



## Patient perspectives on a harm reduction-oriented addiction medicine consultation team implemented in a large acute care hospital

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### ABSTRACT

**Background:** Addiction medicine consultation teams [AMCTs] are a promising strategy for improving hospital care for patients with substance use disorders. Yet very little research has examined AMCT implementation in acute care settings. To address this gap, we conducted a process evaluation of a novel harm reduction-oriented AMCT. Our specific aims included examining patients' perspectives on factors that facilitated or hindered AMCT delivery, and its impact on their hospital care and outcomes.

**Methods:** The AMCT provided integrated addiction medicine, harm reduction services, and wraparound health and social supports for patients of a large, urban acute care hospital in Western Canada. We adopted a focused ethnographic design and recruited 21 patients into semi-structured interviews eliciting their views on the care they received from the team.

**Results:** Participants highlighted the AMCT's harm reduction approach; reputation amongst peers; and specialized training as especially important intervention facilitators. Key barriers that constrained the impact of the team included unmet expectations; difficulty accessing follow-up care; and residual conflicts between the AMCT's harm reduction approach and the abstinence-only orientation of some hospital staff. For a few participants these conflicts led to negative experiences. Despite this, participants reported that the AMCT had positive impacts overall, including declines in substance use, enhanced mental and emotional wellbeing, and improved socio-economic circumstances.

**Conclusions:** A novel harm reduction-oriented AMCT led to better hospital experiences and perceived outcomes for patients. However, further efforts are needed to ensure adequate post-discharge follow-up, and a consistent approach to substance use disorder care amongst all hospital staff.

### 1. Introduction

Substance use disorders [SUD] are common and disabling health conditions that frequently go untreated. Only an estimated 8% of people with alcohol use disorder, and 14% of people with drug use disorder receive care for these conditions (Grant et al., 2016, 2015). In the US and Canada, untreated SUD account for a significant and increasing number of emergency department visits, inpatient admissions, and substantial related economic costs (CIHI and CCSA, 2016; Ronan and Herzig, 2016; White et al., 2018). Hospital encounters provide an important but often overlooked opportunity to engage patients with SUD (Trowbridge et al., 2017; Wei et al., 2015). Yet, most hospital staff

receive little to no training on evidence-based strategies for managing SUD (Wood et al., 2013), and hospital patients with SUD are thus rarely provided the opportunity to connect to addiction medicine or harm reduction interventions (Naeger et al., 2016). As a result, patients frequently report suffering from untreated or undertreated pain and withdrawal and being stigmatized because of their substance use (McNeil et al., 2015, 2014). Some even describe hospital environments as "unsafe" (McNeil et al., 2014; Pauly et al., 2015).

Such suboptimal acute care experiences may explain why patients with SUD have an increased risk of leaving against medical advice, premature discharge, and unplanned hospital readmissions (Hwang et al., 2003; Saitz, 2002; Ti and Ti, 2015). Patients who leave hospital

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prematurely are 12 times more likely to be readmitted with a related diagnosis within 14 days, and twice as likely to die as compared to those who complete their acute care treatment (Choi et al., 2011; Ti and Ti, 2015). Patients who use opioids are particularly at risk, due to decreased opioid tolerance that may follow a period of abstinence associated with inpatient hospitalization (Binswanger et al., 2017; White et al., 2015). Evidence of poor outcomes has led to urgent calls to improve acute care for patients with SUD (Englander et al., 2017; Fanucchi and Lofwall, 2016; Wakeman et al., 2017b).

Implementing an in-hospital addiction medicine consult team (AMCT) is one strategy for improving care for patients with SUD. AMCTs work in consultation with attending physicians and unit staff to provide specialized addiction medicine care and facilitate post-discharge uptake into treatment and other community-based health and social services (Wakeman et al., 2017b). Because not all patients will be interested in abstinence or accept offers of substance use treatment during hospitalization, a variety of harm reduction strategies (such as safer drug use education, sterile syringe distribution, naloxone kits, etc.) have the potential to further reduce the risks of ongoing substance use (Fanucchi and Lofwall, 2016; Rachlis et al., 2009; Sharma et al., 2017). However, to date, very little research has examined the implementation of AMCTs or harm reduction strategies in acute care hospitals and no studies have examined patients' perspectives on these interventions (Sharma et al., 2017; Strike et al., 2014; Wakeman et al., 2017b).

To address this gap, we report findings from a qualitative study of a novel multidisciplinary AMCT that integrates addiction medicine, harm reduction, and other supports within a large acute care hospital.

