitting there, like twenty-four hours a day with the nurse. At least two nurses and somebody with a uniform and a stick...

P: I agree.

P: … and training to do what he has to do.

[…]

I: What do you think patients would think of having an armed security person there?

P: If they know they're not there to interfere and they're there for their safety as well as the nurses, I don't understand why it would be a problem. (Grp 5)

Other participants saw SCS implementation as an opportunity for the hospital to develop more patient-centered safety and security procedures, shifting away from a punitive

model and an emphasis on criminalization. They suggested a greater reliance on non-violent de-escalation techniques, preferably carried out by personnel such as peer support workers, and working collaboratively with patients to establish expectations and boundaries regarding SCS use.

> *P: But I guess if we're trying to be patient-centered, knowing that they're under the influence, should we really be using, you know, sort of a very punitive criminally, criminal thingy?*
> *I: Do you see an opportunity for us to do that better?*
> *P: Yes. Absolutely. I'd love to see that. You know, you have somebody better trained in de-escalation techniques.* (Grp 10)

Participants anticipated that not all patients eligible to access the SCS would be able to self-ambulate to the service. The acceptability of transporting these patients was another polarizing topic. Views here seemed to be mainly determined by the participants' willingness to center the needs of PWUD versus prioritizing the use of porters to address the needs of other hospital patients. Some participants claimed that offering transport was essential to ensure equitable access and legitimize the SCS as a hospital-based service.

> *P: [A]nd if a porter does bring a patient down then that almost establishes that it's okay, this is a service that we provide. That reinforces that idea. Versus if it's like, 'Kay, go find it by yourself' that maybe takes away from it a little bit.*
> *P: Oh yeah, then you're treating it as something we don't want to help provide access to […]Which is not fair, right? And then you're setting up for the relationship with the patient for not really good success, right?* (Grp 9)

For others, fear of PWUD seemed to be a reason to deny transport. They believed it would be unsafe for unit staff or porters to transport patients to the SCS. This is despite the fact that transporting patients, including those who use drugs, is a routine part of hospital care and

patients requiring transport would likely be in a physical condition, due to injury, illness, or disability, that makes it difficult for them to self-ambulate. *"No, it's not safe and especially if they've used, right, or even in their current health condition*." (Grp 1).

Opinions on patient transport were complicated by the fact that hospital resources are often constrained. Porters and other healthcare staff were described as being already "*strapped"* for time, and frequently "*working short."* For these participants, triaging the needs of various patient groups was already a reality of delivering care in the context of overwork and lack of resources. Supporting access to hospital-based SCS was for some, not prioritized as a legitimate need or medical service. A few participants compared SCS access with outdoor smoke breaks "*I would compare it to going for a cigarette, I don't go for a smoke with them now; I'm not going then"* (Grp 5), which supported the view that transporting patients to the SCS was "[*T]aking that care from a patient [who] was really sick." (Grp 1).* These perspectives neglect the fact that for many patients ongoing drug use is necessary to manage withdrawal and that unsupervised drug use in the hospital could be life threatening. Importantly, this perspective was challenged by some participants who believed shifting to a view that access to SCS is a health need rather than an extra-curricular is necessary to support the implementation of a hospital-based SCS and care for PWUD.

> *P: […] But to have to take somebody down there [to the SCS], I think that takes away from what a lot of nurses feel is their job.*
> *P: I think it's a big change, there needs to be a big change in nursing mindset, or maybe the public's mindset, in thinking that this is something that's sort of a voluntary thing […]. But now we're kind of talking about how this is sort of like a, a privilege, like an extra-curricular thing that they [patients who use drugs] get to get. […] And it's hard because I have sort of the same biases, I'm trying to work through it, but you have to, we have to try and think instead that this is part of their, I don't know, like their need and part of their health care plan and program and what not*. (Grp 1)

Participants were initially informed the service was being designed for inpatient access. Yet, debates about whether visitors should be permitted to access the SCS along with patients naturally arose when asked what policies should be in place to support the operation of a hospital-based SCS. Recognizing that patients might prefer to consume with a partner, spouse, or friend, some participants felt the reality was that patients may otherwise choose to consume elsewhere. As such, permitting visitors was seen by some participants as a strategy to promote patient access and fulfill their responsibility to ensure the safety of all hospital patrons.

> *P: If they want to use with their friend, then they're going to leave to use with their friend so that's…*
> *P: And really, for us, for us I mean, for patient-safety wise, yeah I get that, but as far as for people period, ahm, do we care if it's a patient who overdoses in that bathroom or a visitor, so…* (Grp 6)

Of note, a few participants were cautious about capacity limitations or preferred to consider visitor access over time after ensuring the successful implementation of the SCS.

On the other hand, a minority of participants were strongly opposed to permitting visitors. Visitor requests for access to supervision and sterile supplies were seen as potential harassment – *"I feel like they [patients who access the site] probably would get harassed a lot more from their friends who are on the outside, right, saying, like, 'Oh, come on, let us in, like, bring us needles.'" (Grp 7)* shaping participants' argument that visitor access would lead to "*too much chaos*" and create "*safety issues*". Not mentioned by participants were services located within walking distance of the hospital that provide sterile supplies to which visitors could be referred.

There was more consensus amongst participants around the need for additional education and training to safely care for PWUD in general and to implement hospital-based SCS. Participants recognized their current approach to caring for PWUD was inadequate and frequently involved turning a blind eye to a patient's drug use. *"[M]aybe sometimes they're just ignoring that it's [drug use] happening and still going ahead with what's been ordered but I*

think there's a question lurking in their mind of whether I should or shouldn't [administer a medication to a patient suspected of using drugs]." (Grp 5) Specifically, they identified a gap in their knowledge regarding the pharmacology of illegal drugs, hindering their ability to assess symptoms and side effects, predict drug interactions, and monitor for and respond to an overdose.

> *P: And I would be scared if they've gone there and they've come back and I've given them a PRN [as needed prescription medication], did I give them too much or did they disappear and do something else. Or, I guess not knowing what the signs and symptoms are of what exactly I'm looking for.*
> *I: So how do you think we can mitigate that or how can we prevent that from happening?*
> *P: Education.* (Grp 3)

Lacking these skills also meant that participants did not feel they would be able to provide proper pain management to patients accessing the SCS. This was a concern especially given pre-existing concerns regarding patients who use drugs being undertreated for pain while in the hospital.

> *P: I'm worried they'll [physicians] under prescribe.*
> *P: Just like nurses.*
> *P: Yeah, I think they'll under prescribe their pain meds, they- some of ours already do depending on the doctor and who it is.* (Grp 1)

A few participants were confident in their ability to monitor for and respond to an opioid overdose however, they did not think this proficiency was consistent throughout the hospital. Moreover, their existing training applied to care for patients using prescription opioids with predictable potency and effect. As a result, some participants did not feel capable of caring

for patients using stimulants or other illegal drugs due to the volatility of the unregulated drug market.

> *P: I'm comfortable with narcotic overdose assessment but if you're using methamphetamines and other things I've never heard of.*
> *P: I am not educated enough to pinpoint when you've had too much of something. It isn't the current dogma in nursing, to know that. Because it's taboo, drug abuse is taboo.* (Grp 1)

However, most participants did not view their current skill level as a fixed challenge and were optimistic their existing clinical assessment skills could be adapted and reinforced to incorporate care for patients using SCSs. Participants suggested hospital-based training on illegal drug pharmacology accompanied by practice and supporting protocols. Examples of protocols included stocking naloxone on all units, standardized administration protocols e.g., how many units of naloxone to administer before calling the Rapid Response team, communication between the SCS and a patient's unit regarding their drug use, and follow-up care instructions.

Table 3: TDF Domains underlying operational and practice considerations

Overview of key ideas	**TDF Domain** *Adapted definition**	**Construct:** Participant perspectives
Strict security policies should be put in place	**Emotion** *Emotions described by participants regarding implementation of hospital-based SCS*	**Anxiety:** Participants expressed anxiety or fear regarding the safety of staff working in the SCS
Security should be managed in a collaborative, trauma-informed approach	**Intentions** *A conscious decision to perform healthcare duties in a certain way*	**Stability of intentions:** Participants expressed a desire to approach security policies in a trauma-informed and patient-centred approach

The hospital should ensure availability of patient transport	**Beliefs about consequences** *Participants beliefs about the goals of hospital-based SCS provision, PWUD, and anticipated implementation outcomes*	**Belief, Consequents:** Some participants believed that as an essential service, patient transport was necessary to ensure equitable access
Patient transport would not be safe nor feasible	**Emotion** *Emotions described by participants regarding implementation of hospital-based SCS*	**Fear:** Participants expressed fear that staff safety would be jeopardized by transporting patients to and from the SCS
	Environmental Context and Resource *Participants situation, environment, or resources that may impact implementation of hospital-based SCS*	**Resources/Material Resources** Participants were too overburdened with existing duties to support additional care (patient transport) associated with the implementation of the SCS
Allowing patients' visitors access to hospital-based SCS would protect safety	**Knowledge** *Awareness of the current state of hospital risk environment*	**Knowledge of practice environment:** Awareness that the hospital environment creates risks for visitors who use drugs
	Social/Professional Role and Identity *How participants view their professional and social role/identity, and the interactions between them, in relation to hospital-based SCS provision*	**Professional Role:** As a staff member, participants felt a sense of responsibility for the safety of visitors
Permitting visitors to access the SCS would be unsafe	**Beliefs about consequences** *Participants beliefs about hospital-based SCS provision and implementation outcomes*	**Belief, Consequents:** Visitors wanting SCS access may harass patients and jeopardize their safety and the safety of the hospital environment
Hospital staff are not equipped to safely care for patients who access hospital-based SCS	**Skills** *Skills, competencies, and their development that participants believe impact implementation of hospital-based SCS*	**Competence:** Lack of clinical skills assess and monitor patients who are using illicit drugs
	Beliefs about Capabilities	**Self-confidence:** Lack of confidence identifying and responding to signs of overdose and

	Participants perception of their ability to care for patients who access the SCS confidently and competently	assessing patient condition prior to administering medication
	Environmental Context and Resource *Participants situation, environment, or resources that impact implementation of hospital-based SCS*	**Organization Culture:** There is a culture among some hospital staff members to undertreat pain and withdrawal among people who use drugs **Environmental Stressors:** The volatility of the illegal drug market makes it difficult for healthcare providers to assess and monitor patients

*Domain definitions adapted to fit specific research context from: *Cane J, O'Connor D, Michie S. Validation of the theoretical domains frameworks for use in behaviour change and implementation research. Implement Sci. 2012;7:37.*

Considerations for Professional Practice

Participants had mixed perspectives when asked what the ethical considerations are regarding SCS provision. Participants debated how supporting patient access to hospital-based SCS aligned with their duty to *"do no harm."* A few participants responded that SCS provision and supporting patient access falls under the RN code of ethics statement to *"do no harm."* This was underpinned by statements that healthcare providers are *"not there to cure"* a patient's drug use but to *"reduce the risks of anything that could happen" (Grp 9).* As well, it aligned with their mandate to provide patient-centered care *"So, we talk about patient-centered care, so this is really patient-centered care." (Grp 8*). As such, they described hospital-based SCS as an *"essential"* and *"necessary"* health service that was a natural extension of their existing practice.

> *I'd say it's [harm reduction] in everything we do from putting up side rails on patient's beds so they don't fall out of bed to being able to provide them access to services like this. It's pretty much everything is with the intent of reducing harm. (Grp 2)*

Other participants believed that SCS provision conflicted with their duty of non-maleficence.

> *Yeah, and as a nurse you take that sort of oath to do no harm and we want to see people get better. So when we see people continue to do something that is harming their recovery, harming them as a person, our immediate reaction is to want to get in and make it better.* (Grp 7)

A few participants referred to drug use as an *"illness"* and supported care goals such as *"getting off drugs"* or *"help[ing] them work through their disease" (Grp 1).* Feeling an obligation to treat their illness, SCS provision was described as *"counter-intuitive to what the whole nursing profession is about"* (Grp 1). Further, a few participants who viewed illegal drug use as inherently an illness recommended restricting patient access to the SCS, claiming that illegal drug use hinders patients' ability to make decisions about their health. *"I think it's one of those things where sometimes the addiction and their physiological dependence on that takes over what's actually better for them, right."* (Grp 1).