## 2. Methods

### 2.1. Overview of the AMCT

The AMCT under study was implemented in 2014 within an urban, 850-bed, tertiary hospital in Western Canada; and has been described in detail elsewhere (Salvalaggio et al., 2016). At the time this research was conducted, it included a rotating group of physicians with addiction medicine expertise available from 08:00 - 21:00 daily, and a 1.0 full time equivalent nurse practitioner, social worker and addiction counsellor. Hospital inpatients and emergency outpatients with SUD or those at risk of significant substance-related harm—often complicated by unstable housing and income—were referred to the service through a consultation initiated by a member of the attending care team. Urgent consults were initiated via page from the attending physician (or designate) directly to the AMCT physician. Less urgent consults were initiated via a faxed referral form. Initial assessments were completed by the AMCT physician or the nurse practitioner and then other team members were involved as appropriate. After a comprehensive intake process, the AMCT offered patients a variety of interventions (Table 1).

**Table 1**

Health and social supports available to patients of the AMCT during the study period.

Complex pain and withdrawal management
Opioid agonist (buprenorphine/naloxone or methadone) treatment initiation and maintenance
Motivational interviewing, addiction counselling, and psychosocial supports
Connections to community-based addiction treatment providers
Harm reduction services, including:
- Sterile syringe distribution and sharps disposal
- Naloxone kit distribution and overdose prevention training
- Safer drug use education
Sexually-transmitted and blood borne infection screening
Sexual and reproductive health services
Connections to income support, low income health benefits, medication coverage and housing services
Access to government-issued identification and a secure identification storage bank

The AMCT included an outpatient clinic to support patients in continuing to address their substance use and improve their socioeconomic circumstances after hospital discharge, and until care could be transferred to existing community and primary care providers. The outpatient clinic also held two next day appointments (Monday to Friday) to ensure that emergency department patients who did not require hospital admission could still access the team. On average, the AMCT completed 62 new intakes per month during the study period.

### 2.2. Design and procedures

The present study is nested within a larger mixed-method process evaluation of the AMCT. The process evaluation was designed to complement an ongoing quantitative outcomes evaluation (Salvalaggio et al., 2016) and had both formative and summative aims, including describing implementation and impacts of this novel AMCT from stakeholders' perspectives, and generating insights to refine the care model. Here, we draw on qualitative interview data collected with patients to examine: [i] factors that facilitated AMCT delivery; [ii] barriers that hindered AMCT delivery; and [iii] the perceived impact of the AMCT on patients and their hospital care.

We adopted a focused ethnographic design to guide our qualitative data collection. Focused ethnography is an applied qualitative research method that has been widely used to study highly fragmented and specialized areas of society, including a variety of healthcare settings (Higginbottom et al., 2013). While traditional ethnography aims to broadly describe and understand culture, focused ethnography is more time-limited and targeted, and elicits information on a distinct issue, problem, or shared experience within a discrete community, organization, or context. Unlike traditional ethnographic research, focused ethnographies may or may not include participant observation (Higginbottom et al., 2013; Mayan, 2009; Wall, 2014).

From June 2015 to May 2016, we conducted, semi-structured interviews with 21 AMCT patients. Both inpatients and outpatients were asked by AMCT clinicians if they had an interest in participating in research. The AMCT clinicians were asked to approach a diverse range of patients in an attempt to recruit participants who varied by demographic (age, sex, ethnicity) and clinical characteristics (substance use patterns, interventions received), as well as duration and intensity of engagement with the team. Interested patients were then contacted independently by a research team member who explained the purpose of the study and obtained informed consent. Table 2 reports sample characteristics. Interviews were conducted, on site in a private space in the hospital, and elicited information about participants' hospital experience, interactions and satisfaction with the AMCT, and suggestions for its improvement. Interviews were audio-recorded, lasted 50 min on average, and were transcribed verbatim (using pseudonyms). Participants received a CAD\$20 honorarium.

Interview transcripts were organized using Atlas.ti (v. 1.5.4), and analyzed inductively using latent content analysis (Mayan, 2009). This entailed reading transcripts and making memos, followed by a second reading in which persistent images, words, and concepts were coded, and an initial list of codes was developed and refined. The codes were then sorted into main categories, and coded excerpts were revisited to ensure they fit well within their assigned categories. This process allowed further refinement and identification of sub-categories and relationships between categories.

The main strategies we employed to ensure rigor included: attending to negative cases, use of an audit trail, co-coding transcript subsamples, and frequent meetings to review coding and consider the dependability of the analysis (Hannes, 2011). Furthermore, both the AMCT intervention and the study were planned and executed with regular input from a Community Advisory Group comprised of people with lived experience of substance use and hospitalization. More than half of the Community Advisory Group members identified as Indigenous (First Nations, Inuit, or Métis), which is consistent with the