Further influencing participants' perception of their professional practice was a lack of professional guidance from their licensing college and, to a lesser extent, their governing health authority. At the time of data collection, both community-based SCS and hospital-based SCS were new to the province. Many participants were not aware of whether their licencing college supported the practice and had questions about the responsibilities of the staff working in the SCS and the staff on the unit caring for patients who access the SCS.

> *Like I just feel like it's like your nursing license, like how does this… what does this mean to [provincial college of registered nurses]? To being like, what are you signing your name on as the registered nurse working in this facility? To send them back to an in-patient population or receive them from an in-patient.* (Grp 6)

This created concerns about potential legal liability and risk to their medical license; participants were afraid they'd be held liable for any adverse events, primarily overdose, either

within the SCS or on the unit after a patient returned. "*Because people are afraid. And in a way, we should be, it's our license, it's our life, right, it's our livelihood, it's our families"* (Grp 1). While one participant trusted the provincial health authority to provide legal protection for its employees, several believed that implementation of a novel hospital-based service should be accompanied by a firm position statement from their licencing college.

In addition to questions regarding whether SCS aligned with their professional practice, participants anticipated that many healthcare providers would be resistant to incorporating SCS provision into their practice due to conflicting personal beliefs. *"Some people just disagree with it."* (Grp 2). Opting out of care for patients who access SCS due to personal beliefs was justified by some participants by recalling instances where hospital staff traded patient assignments for ethically challenging practices such as medical assistance in dying or abortions. In addition to trading patients, participants stated they may refuse to transport patients to the SCS; "*We don't take you to the injection site, and I think it would upset a lot of nurses if they tried to work that in as part of the care.*" (Grp 1). In extreme views, one group of participants agreed they may refuse to respond to emergency medical codes at the SCS despite the SCS being proposed to be located in a code responsive area; "*I also feel like if they are inpatients, that we shouldn't be responsible for resuscitating them as an ICU code service in the safe injection site*." (Grp 6). Participants suggested instead that medical emergencies that cannot be managed by SCS staff should be managed by local emergency services i.e., 9-1-1. TDF domains and constructs underlying considerations for professional practice are shown in Table 4.

Table 4. TDF Domains underlying considerations for professional practice

Overview of key ideas	**TDF Domain** *Adapted definition**	**Construct:** Participant perspectives
Healthcare providers should be expected to support care for patients who are accessing hospital-based SCS	**Social/Professional Role and Identity** *How participants view their professional and social role/identity, and the interactions between them, in relation to hospital-based SCS provision*	**Professional Role:** SCS provision aligns with healthcare providers professional duty of non-maleficence and principles of patient-centered care

		Professional Boundaries: Healthcare providers must be able to carry out evidence-based practices in line with the values and guidance of their regulatory bodies
Healthcare providers should be permitted to opt-out care for patients who access the SCS	**Social/Professional Role and Identity** *How participants view their professional and social role/identity, and the interactions between them, in relation to hospital-based SCS provision*	**Professional Role:** SCS provision goes against healthcare providers' professional duty of beneficence or to cure or treat illness **Professional Boundaries:** Healthcare providers should not be expected to carry out best practices if they conflict with their personal beliefs or values.
	Reinforcement *Rewards or punishments participants anticipate regarding implementation of hospital-based SCS.*	**Sanctions:** Participants expect being held legally liable, jeopardizing their medical license and livelihood, for adverse outcomes among patients who access the SCS
	Environmental Context and Resource *Participants situation, environment, or resources that may impact implementation of hospital-based SCS*	**Organizational Culture:** Participants believe it is appropriate to opt-out of care for patients who access the SCS given that there are other instances where staff opt-out for other practices such as medical assistance in dying and abortion

*Domain definitions adapted to fit specific research context from: *Cane J, O'Connor D, Michie S. Validation of the theoretical domains frameworks for use in behaviour change and implementation research. Implement Sci. 2012;7:37.*

Discussion

The aim of this study was to understand participant perspectives regarding the proposed implementation of hospital-based SCS. Some views expressed by participants were highly supportive of the proposed hospital-based SCS; they viewed the service as an essential component of providing ethical, patient-centered care for PWUD and centered principles of equity and harm reduction when proposing service model features such as permitting visitor

access and hospital practices such as accommodating patient transport. These views may reflect the impact of the hospital's addiction medicine consult team, developed in 2014, which adopts a harm reduction philosophy and provides ongoing training and education to hospital staff via a dedicated clinical nurse educator, quarterly grand rounds, and semi-regular day-long conference events.[21] Research on similar initiatives has shown that AMCT interventions positively reframe care for PWUD and increase healthcare provider preparedness to care for PWUD yet, as reflected in the diversity of perspectives captured in this study, this impact may only extend to a subset of healthcare providers.[21,78,113] Other views expressed by participants aligned with previously reported philosophical, ethical, and practical dilemmas healthcare providers contend with when integrating harm reduction approaches in hospital settings.[21,44,72,73,100] For instance, some participants were concerned the service would increase the risk of violence or crime, and encourage drug use. Fear and a desire to preserve the safety of the staff in the hospital environment featured prominently in some participants' operational practice considerations. Further, some participants viewed SCS provision as taking care from more deserving patients (partly due to resource constraints) and did not believe hospital-based SCS provision aligned with their professional practice. Overall, by examining healthcare provider opinions, anticipated outcomes, and policy and practice recommendations, this study helps predict what might facilitate or challenge the implementation of hospital-based SCS. Importantly, this study enhances our understanding of these views by mapping their underlying determinants of behaviour according to the TDF.

Using a two-stage analytic approach including an initial inductive analysis to identify the overarching themes followed by a deductive application of the TDF; we found diverse conceptualizations of hospital-based SCS, contrasting preferences and environmental constraints for potential operational practices, and personal and professional conceptual tensions regarding hospital-based SCS provision. There was a range of TDF determinants underlying participant perspectives spanning from intrapersonal to environmental determinants. Most of the key ideas in each theme aligned with the TDF and overall, the findings covered 10 out of 14 TDF domains. This suggests a strong natural alignment between the elicited perspectives and the TDF and supports the use of a two-stage analytic approach

and the validity of the TDF in exploring potential determinants of implementing harm reduction approaches in hospital.[104] Further, determinants of successful implementation categorized by the TDF can be systematically targeted according to the Behaviour Change Wheel (BCW).[114] The BCW builds off the theoretical understanding of behaviour by identifying appropriate interventions and policies to support behaviour change efforts. As such, aligning themes to the TDF domains can allow hospitals to tailor implementation strategies accordingly. For each theme, we recommend below a set of relevant BCW intervention functions and policy categories to support the implementation of hospital-based SCS.

In the first theme, the proposed hospital-based SCS was viewed as both a risk mitigation strategy for patients who use drugs, yet also as a source of risk for the hospital environment. The hospital-based SCS was viewed as a patient-centered response to in-hospital drug use that would reduce the risk of unsupervised overdose, improve relationships between patients and staff, and reduce the rate of premature discharge. These predictions reflect the experiences of residents of the Dr. Peter Centre, a palliative and supportive care facility for people living with HIV/AIDS, where comprehensive harm reduction supports are available including SCS.[115] Residents of this facility have compared their experience at the Dr. Peter Centre with their experience in hospital settings that prohibit drug use. While they would typically discharge themselves from other hospital settings prematurely due to inadequate pain and withdrawal management, the inclusion of harm reduction supports and the option for onsite drug use at the Dr. Peter Centre SCS improved their ability to access and stay engaged in care

However, the hospital-based SCS was also anticipated to enable drug use and many participants reported vague safety concerns. These contrasting perspectives closely resemble previous research on the implementation of SCS in community settings including an SCS located on hospital grounds. A systematic review by Lange and Bach-Mortensen of stakeholder perspectives on SCS found that those without direct experience of harm reduction work or drug use were concerned that SCS enabled drug use and were reluctant to approve the establishment of an SCS in their community. [116] Whereas, people with direct experience of harm reduction work or drug use emphasized the potential for SCS to intervene in the existing risk environment and decrease drug use-related harm.[116] Similar differences were observed in a

quantitative evaluation of health and social service provider perspectives, including emergency physicians working in the hospital directly adjacent to a proposed SCS. Most service providers anticipated positive impacts to the health of PWUD, but those with less professional experience caring for PWUD were more likely to anticipate increases in public disorder around the SCS. [117]

The literature also shows that the impact of experience extends to SCS design and practice considerations. In the second theme, participants considered lower vs higher barrier policies and practices against the needs of patients who use drugs, safety considerations, and available resources. In a scoping review of SCS design preferences, interest groups with harm reduction or drug use experience prioritized low-barrier access to harm reduction services.[118] Whereas, people without harm reduction or drug use experience prioritized surveillance, police presence, and access to treatment services.[118] As exemplified by the preferences documented in this study and other research on preferences for SCS design, there is often a disconnect between the priorities and preferences of stakeholders with and without experience with SCS or drug use.[118,119] This is problematic because the design of an SCS, including its rules and practices, determines who the service attracts and ultimately its effectiveness.[119] Further, there may be logistical constraints between what design and practice features are preferred and what is most feasible. To allow a hospital-based SCS to reach its full potential, hospitals planning to implement a hospital-based SCS should meaningfully engage people with lived or living experience of drug use to assess their needs, preferences, and potential access barriers. From there, implementation interventions can be tailored to proactively prepare hospital staff and address their concerns when feasible yet, ultimately maximize the benefit for PWUD and ensure equitable access. Importantly, engaging people with lived or living experience of drug use in health system planning may place them at risk of trauma and negative health effects through misguided, exploitative partnerships.[120] Ongoing work is underway to develop best practices to engage people who use drugs in health system planning in a way that promotes health system change while supporting their health and well-being.[120]

Based on the TDF determinants underlying participants' perspectives of hospital-based SCS and their operational practice considerations, relevant implementation interventions according to the BCW include education, persuasion, and environmental restructuring.

Structural competency ("the ability to identify and intervene in the complex social, political, and environmental factors that influence health")[121] is a promising educational framework to increase healthcare providers' awareness of, and ability to intervene in, the complex social, political, and economic factors that influence health.[121] Structural competency has important implications for the care of PWUD in general as part of a comprehensive strategy to address inequity and structural stigma ("policies, practices, rules, and norms of institutions that restrict access to quality care for certain groups")[97] present in healthcare settings. [121] In the context of hospital-based SCS implementation, increasing structural competency may facilitate buy-in by increasing the awareness among healthcare providers of the hospital risk environment under abstinence-based policies. Structural competency education can be delivered through community-based pedagogy where educational institutions and community organizations co-create and deliver curricula that theoretically and tangibly connect local "*historic structural inequities and present-day health inequities*."[122] This approach, piloted at the University of Nebraska Medical Centre for first-year medical students, included didactic lectures, community-led engagement sessions, and reflective writing assignments.[122] This education was highly valued by students and community groups however, further research is needed on long-term behavioural impacts among education recipients and the ability to address structural stigma and health outcomes.[122]

For hospital-based interventions, a consultation process may be an effective intervention that targets education and persuasion. A consultation process among hospital staff considering an acute care harm reduction intervention for patients who self-harm found that discussing their concerns and the rationale for the approach persuaded them to be more accepting of a harm-reduction approach to self-harm.[123] Similarly, a small HIV specialty hospital in Toronto considering the implementation of a hospital-based SCS conducted a consultation process using three grounding aids; a physical mock-up of an SCS, a presentation on national and international SCS outcomes and common concerns, and an engagement session with local community-based SCS staff.[124] The use of grounding aids helped participants voice their opinions and stimulated conversations and questions the participants felt they otherwise would not have considered.[124] The researchers noted that participants who went through the

consultation process experienced less hesitancy regarding SCS implementation compared to other SCS feasibility studies however, the process did not shift the perspective of participants who previously held negative opinions about SCSs.[124] Pre-implementation consultation processes may similarly benefit from a structural competency-informed, community-based pedagogy approach. This could include co-developing presentations for hospital staff regarding local needs assessment data, and overviews of contextual factors driving in-hospital and community drug-use related risks. Presentations in various formats such as formal reports, storytelling, or art may serve to persuade hospital staff.[114]

Lastly, environmental restructuring interventions are necessary to address external contextual determinants that influence behaviour.[114] Participants in this study reported feeling overworked and under-resourced and were concerned that they would not be able to accommodate additional care duties associated with caring for patients who access a hospital-based SCS. To ease the transition to a new service, hospitals may consider adding temporary additional staffing to units where it is anticipated there may be a higher proportion of patients accessing the SCS. Though seemingly cost prohibitive, investing in nursing resources has been shown to be associated with better patient outcomes such as; decreased mortality, readmission, shorter lengths of stay,[125] and patient perceived quality of care;[126] generating cost savings that offset the upfront investment.[125]

In the final theme, participants expressed opposing perspectives on how caring for patients who access an SCS fit within their professional practice. Personal and professional conceptual tensions and past instances of "opting out" of ethically challenging patient care appeared to play a role in participants' considerations for professional practice guidance. As guided by the BCW, strategies to support healthcare providers in adopting new practices and shifting individual and organizational culture include developing policies for communication and practice guidelines, and interventions that target education, training, and modelling.[114]

Opinions that SCS provision and caring for patients who access the service was misaligned with the nursing professional practice prevailed despite the existing stance at the time of data collection from the provincial college of registered nurses supporting a harm reduction approach and the role of registered nurses in a full range of harm reduction

services.[127] The Canadian Nurses Association has evaluated the evidence regarding harm reduction services and specific implications for nursing practice.[128] It is clear that the values of harm reduction are consistent with the values of the nursing profession and that harm reduction services are associated with reduced risk behaviours and promoting the health and well-being of PWUD.[128] Our findings suggest that passive information regarding hospital staff's expected responsibilities may not be sufficient to support the adoption of a hospital-based SCS. As such, hospitals preparing to implement hospital-based SCS should include clear staff-wide announcements outlining how hospital-based SCS aligns with the values and evidence-based practices endorsed by their licensing colleges. Further, developing hospital-specific operational policies and practices may help staff understand how they are expected to carry out new practices in their specific role and setting.

Hospitals should consider developing mentorship opportunities for hospital staff as an intervention strategy for education, training, and modelling. For example, the Advancing Research & Clinical Practice through Close Collaboration (ARCC) Model outlined in detail by Melnyk and Fineout-Overholt (2002) includes an initial assessment of organizational culture and readiness to inform the development of evidence-based practice mentors.[129] Trained mentors then work in direct contact with healthcare providers through multifaceted approaches such as didactic teaching, individual or group coaching, and role modelling the integration of the evidence-based practice.[129] For the implementation of hospital-based SCS, these strategies could provide an opportunity to educate and train staff on their reported gaps in knowledge (i.e., pharmacology of illegal drugs, symptoms and signs of overdose, and monitoring and responding to overdoses or adverse events) as well as model practical applications of harm reduction policies in ethically challenging situations in hospital settings. The use of evidence-based practice mentors in implementation in healthcare settings is accompanied by a wide range of benefits including more positive beliefs toward the evidence-based practice among staff, stronger competencies of staff, overall greater integration of the evidence-based practice, and ultimately quality and safety improvements for patients.[129]

Strengths and Limitations

Results and recommendations from this study should be interpreted with attention to the following strengths and limitations. First**,** traditional study design in implementation science includes selecting an appropriate theory, or framework to inform the overall conception of the study.[130] In the present study, the TDF was applied following an inductive approach to data collection and analysis. Without relying on the TDF to create an interview guide and code the data, some TDF constructs and domains may have been missed. However, this process allowed the researchers to focus on eliciting perspectives that satisfy the research questions and preserve contextual information and relationships within the data. As such, late incorporation of the TDF may serve to strengthen the study rather than limit it.[104] Second, participants predominately occupied nursing roles therefore, it was not possible to comparatively analyze views across different roles. This also may neglect the impact of intersecting identities as some disciplines may have greater proportions of individuals who come from positions of privilege whereas others may include individuals with more diverse representation of race, gender, socioeconomic status, and lived experience of drug use. Further research should assess specific perspectives of other health professionals such as emergency department staff, physicians, in-hospital pharmacists, or others with attention to intersecting identities. Lastly, while the use of formal group interviews encouraged dialogue where participants elaborated and rationalized their perspective, they may also have influenced responses by creating a pressure to conform to group norms or conversational dynamics that silenced certain participants.[131] However, the contrasting perspectives captured in this study suggest this effect was minimal.

Conclusion

This is the first pre-implementation study of hospital staff perspectives regarding hospital-based SCS. Hospital-based SCSs are a promising intervention to address the risks associated with in-hospital drug use and increase access to and retention in care among PWUD. Successful implementation relies on the design of service features that are responsive to the evolving needs of PWUD and staff, and the hospital-wide adoption of hospital-based SCS provision and harm reduction-based approaches to care. Overall, participating hospital staff in

this study expressed diverse conceptualizations of a hospital-based SCS and varying degrees of willingness to incorporate care for patients who access SCS into their routine clinical care. We recommend proactively supporting implementation of hospital-based SCS with targeted, evidence-based behaviour change interventions that allow healthcare providers to talk through their concerns, instill an understanding of the goals and principles of a harm reduction-based approach to care, and equip staff to comfortably and competently care for patients who access hospital-based SCS. Further research on hospital-based SCS implementation should include evaluating the effectiveness and appropriateness of implementation interventions recommended by the TDF and BCW.

Chapter 3: Hospital-based supervised consumption services: a qualitative evaluation of hospital staff perspectives and barriers and facilitators to supporting patient access

Introduction

People who use drugs[3] (PWUD) experience disproportionately high rates of premature, patient-directed discharge (also known as "leaving against medical advice"). About 25% - 30% of PWUD admitted to the hospital will be discharged prematurely (either patient or staff-directed).[3] PWUD who are discharged prematurely are significantly more likely to be readmitted within 30 days with a related diagnosis and with increased morbidity. They also experience higher rates of 30-day in-hospital and all-cause mortality.[3,11,12] The primary drivers of premature discharge among PWUD include untreated or suboptimal treatment of pain and withdrawal, overly rigid hospital restrictions, and experiences of stigma and discrimination.[3,95] Abstinence-based policies play an important role in contributing to the rate of premature discharge.[13] Healthcare providers have attempted to enforce abstinence-based policies during admission through increased surveillance, threats of immediate discharge, patient contracts, and reprimands. [18,23] Other hospital policies that encourage patient and room searches or restrict off-unit or visitor privileges for PWUD also drive premature discharge.[132] In practice, these policies limit patients' autonomy to manage their symptoms and create an unwelcoming environment toward PWUD.[99]

Moreover, abstinence-based policies have not been shown to be successful in reducing in-hospital drug use; approximately 30-40% of PWUD who have been hospitalized report drug use during admission.[19,92] [19,92] Rather, these policies create an environment that can increase the risks of ongoing drug consumption. In an attempt to conceal their use, PWUD are more likely to engage in rushed drug consumption in washrooms and stairwells, without access to

[3] The term people who use drugs refers to people or patients who use illegal drugs (drugs or substances under the Controlled Substances Act) or use prescription medications in a manner other than prescribed.

sterile supplies or timely medical intervention [13,18,19,21]; conditions which increase the risk of overdose, infection, trauma, and the transmission of blood-borne infections, bacteria, and fungi.[13,18,19] For healthcare providers, enforcing abstinence-based policies or even limited harm reduction-based policies (e.g., distributing sterile drug supplies but not offering supervised consumption) can create moral distress when they recognize the risk of drug poisoning but are unable to offer comprehensive alternatives.[49,74]

Adopting a comprehensive harm reduction approach has the potential to address the risks of in-hospital drug use, decrease the rate of premature discharge, and advance the provision of patient-centered care for PWUD.[23,24,38] According to Harm Reduction International, "Harm reduction refers to policies, programmes and practices that aim to minimise the negative health, social and legal impacts associated with drug use, drug policies and drug laws."[25] Harm reduction emphasizes patient autonomy and shared decision-making and is aligned with the tenets of patient-centered care, which emphasizes providing care that is "respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions".[133] SCSs are a key harm reduction intervention and a promising practice for responding to the risks associated with covert in-hospital drug use and preventing premature patient-directed discharge. SCS provide a comparatively safe environment where people can consume pre-obtained drugs under the supervision of staff who provide education, sterile drug consumption supplies, services for health promotion, and emergency medical aid in the event of an overdose. In Canada, SCSs are federally exempted under section 56.1 of the Controlled Drugs and Substances Act. Internationally, there are approximately 200 SCS operating in 16 countries.[134] A recent systematic review of quantitative studies evaluating the impact of SCS compared to control conditions showed the outcomes of community-based SCS consistently include decreased drug use-related harms, and increased access to health and social services, without increasing crime of public disorder.[135]

Despite substantial evidence from community settings, and a high willingness expressed by PWUD to access SCS in hospital,[39,42] SCS models have been slow to scale to hospitals and remain understudied in this setting. Numerous stakeholder groups including PWUD, clinicians, and researchers have recommended hospital-based SCSs as a strategy to reduce the risks

associated with in-hospital drug use, keep patients in hospitals for the duration of their medical care, and deliver patient-centered care.[21,23,24,38] Yet to date, only a few studies have examined hospital-based implementation of SCSs. This includes a recent quantitative study of an outdoor overdose prevention site (OPS), operating adjacent to St. Paul's Hospital in British Columbia that was accessible to both community clients and hospital patients.[48] An OPS functions similarly to an SCS, but is typically designed as a temporary intervention and is authorized by the provincial government. [48] An analysis of the OPS's administrative data showed that hospital patients accounted for 20% of the visits. [48] As well, visits among hospital patients increased over time and patients were significantly more likely to experience an overdose compared to community clients.[48]

Other peer-reviewed literature on hospital-based SCS characterize the service models[44,49] or report on patient perspectives. An evaluation of patient perspectives of the hospital-based SCS reported in this study found that some patients reported their access was limited by anticipated judgement from hospital staff and unwanted changes to their care as well as service model limitations such as a lack of supervised inhalation.[71] This is consistent with prior research on integrating harm reduction in hospitals which suggests that staff knowledge, awareness, and attitudes regarding harm reduction interventions and PWUD can impact implementation and uptake.[49,71] However, to date no research has measured the perspectives of hospital staff on providing care to patients accessing SCS. To address this gap, this study is informed by an implementation science approach which aims to reduce the research-to-practice gap by understanding the factors that influence the successful implementation, adoption, and sustained operation of this innovative health service.[80] As such, this study is highly action- and change-oriented, meaning the methods are designed to the capture the 'how, when, where, and why' of hospital-based SCS implementation and generate actionable recommendations that can advance the provision hospital-based SCS and hospital care for PWUD. This study was conducted within the first two years of implementing a hospital-based SCS in a large, urban, tertiary-care hospital in a major city in Western Canada.[71] We conducted a qualitative study to address the following research questions;

1. To what extent do hospital staff view the SCS as an acceptable component of hospital care for PWUD?
2. What are the barriers and facilitators to ensuring hospital patient access to SCS?

Intervention Description

The hospital-based SCS, described in detail elsewhere,[44] was developed with input from local medical and harm reduction experts, senior hospital leaders and frontline hospital staff, and a community advisory group comprised of people with lived experience of illegal drug use and hospitalization. The service is operated by the hospital's addiction medicine consult team (AMCT). It operates in a fixed location in the hospital and staffed by nurses trained in harm reduction and caring for patients with substance use disorder. At the time of data collection, the SCS was operating 22 hours per day and available to in-patients only (it has since been expanded to include patients triaged in the emergency department). Patients who present to the SCS are confirmed to be a hospital in-patient, and then they complete an initial assessment to assess their medical stability, drugs to be consumed (self-reported), and planned route of use. The SCS has four consumption booths and patients can consume pre-obtained illegal drugs through injection, oral, or intranasal routes.[44] Drug smoking is not permitted due to existing infrastructure limitations. All patients who access the service are offered a referral to the hospital's AMCT. The AMCT, previously described elsewhere,[136] is an interdisciplinary team made up of physicians with addiction medicine expertise, nurse practitioners, pharmacists, social workers, addiction counsellors, and peer support workers. In hospital, the AMCT provides immediate access to medication treatment, addiction counselling and psychosocial support, harm reduction and sexual health interventions, and connections to income and housing services. The team also operates an outpatient clinic to support patients transitioning to community care following hospital discharge. Note that at the time of this study, the SCS was also used to witness AMCT patients self-injecting prescribed injectable opioid agonist treatment (iOAT). Within the first 18 months of operation, approximately 40% of the visits were for iOAT.[44]

Method

Design and Procedures

The research reported in this paper was conducted as part of a larger overall mixed-method process evaluation of SCS impact and uptake, which also included the aforementioned qualitative evaluation of patient perspectives[71] and a quantitative evaluation of patient characteristics associated with uptake. Here, we employed focused ethnography, which is derived from traditional ethnography but, is more time-limited, problem-focused, and aims to generate concrete recommendations.[137] The purpose of a focused ethnography is to elicit information on a distinct issue, problem, or shared experience within a discrete community or context.[85,137] Focused ethnography is a valuable method for implementation science research as it captures rich descriptions of how and why individuals adopt an intervention in a particular setting; an essential component for understanding the context-specific mechanisms that impact implementation. [82,84] This method has been widely used to study specialized areas of society including healthcare settings.[137–140] Ethical approval for this study was obtained by the University of Alberta Health Research Ethics Board - Health Panel (Pro00082537).