**Table 2**  
Participant characteristics (n = 21).

Age	
Mean	46
Range	27 - 60
<b>Sex</b>	
Male	15
Female	6
<b>First Nations, Inuit, or Métis</b>	
Yes	9
No	12
<b>Substance use (main drug used)</b>	
Polysubstance use	10
Stimulants	5
Opioids	4
Alcohol	2
<b>Injection drug use</b>	
Yes	15
No	6
<b>Housing status (at AMCT intake)</b>	
Homeless	12
Transitionally housed	2
Housed	7
<b># of AMCT-involved hospital visits</b>	
Mean	2
Median	1
Range	1 - 6
<b># of months since first contact with AMCT</b>	
Mean	7
Range	0 - 18

overrepresentation of this population amongst people who use substances and experience unstable housing and/or homelessness in the study setting (Hyshka et al., 2016). Disproportionate rates of SUD and related harm amongst Indigenous people in Canada reflect the legacy of colonization and intergenerational trauma inflicted by the residential school system, as well as contemporary systemic and systematic discrimination and socioeconomic marginalization faced by this population (Frohlich et al., 2006; Truth and Reconciliation Commission of Canada, 2015). The Community Advisory Group confirmed the acceptability of the study protocol, interpretation of the data, and dissemination content. Human research ethics approval for our study was obtained from the University of Alberta's Health Research Ethics Board.

### 3. Results

#### 3.1. AMCT facilitators

Participants identified several factors that facilitated their willingness to engage with the AMCT and contributed to positive outcomes. They emphasized the team's harm reduction approach as critical. They described AMCT members as non-judgemental and compassionate, and contrasted this type of care to previous negative healthcare experiences, where they were treated like 'a junkie,' or someone 'only looking for a shot.'

The other doctors, I can't talk to them, I don't want to open up to them....[the AMCT] at least I can talk to them....they don't put me down. They don't, just because I use, they don't judge me. They try to help me instead of judging me. - 'Patrick'

According to participants, AMCT members supported their autonomy through shared decision-making. They reported that AMCT clinicians gave them options, explained things carefully, and created care plans that reflected their own preferences and priorities. Participants described how this respect for their autonomy facilitated the formation of therapeutic alliances, enabled more candid conversations about health and substance use, and engendered feelings of comfort and trust.

They did things the way I wanted to do them...But when they didn't want to do it, they gave me options...They let you decide for yourself. And that's what I need. - 'Steven'

With me it's a trust issue... when a doctor talks to me I can tell whether or not I'm getting railroaded or not. And I didn't feel like I was getting railroaded here. [I: How did you feel?] Comfortable. Like, I can tell [AMCT member] anything. - 'Jack'

Participants' willingness to engage with the AMCT was further facilitated by the intervention's reputation amongst their peers. Some reported previously hearing about the team through 'word on the street' or from community-based service providers. A number also had friends or acquaintances who had seen the AMCT previously and reported positive outcomes. This informal peer-referral process was corroborated by other participants who reported recommending the AMCT to others.

Well, I hear people asking, have you heard about this [team], you know? [...] Whenever I came in the hospital, I would get five to maybe eight, ten people and talk to all of them and tell them what [the AMCT] is all about. - 'Eleanor'

Participants described how AMCT clinicians acknowledged and understood their needs, and were better equipped than other hospital staff to treat withdrawal, manage pain, and address comorbid mental and physical health conditions. For example, 'Quinn' recalled how unit doctors had initially attributed his elevated liver enzymes to "too much drinking," but the AMCT nurse practitioner:

decided well, you've been partying hard and this and that. So she did complete blood work on me and it turned out that I didn't even know that I had it or anything, but I had Hep[atitis] C. So it's because of her now I'm going to start treatment right away.

Participants also appreciated the variety of health and social supports available directly through the AMCT, and described how the team coordinated access to additional supports both inside and outside the hospital. Many were surprised and relieved to be able to address underlying causes of their substance use and poor health, such as unstable housing, low income, trauma, and mental health problems, through a single multidisciplinary team.

I walked into a room there's a nurse, there's a social worker...there's four people there all talking about me and my situation and all brainstorming about how to move forward...and you don't get that anywhere else - 'Andrew'

#### 3.2. AMCT barriers

Participants in our study also discussed a number of barriers that hindered the AMCT's efforts, and in some cases resulted in negative hospital experiences. A subset of participants reported conflicts between how the AMCT and other unit staff approached patient care. While the AMCT emphasized acceptance, compassion, and autonomy, some participants reported that the actions of other hospital staff left them feeling stigmatized or disregarded. Conflicts arose mainly around administration of pain or opioid agonist medications. 'Ethan' explained how although the AMCT had been prescribing him medication for pain control

when it's time to get it, I don't get it at that time. I've got to wait half an hour and all this bullshit. If it's ten o'clock, it's ten o'clock. Not ten-thirty or eleven...sometimes I sit there for two hours waiting. Why should I have to hound [the unit nurses]?