Participant Recruitment

Hospital staff who care for, or support the care of, patients who use drugs were eligible to participate. We (KS) recruited participants using voluntary, convenience sampling through posters hung in areas of the hospital frequented by staff, invitations in email newsletters, and by disseminating information about the study through members of the hospital's AMCT. AMCT staff and SCS staff were also eligible to participate as key informants to provide valuable contextual insights into the operation of the hospital-based SCS and patient access. These providers have more specialized training in caring for patients who use drugs and have direct involvement with the hospital-based SCS. Interested participants contacted a member of the research team who provided them with an information letter and scheduled either a face-to-face or phone interview. We (KS, SW) obtained informed consent from participants through a signed consent letter or verbal consent recorded over the phone. Participants were provided

with a $30 gift card to thank them for their time and expertise. We were able to recruit 20 participants prior to ending active data collection upon the declaration of the COVID-19 pandemic and the temporary suspension of human research activities at our institution. Our sample size falls within the expected range (20-30 participants) using our selected method to explore healthcare topics.[141,142]

Data Collection

Focused ethnography commonly employs semi-structured interviews and may involve little to no participant observation.[137,138] We (KS, SW) conducted semi-structured interviews where the discussion was guided by both a pre-determined semi-structured guide and emerging topics from the conversation.[143] The interview guide was developed, in part, based on the preliminary analysis of a study evaluating pre-implementation perspectives from local hospital staff. The interview topics were problem-focused; including staff experiences caring for PWUD in hospital and their perceptions of strengths, weaknesses, impacts, and recommendations for improving hospital-based SCSs and care for patients who access the service. Interviews lasted between 40 and 128 minutes (mean 70 minutes). The interviews were audio-recorded, transcribed verbatim, and field notes were recorded. We (SW) cross-checked transcripts with the audio recordings to ensure consistency and all direct participant identifiers were removed prior to analysis. The anonymized transcripts were organized using ATLAS.ti (version 8.4.5).

Data Analysis

Data analysis in focused ethnography involves the classification, abstraction, and interpretation of the data with a focus on addressing problem-oriented research questions.[137] Therefore, we (SW) used inductive latent content analysis to identify, code, and categorize the data.[85,137] First, we read through the transcripts and created field notes focusing on novel, prominent, or contrasting data. Then we conducted open, line-by-line coding, where sections of the text (i.e. quotes) were coded to reflect "*meanings, intentions, consequences, and context*" discussed by participants.[144] The codes were defined to encompass the meaning of

corresponding quotes and grouped into sub-categories based on common concepts and ideas.[144] A second coder (KS), reviewed 20% of the coded transcripts to ensure they were thoroughly assessed, key concepts weren't missed, and the coding descriptions accurately reflected what was present in the data.[108,109] The main categories were developed by grouping relevant sub-categories, as they relate to each other and the research question. Overall, the analysis process was supported by frequent debriefing among research team members focusing on the development of findings, verifying there was a clear relationship between the data and analysis.

Results

Participant Sample

Participants provided basic demographic information during the interview. Three participants worked in the SCS as registered nurses, four participants worked as part of the AMCT team (e.g., addiction counsellor, pharmacist, and others), and 13 participants worked as registered nurses, licenced practical nurses or as a physician on a variety of hospital wards including general medicine, ICU, complex medical detox etc. Additional participant sample characteristics are presented in table 1.

Table 1: Participant Characteristics (n=20)

Average age	35
Average years of experience in the hospital	5
Average years of clinical experience	8
Gender	
Woman	16
Man	2
Other	2
Ethnicity	
Caucasian	12
South Asian	4
Middle Eastern	1
Black	1

Indigenous	2
Role	
SCS staff	3
AMCT staff	4
Unit staff	13

Acceptability of SCS as part of hospital care

All participants were highly supportive of the hospital-based SCS. For some, the SCS was a solution to address the existing risks of in-hospital drug use and shift hospital culture towards destigmatizing illegal drug use and PWUD. A few participants discussed becoming supportive of the SCS after witnessing positive outcomes. Despite the support from study participants, many described encountering ongoing resistance to the SCS among their colleagues, which they believed resulted either from being uninformed about the goals and operations of the SCS, or pre-existing negative personal beliefs towards SCS and/or PWUD.

Many participants were supportive of the hospital based SCS because they saw a need to address the socio-structural factors that exacerbate the risks in-hospital drug use. Participants identified how; stigma toward PWUD, the criminalization of drugs, hospital security practices, and the enforcement of abstinence-based policies through patient discharge led patience to use drugs in unsafe circumstances within hospital washrooms, stairwells, or nearby alleys in an attempt to conceal their use.

> *And I mean, how heart-breaking is it that people would use substances and overdose in private in a hospital because we were basically forcing this practice by not having the proper supports and infrastructure in place? […]* (P6, AMCT staff).

> *Before they were doing [using drugs], in back alleys, with unsafe sites, scared of everyone. Scared about the police. Scared about the security. Scared that they'd be kicked out and stuff. With the SCS at least they have that, they feel that are comfortable to have a safe place to use and they're not being interrogated by someone for doing* (P13, unit staff)

As a sanctioned hospital-based service, participants supported the SCS as a strategy to mitigate the socio-structural drivers of risk and support the health and safety of PWUD.

Further, they supported the SCS because it integrated a safer option into routine hospital care. Offered within and by the hospital, participants described how SCS provision to "*goes standard with their other medical course*" (P12, unit staff) and contributes to shifting hospital culture. Participants felt that the SCS prompted a more inclusive and accepting environment towards PWUD. For them, implementation of the SCS was a "*step in the right direction*" (P7, AMCT staff) to accepting that patients who use drugs deserve safe, non-judgemental care regardless of whether they choose to use illegal drugs while admitted to the hospital. *"It starts to build those connections that we as healthcare providers, can show them that they're people and that we care about them and that we care about their safety."* (P8, unit staff)

Although, not all hospital staff were initially supportive of the decision to implement a hospital-based SCS. Some participants shared that they and their coworkers were previously hesitant or resistant to the decision to implement the hospital-based SCS, but that their perspective shifted favourably after implementation. They spoke about how the safety concerns that were anticipated prior to the implementation of the service were not realized in practice.

> *I know that there was some concerns about- from the [outpatient] clinic, 'cause it's right next to it. […] But I wouldn't even know that the site was there. So to the best of my knowledge there's been no disruption related to the site. Even though there was big concern about that. It's been relatively, very quiet. I think with no incidents directly related to the site.* (P17, unit staff)

Participants found that for some staff, "*the proof is in the pudding*" (P12, unit staff) - their support was contingent on firsthand accounts of improved hospital safety and patient care. For

example, one unit staff described how the SCS contributed to a demonstrable reduction in confrontations between staff and patients caught using drugs on the hospital wards:

> *So the concerns that I had. What were the safety concerns […]? Would the patients become more violent with some of the drug use? And we were able to track that yes, we had reduction of violent encounters on the units because we were never forced into these confrontational situations. […] Now, it's in black and white and we can prove it's better.* (P12, unit staff)

Despite this support for the hospital-based SCS, many encountered pockets of ongoing resistance to the SCS from some hospital staff. Participants perceived that this resistance to the service stemmed in part from a lack of understanding of the goals of SCS provision and services offered within the SCS. Participants reported that their colleagues viewed the SCS as "*just a free place to get drugs and do drugs"* (P12, unit staff) rather than identifying how the SCS addresses the needs of PWUD and the existing risks of in-hospital drug use.

> *I feel like certain areas of the hospital are pro-safe consumption site and others are, "I'm just going to pretend like you're not using it" […] Like, to me, there's such a good opportunity for nurses of all different opinions to understand their patients better and to understand why this is so important for their clients.* (P20, unit staff)

Similarly, participants had colleagues who were skeptical of the value of the SCS; "*I've had some people say, 'well it's, why is it any different with them overdosing in the bathroom versus at the SCS?'"* (P5, SCS staff) suggesting some staff are unaware of the services provided in the SCS such as immediate access to medical intervention (oxygen, naloxone, etc.) by SCS staff, provision of harm reduction supplies, and education on safer consumption practices.

Many participants shared that their colleagues were resistant to the service because they believed that SCS promotes or enables drug use. The notion of enabling was problematic

for some as they believed access to SCS increases or perpetuates drug use-related harms as opposed to reducing harms.

> *Like there's still quite a bit of stigma around that whole harm reduction piece just because they see it as like, I'm enabling our clients to use drugs when they don't see it as a safety thing. They just think that, "Oh, yeah, she knows she's promoting drug use*." (P7, AMCT staff)

For other colleagues, drug use was viewed as a criminal justice issue rather than a health issue, and therefore, enabling was seen as problematic since patients are not punished for illegal drug use. "[*T]here are health care professionals that think that what we're doing is just allowing people to do drugs and get away with not being punished by it, because that's the way our punishment system is*." (P14, unit staff) Further, while the SCS legally operated under an exemption from the federal *Controlled Drugs and Substances Act*, which protects patients from being charged with drug possession, the broader ongoing criminalization of drug use led some staff to feel like they were not only encouraging drug use but also encouraging an illegal activity on hospital property.

> *P: […] So it's just kind of like, "Oh, they're doing illegal things."*
> *I: Do you think that there's still a sense that going to the SCS is illegal?*
> *P: I think for some like professionals that work here, yes.* (P7, AMCT staff)

This sentiment may have reflected the fact that, with the exception of those patients being prescribed injectable opioid agonist treatment, patients were bringing drugs that had been illegally obtained to use in the SCS. This meant that in some instances these drugs may have been purchased and stored within or around the hospital prior to use.

Personal beliefs and stigmatizing perspectives of PWUD were also perceived to drive opposition to the hospital-based SCS. Participants believed that for some of their colleagues,

they objected to a patient's "*choice"* to use illegal drugs, diminishing their support for in-patient SCS.

> *I also think that some staff don't agree with it [hospital-based SCS], 'cause they just don't agree with drug use, period.* (P15, unit staff)

> *I think some find it [hospital-based SCS provision] difficult. I think there's always going to be like pushback. It doesn't matter what it is. A lot of people just don't agree with some people's life choices and so there's always going to be like challenges and pushbacks to that*. (P7, AMCT staff)

Within the hospital, participants reported ongoing discrimination, especially toward patients who were Indigenous, pregnant, and/or houseless and using, or suspected of using, drugs. Participants frequently described derogatory language used by staff and instances where staff provided less attentive care to patients who use drugs.

> *I: How would you say patients who use drugs are treated in the hospital?*
> *P: Like they're [people who use drugs] lower than- like, […] Ah, I feel like in our western society we look at our inner-city homeless population as ah, you know, they are not worth our time or our effort or yeah.* (P14, unit staff)

> *[S]ome people are actually scared I think, scared of the people we work with [patients receiving AMCT services]. And you can tell, they get in, they get out. […] And they [patients] just like, they know they [hospital staff] don't care,* right? (P3, AMCT staff)

Some participants believed this stigma led to resistance to the hospital-based SCS. "*[A] lot of people are not happy about it [the SCS] because they just take issue with that population*." (P10, unit staff). Importantly, participants described how resistance to the SCS manifested in an

unwillingness to fully incorporate in-patient SCS provision into their care and access barriers for patients which is explored in the following section.

Perspectives on Patient Access Barriers and Facilitators

Participants described factors that facilitated or hindered patient access to SCS. These factors were related to the processes used to identify and refer patients to the SCS and features of the SCS operational model.

Identifying and Referring Patients

We identified three barriers and two facilitators related to identifying and referring patients. The barriers included resistance to the SCS among hospital staff; inconsistent and ineffective strategies for identifying patients who may benefit from SCS; and an ambiguous referral process. The facilitators were formal patient consultations provided by the hospital's AMCT; and peer-based referrals between patients.

Resistance to the service, either due to a lack of awareness or conflicting beliefs as previously described, was reported as a barrier to promoting patient access. Participants outlined how unit staff have the potential to provide consistent and timely referrals to the SCS yet, staff who are resistant to SCS provision are unlikely to bring up SCS access with their patients. *"If the nurse knows she has a patient that uses drugs, [they could] just provide them with that [SCS] information right up-front. Which I know is tricky, depending on people's values and what they think about the site and harm reduction."* (P1, SCS staff). Not only that, participants explained how staff who are resistant to the SCS may be more likely to deny or discourage a patient from accessing the service.

> *I: Do you think there's any barriers patients might face in accessing the SCS?*
> *P: Mm-hmm, if staff aren't familiar and then they're [patients] asking about it [SCS] and it took a lot of courage to even ask about it and staff just hit them with like, "no, why do you want to go there", or judgement, or "I don't know about that" or "no, you can't leave for X Y Z" like, yeah.* (P10, unit staff)

Although patients do not require a referral from their unit to access the SCS, due to the power dynamics between patients and healthcare providers, a lack of support from unit staff could reasonably deter a patient from accessing the service. Further, the SCS is located in an area of the hospital which may be difficult for some patients to locate on their own. In this way, a lack of positive engagement and inconsistent support from frontline hospital staff creates missed opportunities to facilitate access and improve patient-provider relationships as explained by this participant;

> *P: [...] I feel like communication and understanding is so much better when they [patients] know that we're on board with what they're doing [accessing SCS]. When that's a question mark, I don't feel like the patients are as comfortable or as open with the nurses. Because you could support the SCS or not.* (P20, unit staff)

Missed opportunities to refer patients to the SCS were also believed to result from inconsistent and ineffective screening for illegal drug use in the hospital. AMCT participants reported completing a comprehensive intake questionnaire with patients that they felt facilitated drug use disclosure; whereas unit staff participants felt their intake questionnaire did not meaningfully engage patients or encourage candour. This SCS participant reflected on their experience working on a unit "[...] *you have to do the [unit intake] database and stuff, and it's really generic and you are just kind of like a robot going through it"* (P2, SCS staff). Participants stressed that building rapport with patients early on is especially important to promote disclosure of illegal drug use and identify eligible patients for referral but that many staff struggle with this. "*But I think that gets missed a lot too because you don't have that relationship, that patient might not come and tell you these things and I think that's sometimes how it gets missed."* (P16, unit staff). A few participants mentioned not completing any screening at all for illegal drug use as this participant explained;

[I]f the patients are smoking [tobacco] we have a checklist, so, during your admission we ask okay, "Are you smoking? […] Can we give a patch? Do you need any counselling or anything like that?" But we are not asking anything about the drugs or you know, about the SCS or anything like that, there is no information at all. (P18, unit staff)

In addition to challenges identifying SCS-eligible patients, participants reported that the referral processes were unclear for unit staff. Many AMCT participants, especially those working in the SCS, believed that increasing referrals from front-line care providers such as unit staff would help engage more eligible patients in SCS care. However, when asked how patients are referred to the SCS, most unit staff were not aware of a standard process. Instead, unit participants leaned heavily on the AMCT to refer their patients but were still unclear on how their patients were connected to the SCS.

I: How do your patients find out about it [the SCS]?
P: Yeah, exactly, see this is still something I don't understand. Yeah, I don't know. I think [the AMCT] comes and consults with them. […] I don't know how that works. (P15, unit staff)

I: Can you tell me from your experience what the process is like when a patient wants to go to the SCS?
P: So, I don't know exactly, because we usually- usually the [AMCT] will help to facilitate that. (P17, unit staff)

Further, for patients who decline an AMCT consult or are not offered one, participants felt they and some of their colleagues lacked the skills and knowledge to refer patients to the SCS. Some participants reported a general lack of awareness about the service and how it operates among their colleagues; "*[…] I'll be talking to the nurse and I'll mention SCS and they're like, "Oh, what is that even*?" (P7, AMCT staff). Other participants expressed feeling unprepared to discuss SCS with patients for example, one participant disclosed: "*I don't think*

I'm qualified to be able to refer them so I'm happy that [AMCT]- I'm so grateful for [the AMCT], they do so many things" (P15 unit staff). Of note, one participant felt that unit staff should not have the responsibility of referring patients, preferring instead that all SCS-related care be managed by the AMCT.

Participants cited a lack of sufficient training as the main cause of ambiguity regarding the SCS referral process. Most unit participants told us that they were unsatisfied with, or received little-to-no training regarding the hospital-based SCS. One participant, who began working at the hospital after the SCS was established, stated that there was limited procedural information provided about the SCS during orientation and that they were not aware of resources available to reference following their initial orientation to the hospital;

> *So everything I received was verbal like a "Hey isn't this exciting, this [SCS] is a feature". [...] But it wasn't information given from the perspective of like "if you needed to send someone to the SCS, here's who you need to contact or like here's the process", that was never discussed with me.* (P19 unit staff)

AMCT staff confirmed unit participants' assumptions as they described their process for providing SCS referrals as part of their initial consult.

> *So a lot of times when they come in, as an [AMCT] consult, they're first off asked if they're still using while in hospital. And if they are, yes, the SCS is brought up right away. And then they're taken like on a tour and kind of sign a consent (P7 AMCT staff)*

SCS staff, the AMCT's addiction counsellors, and peer support workers were often recruited to encourage trust and engagement with the SCS. In particular, SCS staff strived to support patient engagement through outreach. Participants who worked in the SCS describe their workload as coming in "*waves of demand.*" SCS staffing was sufficient to enable SCS staff to support patient referrals by visiting patients on their unit and providing information about the SCS including taking patients for a tour. Further, for patients who may be hesitant to access the SCS

participants reported that SCS staff would provide them with sterile injection supplies to maintain open and supportive relationships with patients and help reduce the risk of negative health outcomes from ongoing drug use.

> *Yeah, so we will do unit outreach. Sometimes a physician or say a peer support worker will want us to see a patient on the unit. Just provide them with education about the SCS if they are not already using our services. Maybe delivering them some clean supplies and things like that.* (P1, SCS staff)**.**

Though only intermittently available, participants described outreach by SCS staff as a "*powerful"* strategy to initiate and maintain engagement with the SCS.

Since any registered patient with the hospital can present to use the SCS without a referral from hospital staff, participants reported that in some cases patients felt comfortable accessing the SCS themselves after hearing about the service from other patients or friends or family in the community as one participant explained: "[…] *And too, some people are already aware because they've heard from friends or whatever*." (P17 unit staff). Patient-to-patient referrals were reported to occur more commonly among patients admitted to the complex medical detox unit where there is a higher proportion of patients continuing to use illegal drugs while admitted compared to other units.

Features of the SCS model

We identified multiple features of the SCS model that served as either barriers or facilitators to effectively supporting patients who use drugs. The perceived barriers included the physical distance between the fixed-site SCS and hospital units for patients with limited mobility; lack of reliable patient transport; restrictions on visitor access and assisted injection; and a lack of supervised inhalation. The facilitator we identified was patient transport by SCS and AMCT staff.

Participants believed that operating a single, fixed-site SCS in a large acute care campus created inevitable challenges for a subset of patients, owing to the size of the hospital and varying mobility of medically acute patients. The SCS in this study was located on an upper floor

of a building either attached to, or adjacent, the two main buildings on the hospital campus that house general medical and surgical beds. Patients typically accessed the SCS by walking through a system of pedways or walking outside from one building to another. The location of the SCS, while discrete, was described as being as far as two city blocks from some admitting units, and participants identified this distance as one of the most significant access barriers for patients with limited mobility. Being in a hospital setting, participants often cared for patients who could not self-ambulate to the SCS due to injury or illness.

> *Honestly, I think one of the big things is the distance. [...] I think, especially some of our patients that are possibly you know, […] they have a lot of edema, or they have a lot of swelling or they have some mobility issues or they have certain co-morbidities that long distances and everything.* (P14, unit staff)

> *We're quite far away from the majority of the inpatient units. In terms of how close the other units are together, I mean we're not really far, but we do have a few people right now that are in wheelchairs and they do require unit staff to bring them. Which becomes a little bit, I don't know. Some staff on the units don't like bringing the patients here. It takes time out of their day and they don't have time, are too busy, are some of the things we've heard […] So I know some people; some patients don't come because it's so far and they can't get anyone to help them here.* (P5, SCS Staff)

Further, the hospital requires patients to exchange a piece of government-issued identification for a wheelchair which participants found exacerbated access barriers for patients with limited mobility who come to the hospital without identification. Having to navigate through multiple buildings and pedways to find the SCS further challenged patient access.

Despite recognizing the need to transport patients to the SCS, participants reported not reliably having the time to step away from their unit to assist patients. Participants described how unit staff are often overburdened with other aspects of patient care and lack sufficient supports, such as porters (dedicated staff who assist in transporting patients throughout the

hospital). As one participant asserted: "*From my experience working on the floors, there is one thousand percent, I can say with the utmost certainty, there is no time to be walking patients to [the] SCS."* (P8, unit staff). Insufficient time to transport patients was seen as the primary barrier to patient transport. However, a few SCS and AMCT participants disclosed that they felt a lack of time was used as an excuse to dismiss patients' need to access the SCS.

> *A lot of times they'll find barriers or reasons why they can't take someone they're like "Oh, the unit's too busy or we're short staffed." […]. I think it's sometimes the unit… especially if it's after hours is like, "Oh, you don't need to go there."* (P7, AMCT staff)

To compensate for challenges transporting patients with limited mobility, SCS and AMCT staff accommodated patient transport when feasible. Peer support workers especially were reported as an essential support to offset transportation barriers.

> *Patients with mobility issues, it can really difficult for them to get all the way to us. We try to do what we can. We try to utilize our peer support workers to bring patients. Even staff in the SCS, we will try to accommodate these patients and go pick them up and drop them off ourselves but that's not always feasible, depending on how busy we are. (P1 SCS Staff)*

As with unit staff participants, SCS and AMCT staff participants reported that under their current workload, they were not reliably available to accommodate patient transport.

Beyond location and transportation barriers, a lack of infrastructure to accommodate supervised inhalation or smoking was identified as a key access barrier for their patients who would otherwise benefit from SCS access. "*I know one patient wanted to go there but she only smoked heroin so she couldn't go there*." (P11, unit staff). Similarly, participants believed that patients are increasingly consuming via inhalation yet, are excluded from SCS access. Participants reported a few instances where patients requested SCS access after consuming drugs via inhalation; "*And we also have had the rare occasion where someone has inhaled*

[drugs] and then come to the SCS and said 'hey, can I be in the post-monitoring room.'" (P6, AMCT staff) demonstrating a desire from patients to expand eligible routes of consumption.

Additionally, many participants discussed how SCS restrictions precluding the use of the site by patient's visitors (e.g., friend or family member) and prohibitions on peer-assisted injecting jeopardized the safety of both patients and hospital visitors. "*I feel like a lot of times some of these people that are here in hospital, they won't use the SCS because their friends can't come. Sorry, that's another barrier.*" (P14, unit staff) SCS staff participants reported that when a patient's visitor is denied access patients also decline to access the SCS, which they believed meant that patients and visitors were consuming drugs in concealed locations elsewhere on the hospital campus, where access to timely medical intervention is prevented or delayed.