In other cases, disciplinary actions imposed by hospital staff interfered with the AMCT's care plan for a participant. Although the hospital did not have a formal zero tolerance or abstinence-only policy, participants reported being profiled by hospital security, monitored closely

by unit nurses, and frequently accused of substance use. 'Debbie' recounted that while being titrated on opioid agonist treatment and receiving intravenous antibiotics, she returned to the unit late after running errands and had an altercation with staff who accused her of using drugs while absent:

I was on that medication, that [buprenorphine/naloxone]...and then they said no we're holding your meds...and you have to take a pee test. I said well I'll take one but...I didn't know that I had to stay here....and then I just said if that's what you guys think, I'll just go home and I will do drugs then. So I just packed up and I left...When [the AMCT] found out that I had left they were really pissed off I guess because of the [buprenorphine/naloxone]...we were already setting up the drug store I was going to go to and...that all went to hell.

While some participants who injected drugs reported that hospital staff approved of, or tolerated their possession of the sterile injecting supplies provided by the AMCT, two described incidents where staff searched their belongings without consent and confiscated these supplies. In another case, 'Vince' described how he was prematurely discharged after being caught injecting:

so what happened was [AMCT clinician] gave me the supplies and stuff. And I go to go and use them, in the bathroom, and [unit nurse] told me I was discharged because I was using drugs...so they kicked me out...well tell me why is it that they got this [no drug use] policy, yet still go around giving out syringes?

These participants reported that such inconsistent messages and behaviours left them feeling confused and upset.

Another challenge related to the AMCT's inability to address participant needs adequately. Though the AMCT social worker could facilitate access to housing programs, some participants did not get housed. These participants reported asking for help but not receiving it, being housed in an inappropriate facility, or being waitlisted. Similarly, some participants reported not knowing how to access follow-up care from the AMCT after discharge. This was particularly true for those who had left prematurely against medical advice. 'Amanda' explained how even though she left prematurely,

it would have been nice to get a phone call and say can we schedule maybe a detox and then a treatment program or something for you because we know that you need it right, like that would have been nice.

Though some participants kept in outpatient contact with the AMCT for months, even through multiple relapses, others reported being unsure if they could be seen again. Overall, participants felt strongly that the team should be available to anyone, ideally on a walk-in basis. Several expressed frustration at learning only hospital patients could be referred to the team.

### 3.3. AMCT impacts

Although a minority of participants outlined specific adverse hospital experiences, participants we interviewed reported that the AMCT had a positive impact on them overall. Several participants reported improved pain and withdrawal management. For example, 'Vince', the participant who was previously caught injecting and discharged as a result, described how despite that negative experience, he continues to seek out the AMCT for managing withdrawal when hospitalized

at least someone actually cares enough that they're going out of their way to make sure that I'm comfortable and I don't have to run away from the hospital to go and get my meds.

Many participants also described how the AMCT contributed to improvements in their mental and emotional health. This included feeling more hopeful or motivated, or developing a better outlook on

life.

They've just been real nice to me, man, you know, they're like my parents. I lived bitter for a while, outside I looked bitter and just hating everything. And that's not me, man, I love everything and these guys helped me replenish that. -'Todd'

They helped me to understand my addiction more, and they actually gave me the courage to try to want to quit - 'Natasha'

Some participants also reported improvements in their socio-economic circumstances. This included finding housing, getting new identification, opening bank accounts, getting a family doctor, and being set up on income assistance programs. These improvements were perceived to facilitate reductions in substance use. For example, 'Mike' was referred to the AMCT after a suicide attempt, and secured housing and outpatient counselling through them. As 'Mike' describes:

alcohol in my life was always just a bandage. It was always just covering up the problems underneath. It never was the problem itself. So once I started taking care of the problems themselves, the need for alcohol kind of diminished. So, yeah, in a holistic way they took care of the alcohol as well. So nowadays, knock on wood, I don't have an urge to drink anymore.

Others attributed reductions in substance use to being able to access effective and timely addiction treatment through the AMCT. 'Bobby' describes seeing the AMCT as an outpatient:

getting me set up with the methadone as quick as [AMCT member] did, that was a bonus 'cause...I was struggling and I wanted to go use and boom within a day she had me in there and within that day I was on methadone.

However, not all patients reported reductions in substance use, and those who did still acknowledged the tenuous nature of their recovery. Some disclosed ongoing personal or structural challenges, like homelessness or social isolation, which made maintaining abstinence difficult.

I don't use as much illicit prescription drugs, and the heroin here in the city is garbage anyways. But once in a while, I've fallen a couple times, had some minor slips, and I tell [the AMCT] that...Sometimes for me it's half a day at a time. Just takes one major disaster for you to run back to your comfort zone - 'Kevin'

## 4. Discussion

This paper reports patient perspectives of a recently implemented hospital-based AMCT, including their experience with the team's harm reduction approach. Our findings outline factors that facilitated or impeded the team's ability to positively impact patients. While not empirically generalizable, several of the insights reported here may be relevant for informing AMCT implementation and other efforts to improve hospital-based SUD care.