> *Only the patients can come. Because a lot of people do use their substances in partners or in groups which is something we teach all the time for harm reduction, right. […] And I've seen some people walk away at the door because their friend couldn't come. So, then they decide where to go and it's usually the bathroom […]* (P5, SCS staff)

Restrictions on visitors were described as disproportionately impacting patients who generally rely on someone else to inject drugs for them. Within the SCS, nurses can talk patients through injection techniques and assist with vein-finding however, they cannot provide assisted injection and patients must self-inject. A prohibition on visitors limited the possibility of peer-assisted injection, which is permitted in several other federally sanctioned SCS in Canada, but was not permitted within the hospital-based SCS we studied. As this participant explained:

> *And sometimes those are the most vulnerable people who are using substances because they are relying on someone to safely administer but they are also relying on someone to be there if something goes wrong. And so they are maybe further isolated by not having access to the SCS and trying to use in secret in the hospital.* (P6, AMCT staff).

There was general support amongst participants for expanding policy and practice to allow visitors who were accompanying patients to access the SCS as well as peer-assisted injection.

> *P: [D]efinitely if you can open it up to at least like a partner, like especially if you're a patient. At least take one person in the room with you. […] We struggle because they use in their room and then we have the units call and say, "You need to talk to this person" and we're like, "Well, we can't because they're going to use in their room because their partner can't use the site, so…" and like that's the biggest barrier (P3, AMCT Staff)*

> *I think they're also not allowed to have a friend who would normally inject for them. But I think that if- that to me is harm reduction, if we could support that somehow. […] I think it [permitting peer-assisted injection] would be worth a try. I've heard some people; several people say that that's why they won't use it.* (P17, unit staff)

They noted that resource allocation should be prioritized to ensure that in-patients have consistent access but otherwise believed that permitting these practices would increase access for patients, protect the safety of hospital patrons, and build additional positive relationships between PWUD and healthcare providers.

Discussion

This study represents the first qualitative evaluation of hospital staff perspectives on hospital-based SCS provision. Overall, participants in our study were supportive of the hospital-based SCS but believed that there was more work to do to increase the acceptability of the SCS amongst hospital staff, and enhance screening and referral processes. Participants also identified a number of ways the SCS service model could be strengthened to further promote patient uptake and better meet the needs of PWUD. Our findings point to the need to implement complimentary hospital policies and procedures, address structural barriers to care, and expand SCS eligibility to allow hospital-based SCS to reach its full potential. A summary of the included recommendations is included in Table 2.

We found the acceptability of hospital-based SCS was high amongst participants and was grounded in their understanding of and desire to address the structural factors that exacerbate the risks of in-hospital drug use. Participants in our study identified a number of structural factors (e.g., stigma toward PWUD, the criminalization of drugs, hospital security practices, and the enforcement of abstinence-based policies through patient discharge) that contribute to patients resorting to covert drug use in high-risk settings. In turn, they viewed a hospital-based SCS as an acceptable intervention to support the health and safety of PWUD in hospital. These perspectives closely align with structural competency which involves the ability to identify and intervene in the complex social, political, and environmental factors that influence health.[121] In contrast, participants encountered resistance to the service among their colleagues which was believed to result from a lack of awareness regarding the goals of and services provided within the SCS and perspectives that reduce drug use to an individual or criminal issue. This was despite available training from this hospital's AMCT including via a dedicated clinical nurse educator, quarterly grand rounds, and semi-regular day-long conference events. Importantly, hospital staff resistance to the hospital-based SCS was reported to result in patient-provider interactions that deny or discourage a patient from accessing the SCS.

Given this relationship between acceptability and perceived patient access barriers, interventions that improve healthcare provider views of hospital-based SCS and their understanding of the goals of harm reduction-based services are essential to ensure optimal patient access. Hospitals planning to implement hospital-based SCS should consider developing educational initiatives that highlight the goals, underlying principles of harm reduction in healthcare settings,[40] and available services in the SCS. Moreover, since participants' rationalizations of hospital-based SCS acceptability aligned with the principles of structural competency, findings from this study offer early evidence that structural competency education may serve to support the acceptability of hospital-based SCS. Neff et al. have developed a curriculum for structural competency that explores the basic concepts of structural competency, the relationship to health inequities, and ways of responding to harmful social structures.[145] In the context of hospital-based SCS implementation, this curriculum could be

adapted to outline the drivers of in-hospital drug use, and the risks associated with covert, in-hospital drug use.

Further, our findings suggest that healthcare providers may not be readily prepared or equipped to identify and refer patients to a hospital-based SCS. Although the AMCT in this setting worked hard to connect eligible patients to the hospital-based SCS, a lack of standardized screening procedures and an ambiguous referral process for unit staff remained a barrier to connecting patients to the service. We found that participants believed screening for illegal drug use was inconsistent and that many healthcare providers do not develop sufficient rapport to encourage disclosure of illegal drug use leading to missed opportunities to refer patients to the SCS. Research has shown that in hospital settings, the identification of illegal drug use is often highly variable.[146,147] For instance, illegal drug use is not frequently identified upon admission to hospital, but instead in the days following admission.[146] In addition, patients with a mild or moderate substance use disorder, or who do not identify as having a substance use disorder, are less likely to be identified. [146] As a result, there are missed opportunities for consistent, early engagement with hospital-based SCS and drug use-specific care (e.g., adequate pain and withdrawal management, opioid agonist treatment maintenance or initiation, peer support, or other available supports and treatment options as desired).

Enhanced screening in hospitals, alongside interventions to address social and structural barriers to disclosing illegal drug use, such as rapport-building strategies and decriminalization, may be a strategy to promote access to hospital-based SCS and provide care that is responsive to the needs of PWUD in hospital. In particular, the use of brief screening questionnaires has been recommended in emergency departments as they are often the first point of contact with the healthcare system for people who use drugs.[148,149] Diverse emergency department universal screening programs have been developed to identify illegal drug use. These include nurse-driven screening in emergency department triage and bedside screening programs carried out by peer support specialists.[150,151]

Developing effective screening programs for illegal drug use in hospital settings requires careful consideration of the broader environment in which they will be implemented and how that may impact their effectiveness. In highly stigmatizing environments, screening may be

viewed as invasive and threatening and lead people to withhold information.[97] Prioritizing the establishment of strong patient-provider rapport may be one strategy to overcome the challenges posed by interpersonal stigma between PWUD and healthcare providers.[152] PWUD have emphasized the importance of strong rapport in supporting their willingness to disclose illegal drug use.[152] Research has demonstrated that patient-provider rapport is built through effective communication, empathy, and consistency in care.[152] In the context of hospital-based SCS provision, this could include prefacing screening questions with contextual information explaining the hospital's harm reduction-based in-hospital drug use policies.

Addressing structural stigma (defined as the "rules, policies, and procedures of social institutions that arbitrarily restrict the rights and opportunities" of people who use drugs),[153] is also critical for supporting patients' willingness to disclose illegal drug use and enhance access to hospital-based SCS. Paterson, Hirsch, and Andres propose a model of structural stigma wherein stigma toward PWUD who are HCV positive in emergency department settings is fostered by communication structures (how patient information is shared and documented between providers), departmental and institutional structures (e.g., lack of privacy as a result of the physical layout, wait times driving a pressure to deprioritize the needs of PWUD, a lack of staff with experience in substance use disorder and mental health on weekends and evenings in particular) and external structures (poor access to primary, preventative health services).[97] Moreover, the criminalization of drugs may be one of the most profound drivers of structural stigma according to a recent study conducted with PWUD.[154] Efforts to support decriminalizing illegal drug possession and the development and enforcement of organizational policies and other interventions that reduce stigma and discrimination against PWUD are necessary to realize the full potential of evidence-based harm reduction interventions such as SCS in hospital settings.

When eligible patients were identified, participants reported that SCS referral processes were unclear and some participants did not feel prepared to refer patients to the SCS. Similarly, in the early stages of implementation of St. Paul's Hospital OPS, it was suspected that awareness of the service among hospital staff was low, leading to low referral numbers and ongoing unsupervised overdoses on hospital grounds.[49] These issues underscore the

importance of establishing and regular training staff on robust referral practices in order for hospital-based SCS to effectively address the risks of covert in-hospital drug use and premature, patient-directed discharge.[155] In addition, hospitals should ensure their staff feel adequately prepared to engage in conversations about drug use and harm reduction. Healthcare providers often struggle to discuss harm reduction with patients. One study from the Massachusetts General Hospital found that in hospital settings, only 22% of general internal medicine physicians felt prepared to discuss harm reduction with their patients.[78] Similarly, Canadian nursing students, while being familiar with harm reduction principles, do not report feeling prepared to create actionable harm reduction care plans with patients.[75] In addition to educational initiatives aimed at increasing the awareness of harm reduction goals and philosophies, hospitals implementing hospital-based SCS should consider offering multiple rounds of procedural-focused training. This training should encompass the logistical aspects of service operation, clarify responsibilities for referrals, and provide healthcare providers with rapport-building strategies to build trust and effectively refer patients to hospital-based SCS.

Features of the SCS model, primarily the distance from patient units, restrictions on visitor access, and a lack of supervised inhalation were identified as prominent access barriers. Each of these barriers were corroborated by Kosteniuk et al's findings from an earlier evaluation with patients at the same site.[71] We found the fixed location of the SCS, in the context of limited patient transport availability, was reported as a significant access barrier for patients with limited mobility. Likewise, Kosteniuk et al's evaluation found that patients reported taking additional supplies from the SCS to use elsewhere in the hospital when they were too unwell to walk to the SCS.[71] Too many competing demands, and barriers accessing mobility aids created inequity in SCS access for patients with mobility challenges. This relates to the need to address structural factors to support overall hospital-based SCS access. For fixed-site hospital-based SCS, structural changes that may be more readily addressed include implementing dedicated staff to assist with patient transport, increasing the number of available mobility aids, and relaxing ID requirements to access them. Another promising service model for patients with limited mobility, for patients following isolation procedures, or in settings with human resource or space constraints, is episodic SCS where staff are available on

demand to supervise patients at bedside. Offering both fixed-site SCS and episodic SCS may be the most effective strategy to ensure equitable access to SCS in hospital. Additional details including best practices for episodic or bedside SCS have been described elsewhere.[156,157]

Participants describe how the lack of SCS access for visitors of patients who use drugs places those patients and other hospital patrons at risk. Organizational policies at the study site recognize that the presence of family or friends is an evidence-based and patient-centered approach to healthcare, and welcome the 24/7 presence of patient-designated support persons as integral partners in care.[158] Partnerships between PWUD are important forms of care and social protection and for many, drug use is embedded in social relationships.[71,159] Especially for people experiencing houselessness, 'street family' often fulfills the needs not fulfilled by other caregivers or family members.[160] It follows that barriers to biological or "street" family presence can force higher-risk drug consumption practices such as rushing consumption in hidden hospital spaces. When recommending visitor access to in-patient SCS, participants in this study were mindful of ensuring there were sufficient resources to accommodate visitors as well as potential safety and patient privacy concerns although they believed that mitigation strategies such as one visitor per patient would be appropriate. From this study's site, findings from Kosteniuk et al's patient perspective evaluation proposed similar recommendations for visitor access.[71] In addition, at the St. Paul's hospital-based OPS where visitors who are accompanying patients are permitted to access the site but community members who present without a patient are directed to a nearby community OPS located within a 7-minute walk.[49] In line with organizational evidence-based standards of hospital care and the needs of all hospital patrons, hospitals planning to implement hospital-based SCS should accommodate visitor access to the SCS.

Further, SCS planners should consider permitting assisted injection in hospital-based SCS. Among males and females who inject drugs, 13% and 25% respectively require help injecting for a number of reasons such as lack of familiarity with injection technique, poor venous access, anxiety or withdrawal symptoms, or visual or other disabilities.[161] Participants in this study remarked that patients who require assistance injecting typically face intersecting vulnerabilities. Women, youth, and people with disabilities are overrepresented among people

who require help injecting, and face multiple barriers to care yet are at greater risk for overdose, violence, and injection-related infectious diseases.[161,162] Peer-assisted injection, where SCS clients can prepare and inject drugs for another client, has been to shown engage PWUD at greater risk of harm, and offers an opportunity to obtain education on safer injecting techniques, and access to medical intervention if needed.[163] Hospitals applying to operate a federally sanctioned SCS can apply to accommodate peer-assisted injection.[164] There are currently 27 federally sanctioned community-based SCS in Canada with exemptions to accommodate peer-assisted injection.[164] Hospitals seeking to implement in-patient SCS should consider a patient's health need, rather than their capacity to self-inject, and extend the widely accommodated practice of peer-assisted injection to hospital-based SCS where patients may have health complications that make injecting on their own challenging.[165]

A final access barrier reported by participants was a lack of supervised inhalation. Participants shared several accounts in which they suspected their patients were continuing to use drugs outside the SCS because the SCS does not accommodate supervised inhalation. This was corroborated by Kosteniuk et al's earlier research with patients at the same site, which found some patients reported accessing the SCS to consume via injection but also smoking in hospital washrooms.[71] Drug administration routes vary in relation to the changing illegal drug markets and the associated changes in drug effects and motivations for drug use.[166,167] Many PWUD consume via multiple routes of consumption, and some exclusively smoke drugs.[168] In some settings, difficulty accessing veins for injection led PWUD to develop a preference for smoking fentanyl over injecting heroin since the switch resulted in improved health, fewer financial constraints, and reduced stigma associated with injection related wounds.[167] Supervised inhalation is a natural extension of SCS and there is a high willingness among people who smoke crack cocaine or methamphetamine to access in-hospital supervised inhalation.[169,170] In western Canada, community-based SCS have implemented supervised inhalation on the grounds that; overdose and other health risks such as HIV, and HCV transmission are present among all types of consumption routes,[171] and people who consume via inhalation deserve equitable access to SCSs.[172] In one community setting, supervised inhalation rooms were used in 30% - 40% of all visits to the SCS, and 60% of unique clients used

the inhalation space.[172] Implementing supervised inhalation may have upfront time, labour, and financial investments to build or retrofit ventilation in compliance with occupational health and safety guidelines, tobacco and cannabis regulations, and other municipal bylaws.[172] While built facilities afford the most sustainability, especially in environments with extreme temperatures, supervised inhalation spaces in private outdoor spaces, or temporary trailers, may be a reasonable short-term intervention to increase SCS accessibility.[173] Supporting multiple routes of consumption can allow hospital-based SCS to remain responsive to shifting trends in local drug consumption patterns and remain inclusive and effective.

Table 2. Summary of Recommendations

Ensure timely, consistent identification of patients who would benefit from hospital-based SCS access
▪ Enhance screening for illegal drug use
▪ Address social and structural barriers to disclosing drug use – Strengthen rapport building skills – Decriminalization
Optimize unit staff referral pathways
▪ Establish a robust referral process
▪ Provide routine training on the logistical aspects of service operation, and healthcare provider responsibilities for referrals
▪ Empower healthcare providers to discuss harm reduction interventions such as SCS
Expand SCS eligibility and services
▪ Provide dedicated staff to transport patients to the SCS
▪ Ensure widely available mobility aids with few eligibility requirements to access them
▪ Offer a combination of fixed-site, and episodic (bedside) SCS
▪ Permit at least one visitor to access the SCS with a patient
▪ Accommodate indoor supervised inhalation in compliance with occupational health and safety guidelines or in outdoor sheltered spaces

Strengths and Limitations

This study is the first to report on healthcare provider perspectives of hospital-based SCS provision. We captured perspectives from a range of healthcare providers, such as AMCT staff (addiction counsellors, peer support workers, SCS staff, and others) as well as unit nurses; expanding the breadth of our understanding of the implementation and operation of this novel hospital-based service. In each theme, we considered representation from both AMCT and unit participants, as well as compared coding frequencies per group and did not observe any

notable differences. However, we were not able to comparatively analyze differences between groups of healthcare providers. This may have limited our contextual understanding among specific provider roles. Additionally, since access for patients admitted to the ED became available during the late stages of this study, we did not explore the perspectives on hospital-based SCS provision from an emergency department setting. Recent research suggests that although the emergency department is a critical point of contact for PWUD, there are dynamic system-level factors that constrain the ability to effectively provide harm reduction, including hospital-based SCS, in the emergency department.[98] Additional research is needed to understand how the emergency department can be organized to successfully integrate hospital-based SCS. Further, we relied on voluntary, convenience sampling so staff were able to participate without undue influence from their managers or supervisors. This may have biased our sample toward participants who are already aware of and potentially supportive of acute care harm reduction interventions and have experience advocating for PWUD. Response bias was also a concern given the local political climate toward SCS. At the time of data collection, SCS in the province were under intense scrutiny from the provincial government[174] and participants may have been concerned their responses would affect the service's provincial funding and potentially hesitated to discuss concerns or weaknesses of the service. We strived to mitigate this by asking participants to discuss the perspectives of their colleagues, and by assuring participants that their responses were confidential yet instrumental for informing quality improvement initiatives through the identification of areas of strengths and weaknesses in SCS implementation.

Conclusion

Hospital-based harm reduction services such as SCS are a promising strategy to address the risks of covert, in-hospital drug use and the drivers of premature, patient-directed discharge. Likewise, the finding from this study show that for some healthcare providers, the hospital-based SCS was seen as an acceptable intervention to address the existing risks of covert, in-hospital drug use. However, the participants in our study did not find that support for the service was widespread among their colleagues. Additionally, they identified a number of

ways that patients who may benefit from a hospital-based SCS are missed or excluded from accessing the service. By understanding how healthcare providers perceived hospital-based SCS, and the challenges they encounter supporting patient access to the service, this study identifies opportunities to continue to refine the hospital-based SCS model of care.

Chapter 4: Discussion

The overall goal of this thesis was to inform the implementation and optimization of hospital-based SCS. This was achieved through two qualitative studies conducted prior to and within the first two years of the implementation of the first hospital-based SCS. Specifically, in Study 1, the aim was to understand prospective views on acceptability, operational practice considerations, and considerations for professional policy. In Study 2, the aim was to further explore hospital staff perspectives on acceptability following implementation, and extant barriers and facilitators to supporting patient access. Altogether, this thesis provides novel insight into the implementation and operation of hospital-based SCS and offers recommendations for future policy, practice, and research.

Main Findings

The purpose of Study 1 (Chapter 2) was to assess hospital staff perspectives of hospital-based SCS prior to implementation, and identify determinants of behaviour change according to the TDF. Mirroring the diverse perspectives of stakeholder considering community-based SCS, [117,175] for some, hospital-based SCS was an acceptable response to address the existing risks of in-hospital drug use for patients who use drugs. Yet, concerns prevailed regarding the impact on safety and security within the broader hospital environment. Participants debated several potential operational practices without arriving at a clear consensus. Some options proposed were more aligned with the goals of harm reduction and the needs and preferences for SCS previously expressed by people with lived/living experience of drug use and harm reduction service providers.[71,118,119] Although, there was consensus among participants that not all hospital staff were equipped to confidently and safely care for patients who access hospital-based SCS, which is in line with previous work evaluating healthcare provider preparedness to care for patients who use drugs.[75,78] As outlined by the TDF[101], participants' views regarding acceptability and operational practice are underpinned by interpersonal factors such as knowledge, emotions, skills, anticipated consequences of implementation, and external factors such as resource constraints. Another widely debated topic among participants was whether supporting SCS provision fit within their professional practice. These discussions were

underpinned by competing perspectives on how personal beliefs should impact professional roles and professional boundaries, and differing views about the appropriateness of "opting out" of care for ethically complex or challenging cases. These perspectives prevailed despite an existing stance at the time of data collection from the provincial College of Registered Nurses (the regulatory body of the majority of participants) supporting a harm reduction approach and the role of registered nurses in supporting a full range of harm reduction services.[127]

The aim of Study 2 (Chapter 3) was to investigate healthcare provider perspectives on acceptability and barriers and facilitators to patient access following implementation of the hospital-based SCS. I found that overall, participants were highly supportive of the service, and viewed it as a promising step toward providing patient-centered care for hospitalized PWUD. However, echoing previous research with patients at the same site[71] and other hospital-based harm reduction implementation studies,[21,41,176] they highlighted the challenge posed by the lack of widespread support in the hospital. For example, they discussed encounters with reluctant staff whose negative attitudes toward hospital-based SCS were believed to impede patient access. In addition, inconsistent screening for illegal drug use, a common challenge in acute care settings,[146,147] and a lack of formal SCS referral processes, limited participants' ability to consistently identify and refer eligible patients. The hospital's AMCT partially compensated for these barriers, by referring eligible patients during their consults and conducting outreach where SCS or other AMCT staff met with eligible patients on their units to build relationships and encourage SCS use. Additional access barriers reported were related to features of the SCS model such as the fixed site located far from certain wards, restrictions on patient visitor access, and a lack of supervised inhalation. In hospital settings, recent studies have demonstrated a critical need for expanded SCS eligibility criteria,[48,71] and a high willingness among PWUD to access hospital-based supervised inhalation services.[42,170]

Considering the results of studies 1 and 2 together, there are important insights that can be drawn from which of the initial perceptions, attitudes, and predictions from the pre-implementation study (Study 1) were consistent with the experiences reported in the post-implementation study (Study 2). Of note, comparisons between the two studies should consider that the studies were separately conducted and employed different recruitment, data

collection, and analysis methods; however, the interview guide used in Study 2 was designed in part to follow up on the findings from Study 1.

First, many of the anticipated concerns in Study 1 related to safety and security risks within the hospital environment (e.g., increasing the presence of drug dealers, crime, and drug-induced violence). These risks were not reported as ongoing operational challenges in Study 2. This was despite specifically asking participants in Study 2 about ongoing concerns in general and related to where patients who access the service are getting their drugs. In fact, a few participants in Study 2 expressed that their initial concerns were resolved upon witnessing improvements to hospital safety. This contrast between anticipated outcomes and actual perceived outcomes of the hospital-based SCS is not surprising as these concerns, while commonly raised regarding community-based SCS,[175,177] are not supported by extensive research that show that rates of crime or public disorder decrease or remain unchanged following the establishment of SCS. [33–35]

There were also differences observed between Study 1 and 2 regarding the perceived acceptability of accommodating patient transport to and from the service and allowing access for patient visitors. In Study 1, participants had divergent views on the acceptability of accommodating these practices; some proposed prioritizing low-barrier, equitable access and viewed patient transport and visitor access as acceptable practices, while others expressed fear and anticipated workload or safety challenges, leading them to oppose these practices. Conversely, in Study 2, the participants were consistently interested in addressing equitable access, given sufficient resources, and were strongly in favor of transporting patients to the service and permitting patients' visitors to access the service. These trends resemble research on SCS design preferences in community settings which shows that individuals with more direct experience with SCS, either as a client or service provider, are more supportive of lower-barrier service models that align with the needs of PWUD and the intended goals of harm reduction.[71,118,119]

The fact that experience with hospital-based SCS may contribute to more favorable perspectives is promising although, the findings from this thesis suggest that experience alone is not enough to support the systemic acceptance and integration of hospital-based SCS into

patient care planning. Hospital staff resistance to the service was reported as an ongoing barrier to supporting patient access to the hospital-based SCS. Moreover, resource constraints were accurately anticipated to impact the feasibility of transporting patients to the service, and additional access barriers were revealed in Study 2 such as a lack of universal screening for illegal drug use, ambiguous referral procedures, and other features of the hospital-based SCS model (e.g., lack of assisted injection and supervised inhalation).

Strengths and Limitations

Together, these studies provide a novel understanding regarding healthcare provider views on the implementation and operation of hospital-based SCS that can be used to guide further research, facilitate implementation, and optimize hospital-based SCS models. Importantly, this thesis responds to the many calls to implement harm reduction services in hospital settings,[23,24,38] and the prominent research gap by providing rigorous qualitative data on hospital staff perspectives before and after implementation. This study builds off of the limited literature in this area. For example, a descriptive report on the implementation of St. Paul's Hospital OPS in Vancouver, provided some initial lessons learned from the perspective of the implementers, as a starting point to refine the hospital-based SCS model.[49] By formally researching both prospective and actual hospital staff perspectives, this thesis informs the implementation of tailored interventions needed to prepare and support healthcare providers with hospital-based SCS provision, and to continue to optimize the model of care for hospital-based SCS. Additionally, it complements previous research with patients at the same site,[71] by providing additional context and nuance on practical considerations regarding hospital-based SCS provision and corresponding insight on the dynamics of patient-provider interactions. Building off existing research, this thesis supports a wholistic understanding of the implementation and optimization of hospital-based SCS.