Overall, participants in our study reported that the AMCT positively impacted them. While we are unaware of other process evaluations of comparable interventions, the reductions in substance use reported by some of our participants are in line with findings from a recent quantitative evaluation of another AMCT, which found statistically significant declines in SUD severity post-discharge (Wakeman et al., 2017b). Participants in our study highlighted the team's harm reduction orientation, reputation amongst peers, specialized training, and the provision of wraparound health and social supports as key to this success. The importance of these features for patients is corroborated by previous research (McNeil et al., 2015; Pauly et al., 2015), including a recent qualitative study in Oregon (Velez et al., 2016) which recommended that a prospective AMCT there adopt similar attributes.

Nevertheless, our findings also point to some barriers that

constrained the efforts of team. Some participants did not receive all the supports they desired, and some were unable to access follow-up care. Post-discharge care continuity has been identified as a challenge in other AMCT research (Trowbridge et al., 2017) and though some of these issues likely stem from limited capacity in community settings (e.g. lack of supportive housing options), developing additional strategies to keep patients with SUD engaged in care once they leave hospital warrants further attention.

Echoing prior qualitative studies that have described negative hospital experiences of patients who use drugs (McNeil et al., 2015, 2014; Merrill et al., 2002; Pauly et al., 2015), participants in our study discussed instances where the AMCT's efforts to provide them with treatment or harm reduction services were undermined by the actions of some hospital staff. Resolving residual conflicts in how members of the AMCT and unit staff approach caring for patients with SUD is important to ensure consistent, evidence-informed acute care. The AMCT under study was implemented alongside significant efforts to educate staff about the science and practice of addiction medicine and harm reduction—including roving informational carts that visited each unit, quarterly grand rounds, an annual full-day symposium, and a dedicated 0.5 full-time equivalent nurse educator—but our findings suggest that these efforts were not sufficient for ensuring consistent care. Indeed previous research supports the insufficiency of education alone for improving care for patients with SUD. For example, Ford et al. (2009) report that drug and alcohol education in the absence of dedicated role support was not sufficient to change nurses' negative attitudes towards patients who use drugs. Similarly, Wakeman et al. (2017a) found that although general internists who cared for a patient who was being seen by an AMCT demonstrated informal learning via significant improvements in their attitudes towards patients with SUD (44% vs. 9%), and increased self-perceived preparedness to discuss harm reduction with patients (22% vs. 7%) relative to their peers who had not cared for a patient being seen by an AMCT, they still scored poorly on these measures overall. Thus, efforts to improve integration of AMCTs into hospital settings likely need to extend beyond addiction medicine and harm reduction clinical teaching and education to target other aspects of the hospital environment that shape how patients with SUD are treated.

Formal organizational policy change is one strategy with the potential to improve quality of care and facilitate the integration of harm reduction-oriented AMCTs into hospital settings (Pauly, 2008). In North America, many hospitals have written or unwritten zero tolerance policies for patient substance use (Rachlis et al., 2009). These strict expectations of abstinence are unrealistic—even in the presence of specialized addiction care and effective pain management—because they belie the many neurobiological, psychological, social and environmental factors that contribute to ongoing substance use despite exceedingly negative consequences (McNeil et al., 2014; Pauly et al., 2015; Volkow et al., 2016). Rather than requiring hospital staff to subject patients to surveillance, enforce abstinence, or 'turn a blind eye' (Pauly et al., 2018) to ongoing substance use, formal policies that explicitly communicate that acute medical care is not contingent on abstinence and endorse a harm reduction approach could help ease tensions, prevent iatrogenic suffering (Kuhl, 2003), and encourage more candid conversations between patients and healthcare providers (Pauly et al., 2015). Formal policies are likely to be most effective for advancing patient-centred care when they clearly communicate specific expectations of staff, and are subject to site-wide operationalization through: consistent hiring practices; discussion and elaboration during new employee orientation, mandatory continuing education, role-modelling by senior team members; and enforced behavioural standards for hospital employees (Aboumatar et al., 2015; Khatri et al., 2006; Ploeg et al., 2010). Working with health professionals' regulatory bodies to update clinical guidelines and standards of practice to reflect the best available scientific evidence and expert opinion on SUD care would further support formal organizational policy change, and may

help to reduce instances where the exercise of clinical discretion results in negative patient experiences and poor quality care.

Beyond robust formal policy development and implementation, incorporating additional interventions into AMCT models, including in-hospital supervised consumption services (Kerr et al., 2017), managed alcohol protocols (Brooks et al., 2018), and injectable opioid agonist treatments (Oviedo-Joekes et al., 2016, 2009), has the potential to minimize conflicts between patients and hospital staff by reducing consumption of illegal drugs or non-beverage alcohol and improving the management of substance use and related risks for those who continue to use while hospitalized (McNeil et al., 2015; Sharma et al., 2017). Integration of paid peer support workers with lived experience of substance use and marginalization could also provide patients with an advocate, and serve as an important source of education, advocacy, and enhanced socio-emotional support while navigating a sometimes unwelcoming hospital environment (Velez et al., 2016). The presence of these workers on hospital units may also help reduce stigma towards patients with SUD by challenging the negative attitudes and cognitive biases held by some hospital staff (McCall and Pauly, 2019).

It is worth noting that the AMCT under study here has adopted many of the above recommendations, and subsequently expanded to include peer support workers, an inpatient supervised consumption service; injectable opioid agonist treatment; a managed alcohol program, and a dedicated Emergency Department team to facilitate immediate access to agonist treatment for patients at risk of opioid overdose. In addition, the team has worked with hospital leadership to provide additional unit-level education sessions featuring people with lived experience of substance use, and build an addiction medicine and harm reduction community of practice designed to further promote hospital culture change. Future studies are needed to evaluate the effectiveness of these new interventions and implementation strategies for improving hospital outcomes for patients with SUD.

#### 4.1. Strengths and limitations

This study is one of the first to report patient perspectives on an in-hospital AMCT, and to our knowledge, the only examining the views of patients on an AMCT that adopts a harm reduction approach. Harm reduction services, despite being implemented in many community-based settings and supported by a large body of public health evidence (Rhodes and Hedrich, 2010; Ritter and Cameron, 2006; Strang et al., 2012) have yet to be meaningfully incorporated into hospital settings (Sharma et al., 2017). Timely data on real world patient experiences are thus critical for facilitating implementation and quality improvement. The present findings provide some of this insight and have contributed to changes in the AMCT under study. Nevertheless, some limitations should be noted. We recruited patients through referral from the AMCT. Though AMCT clinicians were not aware of which patients participated in the research, it is possible that participants were hesitant to share negative views on the AMCT and its impact on them, while under care of the team. We also did not interview patients who were offered an AMCT consult but declined. The relatively short time frame of the study did not enable assessment of longer term impacts of the AMCT on patients. Our findings did not vary significantly according to participants' demographic characteristics. However, evidence indicates that certain subpopulations of people who use drugs are more likely to face difficulties accessing healthcare. In particular, previous studies have demonstrated that Indigenous patients face racism and other structural barriers in accessing substance use-related healthcare in Canada (Goodman et al., 2017; Smye et al., 2011). As such, further research is needed to describe the specific perspectives of this patient subpopulation and develop strategies to address any additional barriers they may experience in accessing AMCTs in acute care. Finally, we did not explore the perspectives of hospital staff in the present study, though qualitative data collection with these stakeholders was conducted as part of the broader process evaluation.

## 5. Conclusion

Our findings suggest that the AMCT improved the acute care experience for patients with SUD. However, the integration of the AMCT into the setting was hindered by the actions of other hospital staff and informal prohibitions on substance use that were inconsistent with the AMCT's harm reduction approach. Additionally, the AMCT struggled to address all patient needs comprehensively in part due to challenges connecting patients with post-discharge care. Efforts to establish AMCTs in other settings should be cognizant of these contextual factors and attend to them as part of the implementation process, and future research should develop and evaluate strategies to address the barriers reported here.

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## Contributors

All authors have reviewed and approved the final manuscript and the order of authors. EH, GS, and LN developed the qualitative study design and associated interview guide. EH and JA-B collected the interview data, and both collaborated with HM and GS to analyze the data. KD contributed to the development of the study design and interview guide. EH drafted the manuscript and all authors contributed to its content and revisions.

## Declaration of Competing Interest

KD receives a stipend from Alberta Health Services as the medical lead for the intervention under study here. EH, HM, JA-B, LN, and GS have no competing interests to declare.

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## References

- Aboumatar, H.J., Chang, B.H., Al Danaf, J., Shaeer, M., Namuyinga, R., Elumalai, S., Marsteller, J.A., Pronovost, P.J., 2015. Promising practices for achieving patient-centered hospital care: a national study of high-performing US hospitals. *Med. Care* 53, 758–767. <https://doi.org/10.1097/MLR.0000000000000396>.
- Binswanger, I.A., 2017. Commentary on Hsu et al. (2017): a systems approach to improving health services for overdose in the hospital and across the continuum of care—an unmet need. *Addiction* 112, 1565–1566. <https://doi.org/10.1111/add.13866>.
- Brooks, H.L., Kassam, S., Salvalaggio, G., Hyshka, E., 2018. Implementing managed alcohol programs in hospital settings: a review of academic and grey literature. *Drug Alcohol Rev.* 37, S145–S155. <https://doi.org/10.1111/dar.12659>.
- Canadian Institute for Health Information, Canadian Centre on Substance Abuse, 2016. Hospitalizations and Emergency Department Visits Due to Opioid Poisoning in Canada. Canadian Institute for Health Information, Ottawa, ON.