This thesis also has some limitations to consider. First, though recruitment was open to all staff who regularly care for patients who use drugs, I did not recruit any participants who were wholly resistant to the service despite participants from both studies describing the presence of resistant staff. Being unable to gather perspectives directly from this population may limit my understanding of the drivers of resistance to the service and how the service is

operating in the hospital. This recruitment challenge may relate to the fact opponents of the service may be reluctant to criticize the work of their employer.[178,179] As well, by relying on unit managers (who supervise nursing staff) to disseminate recruitment information for each study, I had limited physician recruitment (one physician was recruited in Study 2 and none were recruited in Study 1). Physicians hold considerable power and control over the care of patients and the actions of nursing staff. Perspectives from their position may inform the interactions between all actors on a patients' care team and present additional barriers and facilitators not captured here. Further, I found reports of staff feeling overworked in each study. Personal and professional time constraints are a common barrier to recruiting healthcare providers in qualitative research.[180] As such, this thesis may not capture the full impact that resource constraints have on the implementation of hospital-based SCS and how this influences healthcare provider perspectives.

Additionally, there were unique contextual factors present during these two studies that may limit the overall generalizability of this thesis. The hospital in which these studies took place already had an established AMCT[136] that had previously implemented several other harm reduction interventions such as a needle and syringe distribution program and a managed alcohol program. The AMCT also provides ongoing training and education to hospital staff via a dedicated clinical nurse educator, quarterly grand rounds, and semi-regular day-long conference events. This team has likely increased the readiness and acceptance of hospital staff toward the implementation of harm reduction services.[113] Further, during each of the study periods, local SCS were receiving higher than normal levels of public media and political attention. The data collection period for Study 1 coincided with the opening of the province's first 3 community-based SCS and the data collection period for Study 2 coincided with a highly politicized panel review of community-based SCS.[174] How this attention framed public discourse about SCS was out of the scope of this thesis but may have influenced participants' perspectives.[181] Future hospital-based SCS implementation studies should remain attentive to organizational familiarity with harm reduction and the local political climate toward SCS.

Policy and Practice Recommendations

By closely examining the perspectives of healthcare providers both before and after implementation of a hospital-based SCS, this thesis provides valuable insights that can inform the preparation and optimal integration of hospital-based SCS. Findings from Study 1 revealed high levels of acceptability regarding the potential for hospital-based SCS to mitigate drug use-related risks for PWUD. However, participants also raised concerns about its potential impact on the safety of the hospital environment. Participants' considerations for operational practices were influenced by competing resource demands and varied in how closely they aligned with the values of and the intended goals of the service. Similarly, participants expressed varying degrees of willingness and readiness to incorporate SCS provision into clinical care. Findings from Study 1 also identified a range of TDF implementation determinants underlying participant perspectives, spanning a continuum from intrapersonal to environmental determinants. In Study 2, support from the hospital's AMCT was a strong facilitator in supporting patient access in the face of systemic hospital barriers such as a lack of hospital-wide acceptance, resource constraints, and existing hospital and SCS level policies and practices that undermine the effectiveness of hospital-based SCS. While experience with the service may have lessened concern and fear amongst hospital staff regarding SCS provision, additional strategies are needed to address ongoing staff resistance to the service and structural access barriers. By considering the theoretical insights on behaviour change in Study 1 alongside the problem-focused findings on enhancing acceptability and patient accessibility presented in Study 2, this thesis offers a robust and thorough understanding of what needs to be addressed and which interventions are likely to be successful in optimizing the provision of hospital-based SCS. Collectively, the implications from both studies emphasize the need for a multileveled approach that targets staff education, hospital policies, resources, and building equitable partnerships with PWUD to proactively prepare for and address barriers impacting hospital-based SCS acceptability and accessibility.

At an individual level, participants drew on structural competency-based knowledge (the ability to identify and intervene in the complex social, political, and environmental factors that influence health) when rationalizing their support for the service (e.g., identifying how hospital abstinence-based policies and practices create risks related to in-hospital drug use). In

alignment with BCW recommendations to address individual knowledge,[114] these findings suggest educational initiatives aimed at improving structural competency among hospital staff may be an effective strategy to promote the acceptability of hospital-based SCS.[121,122] Given that in reality the implementation of new hospital services commonly takes place under time and resource constraints and delivering a complete curriculum on structural competency may not be feasible, targeted content that could be delivered alongside proposals to implement hospital-based SCS may include education on complex drivers of in-hospital drug use, [18] and the risks of enforcing abstinence-based policies in hospital settings including premature discharge and high-risk consumption practices.[3,13,95] This information, may be most powerfully articulated by someone with lived or living experience of in-hospital drug use.[182] Structural competency training could also orient staff to factors such as criminalization, racialization, historic and ongoing colonization, gender and sexual orientation, socioeconomic status, unstable housing, and houselessness that disadvantage PWUD and make it less likely for them to experience safe hospital care.[183–185]

At an organizational level, hospitals planning to implement hospital-based SCS should consider aligning organizational policies and practices with harm reduction principles. Accordingly, throughout this thesis, the local health authority had a level 1 provincial policy on harm reduction. In addition to adopting policies, hospital should adapt practices, provide specific practice guidance. and supply adequate resources to support the implementation of hospital-based SCS. Hospital policy has been identified as a valuable tool in advancing care for patients who use drugs.[132] Policies and their effective communication can effectively target a wide range of behavioural implementation determinants and thus are an essential aspect of any implementation plan.[114] A few promising strategies for developing in-hospital drug use policies include; creating a working group made up of interprofessional hospital staff and PWUD to first review and identify policies that perpetuate stigma and negative hospital outcomes; centring the values of harm reduction and patient-centered care, ensuring consistent messaging and relevant education across all hospital working groups (legal, security, regulatory, nursing, administration, and leadership), and planning for continuous monitoring and quality improvement.[186]

Establishing clear policies provides healthcare providers with additional guidance and can reduce concerns about legal repercussions and the reliance on individual discretion, thereby mitigating the risk of inconsistent, substandard care and moral distress among healthcare providers.[41,73,186] One exemplar is the St. Paul's Hospital OPS wherein, in addition to their existing policy framework outlining a harm reduction philosophy of care, they adapted many hospital policies and guiding documents related to patient or room searches, withdrawal management, overdose management, self-injecting non-prescribed drugs into vascular access devices, and opioid-related treatment.[49,187] Based on the findings of this thesis, establishing hospital policies that support standardized screening for illegal drug use may enable consistent and early identification of individuals who may benefit from SCS. Additionally, hospital policy delineating the roles and responsibilities of healthcare providers in supporting patients' access to hospital-based SCS could further promote hospital-wide integration by clarifying healthcare providers' expected practices and responsibilities.

Moreover, hospital policy is only as effective as its implementation; the impact of a hospital policy is dependent on how effectively it is executed and adhered to in real-world settings. In response to environmental determinants of behaviour, environmental restructuring interventions are recommended.[114] Specifically, inadequate staffing resources (in particular nursing shortages and gaps in nursing skills) was a significant environmental factor across both studies influencing the acceptability of hospital-based SCS and the ability to support patients accessing a hospital-based SCS. These findings are concerning as, aside from impacting the provision of hospital-based SCS, nursing workloads can have systemic impacts on patient outcomes. [188,189] In addition, the gaps in clinical skills identified (e.g., feeling unprepared to monitor for and respond to an overdose) have important implications for patient safety and reducing life-threatening risks in any hospital setting. It is important to recognize that addressing staffing shortages and gaps in clinical skills goes beyond the scope of hospital-based SCS implementation. Although, implementing a new hospital service such as SCS may provide a window of opportunity to assess and address current staffing ratios and skills. While there may be initial costs associated with investing in nursing resources, that cost has been shown to be offset by decreasing complex and costly readmission rates as well as decreasing mortality rates,

[125] and improving patient-perceived quality of care.[126] Improvements to hospital staffing should also consider hiring practices. Research on human resource management shows that defining and aligning hospital hiring and training practices with organizational values and objectives can improve organizational culture and patient outcomes.[190] To ensure staff have a full understanding of and the necessary skills to carry out hospital policy, hospitals should consider developing mentorship programs where trained leaders provide didactic education, shoulder-to-shoulder guidance, and role model the adoption of new hospital policies and practices. These initiatives have been shown to promote the acceptability of new healthcare practices, strengthen competencies among staff, and improve patient outcomes.[129] Finally, developing accountability systems can support adherence to hospital policy (an example of an accountability system includes displaying expectations of hospital staff in each patient room and following up with patients during daily nurse leader rounds on whether the staff are meeting those expectations).[191]

Lastly, the findings show that there is room to continuously improve the hospital-based SCS model to effectively meet the needs of PWUD. Study 1 revealed that healthcare providers had diverse preferences for operating hospital-based SCS, which did not consistently align with the preferences of PWUD as identified in other research on SCS implementation in community settings.[118,119,175] This discrepancy highlights the importance of involving PWUD in the decision-making and planning processes to ensure that the hospital-based SCS service model meets patients' needs and preferences. It could also help to build mutual understanding between staff and patients regarding the care experiences of PWUD in hospital settings, and enable further dialogue on improving care. Findings from Study 2 reinforce this recommendation, which saw participants identify several access barriers to the SCS (corroborated by an earlier evaluation with patients at the same site).[71] In this thesis, I found a need to ensure equitable access to hospital-based SCS through the provision of supervised inhalation, permitting visitor access, and the addition of episodic models for patients who are in isolation or are unable to self-ambulate. Of note, the severity of the COVID-19 pandemic magnified the impact that changes in the unregulated illegal drug market, disruptions in social support networks, and reduced availability of health and social services can have on the health and well-being of PWUD.[192,193]

Other health emergencies, natural disasters, or even local drug supply seizures by law enforcement may have similar impacts.[194,195] Moving forward, established hospital-based SCS services should continue to be monitored alongside authentic and ongoing engagement with patients and local PWUD to ensure the service is responsive to their needs.

Considerations for Future Research

This thesis offers valuable insights to inform the implementation and optimization of hospital-based SCS. It features the first evaluation of healthcare provider perspectives on the implementation and provision of SCS in hospital settings. However, despite its significant contributions, there remain notable knowledge gaps that should be addressed in future research.

First, there were aspects of hospital care that may be impacted by hospital-based SCS provision that were not evaluated in this thesis. Specifically, relational and clinical aspects of follow-up care for patients who access hospital-based SCS requires thorough investigation. Findings from an earlier evaluation with patients at the same site found that patients were deterred from accessing the hospital-based SCS due to anticipated changes in their care following SCS access (e.g., being sanctioned, neglected, or experiencing abrupt changes in medications for pain or withdrawal).[71] Relational challenges between PWUD and healthcare providers, as well as challenges with pain and withdrawal management, have been extensively documented in other studies.[14,17] Moreover, these challenges often contribute to in-hospital drug use and premature discharge among PWUD.[13,93,196,197] Hospital-based SCS is proposed as a potential solution to mitigate these risks. As such, to assess the ability of hospital-based SCS to mitigate the risks of in-hospital drug use and premature discharge, it is crucial to thoroughly understand these issues and explore strategies for alleviating them. Study 2, is part of a larger qualitative evaluation of healthcare provider perspectives that assesses the perceived impacts to the hospital environment and patient care and barriers and facilitators related to follow-up care. As such, though out of the scope of this thesis, these research objectives are currently being addressed.

In addition, many challenges identified across this thesis relate to the overall allocation of resources to hospital care for PWUD. In Canada, mental health and drug use-related care is

deprioritized in healthcare settings and subsequently chronically underfunded.[153] Attempts at improving care for PWUD are shifting away from addressing individual factors toward structural factors yet, there is little evidence on how to cultivate support for drug use-related services among those with influence over resources, healthcare policies, and healthcare administration.[153,198] Future research should seek to understand how to effectively engage with policy actors in positions of power (e.g., legislators, policy makers, executive healthcare administrators, physicians) and identify facilitators that advance harm reduction and the quality of hospital care.

Conclusion

This thesis offers the first, comprehensive examination of healthcare provider perspectives regarding the implementation and operation of hospital-based SCS. By focusing on both the pre-implementation and post-implementation contexts, the findings presented in this thesis can support hospitals in preparing for and optimizing the implementation and operation of this emerging hospital service. In its entirety, the findings and recommendations presented in this thesis provide valuable theory-informed guidance for navigating the complexities associated with hospital-based SCS and ultimately improving the quality of care for PWUD.

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