- Choi, M., Kim, H., Qian, H., Palepu, A., 2011. Readmission rates of patients discharged against medical advice: a matched cohort study. *PLoS One* 6, e24459. <https://doi.org/10.1371/journal.pone.0024459>.
- Englander, H., Weimer, M., Solotaroff, R., Nicolaidis, C., Chan, B., Velez, C., Noice, A., Hartnett, T., Blackburn, E., Barnes, P., Korhuis, P.T., 2017. Planning and designing the Improving Addiction Care Team (IMPACT) for hospitalized adults with substance use disorder. *J. Hosp. Med.* 12, 339–342. <https://doi.org/10.12788/jhm.2736>.
- Fanucchi, L., Lofwall, M.R., 2016. Putting parity into practice — integrating opioid-use disorder treatment into the hospital setting. *N. Engl. J. Med.* 375, 811–813. <https://doi.org/10.1056/NEJMp1606157>.
- Ford, R., Bammer, G., Becker, N., 2009. Improving nurses' therapeutic attitude to patients who use illicit drugs: workplace drug and alcohol education is not enough. *Int. J. Nurs. Pract.* 15, 112–118. <https://doi.org/10.1111/j.1440-172X.2009.01732.x>.
- Frohlich, K.L., Ross, N., Richmond, C., 2006. Health disparities in Canada today: some evidence and a theoretical framework. *Health Policy* 79, 132–143. <https://doi.org/10.1016/j.healthpol.2005.12.010>.
- Goodman, A., Fleming, K., Markwick, N., Morrison, T., Lagimodiere, L., Kerr, T., 2017. "They treated me like crap and I know it was because I was Native": the healthcare experiences of Aboriginal peoples living in Vancouver's inner city. *Soc. Sci. Med.* 178, 87–94. <https://doi.org/10.1016/j.socscimed.2017.01.053>.
- Grant, B.F., Goldstein, R.B., Saha, T.D., Chou, S.P., Jung, J., Zhang, H., Pickering, R.P., Ruan, W.J., Smith, S.M., Huang, B., Hasin, D.S., 2015. Epidemiology of DSM-5 alcohol use disorder: results from the national epidemiologic survey on alcohol and related conditions III. *JAMA Psychiatry* 72, 757. <https://doi.org/10.1001/jamapsychiatry.2015.0584>.
- Grant, B.F., Saha, T.D., Ruan, W.J., Goldstein, R.B., Chou, S.P., Jung, J., Zhang, H., Smith, S.M., Pickering, R.P., Huang, B., Hasin, D.S., 2016. Epidemiology of DSM-5 drug use disorder: results from the national epidemiologic survey on alcohol and related conditions—III. *JAMA Psychiatry* 73, 39. <https://doi.org/10.1001/jamapsychiatry.2015.2132>.
- Hannes, K., 2011. Critical appraisal of qualitative research. In: Noyes, J., Booth, A., Hannes, K., Harden, A., Harris, J., Lewin, S., Lockwood, C. (Eds.), *Supplementary Guidance for Inclusion of Qualitative Research in Cochrane Systematic Reviews of Interventions*. Cochrane Qualitative Methods Group, pp. 1–14.
- Higginbottom, G., Pillay, J., Boadu, N., 2013. Guidance on performing focused ethnographies with an emphasis on healthcare research. *Qual. Rep.* 18, 1–6.
- Hwang, S.W., Li, J., Gupta, R., Chien, V., Martin, R.E., 2003. What happens to patients who leave hospital against medical advice? *Can. Med. Assoc. J.* 168, 417–420.
- Hyshka, E., Anderson, J.T., Wild, T.C., 2016. Perceived unmet need and barriers to care amongst street-involved people who use illicit drugs. *Drug Alcohol Rev.* <https://doi.org/10.1111/dar.12427>. n/a-n/a.
- Kerr, T., Mitra, S., Kennedy, M.C., McNeil, R., 2017. Supervised injection facilities in Canada: past, present, and future. *Harm Reduct. J.* 14, 28. <https://doi.org/10.1186/s12954-017-0154-1>.
- Khatri, N., Wells, J., McKune, J., Brewer, M., 2006. Strategic human resource management issues in hospitals: a study of a university and a community hospital. *Hosp. Top.* 84, 9–20. <https://doi.org/10.3200/HTPS.84.4.9-20>.
- Kuhl, D., 2003. *What Dying People Want: Practical Wisdom for the End of Life*. PublicAffairs.
- Mayan, M.J., 2009. *Essentials of Qualitative Inquiry*. Left Coast Press, Walnut Creek, Calif.
- McCall, J., Pauly, B., 2019. Sowing a seed of safety: providing culturally safe care in acute care settings for people who use drugs. *J. Ment. Health Addict. Nurs.* 3, e1–e7. <https://doi.org/10.22374/jmhan.v3i1.33>.
- McNeil, R., Kerr, T., Pauly, B., Wood, E., Small, W., 2015. Advancing patient-centered care for structurally vulnerable drug-using populations: a qualitative study of the perspectives of people who use drugs regarding the potential integration of harm reduction interventions into hospitals. *Addiction*. <https://doi.org/10.1111/add.13214>. n/a-n/a.
- McNeil, R., Small, W., Wood, E., Kerr, T., 2014. Hospitals as a 'risk environment': an ethno-epidemiological study of voluntary and involuntary discharge from hospital against medical advice among people who inject drugs. *Soc. Sci. Med.* 105, 59–66. <https://doi.org/10.1016/j.socscimed.2014.01.010>.
- Merrill, J.O., Rhodes, L.A., Deyo, R.A., Marlatt, G.A., Bradley, K.A., 2002. Mutual mistrust in the medical care of drug users: the keys to the "narc" cabinet. *J. Gen. Intern. Med.* 17, 327–333.
- Naeger, S., Mutter, R., Ali, M.M., Mark, T., Hughey, L., 2016. Post-discharge treatment engagement among patients with an opioid-use disorder. *J. Subst. Abuse Treat.* 69, 64–71. <https://doi.org/10.1016/j.jsat.2016.07.004>.
- Oviedo-Joekes, E., Brissette, S., Marsh, D.C., Lauzon, P., Guh, D., Anis, A., Schechter, M.T., 2009. Diacetylmorphine versus methadone for the treatment of opioid addiction. *N. Engl. J. Med.* 361, 777–786. <https://doi.org/10.1056/NEJMoa0810635>.
- Oviedo-Joekes, E., Guh, D., Brissette, S., Marchand, K., MacDonald, S., Lock, K., Harrison, S., Janmohamed, A., Anis, A.H., Krausz, M., Marsh, D.C., Schechter, M.T., 2016. Hydromorphone compared with diacetylmorphine for long-term opioid dependence: A randomized clinical trial. *JAMA Psychiatry* 73, 447–455. <https://doi.org/10.1001/jamapsychiatry.2016.0109>.
- Pauly, B.B., 2008. Shifting moral values to enhance access to health care: harm reduction as a context for ethical nursing practice. *Int. J. Drug Policy* 19, 195–204. <https://doi.org/10.1016/j.drugpo.2008.02.009>.
- Pauly, B., Wallace, B., Barber, K., 2018. Turning a blind eye: implementation of harm reduction in a transitional programme setting. *Drugs Educ. Prev. Policy* 25, 21–30. <https://doi.org/10.1080/09687637.2017.1337081>.
- Pauly, B.B., McCall, J., Browne, A.J., Parker, J., Mollison, A., 2015. Toward cultural safety: nurse and patient perceptions of illicit substance use in a hospitalized setting. *ANS Adv. Nurs. Sci.* 38, 121–135. <https://doi.org/10.1097/ANS>.

- 000000000000070.
- Ploeg, J., Skelly, J., Rowan, M., Edwards, N., Davies, B., Grinspun, D., Bajnok, I., Downey, A., 2010. The role of nursing best practice champions in diffusing practice guidelines: a mixed methods study. *Worldviews Evid. Nurs.* 7, 238–251. <https://doi.org/10.1111/j.1741-6787.2010.00202.x>.
- Rachlis, B.S., Kerr, T., Montaner, J.S., Wood, E., 2009. Harm reduction in hospitals: is it time? *Harm Reduct. J.* 6, 19. <https://doi.org/10.1186/1477-7517-6-19>.
- Rhodes, T., Hedrich, D., 2010. *Harm Reduction: Evidence, Impacts, Challenges*. Publications office of the European Union, Luxembourg.
- Ritter, A., Cameron, J., 2006. A review of the efficacy and effectiveness of harm reduction strategies for alcohol, tobacco and illicit drugs. *Drug Alcohol Rev.* 25, 611–624. <https://doi.org/10.1080/09595230600944529>.
- Ronan, M.V., Herzig, S.J., 2016. Hospitalizations related to opioid abuse/dependence and associated serious infections increased sharply, 2002–12. *Health Aff. (Millwood)* 35, 832–837. <https://doi.org/10.1377/hlthaff.2015.1424>.
- Saitz, R., 2002. Discharges against medical advice: time to address the causes. *Can. Med. Assoc. J.* 167, 647–648.
- Salvalaggio, G., Dong, K.A., Hyshka, E., Nixon, L., Lavergne, K., Nichols, J., Louis, M., Lockerbie, S., Bristowe, M., Leske, J., Rosychuk, R.J., Mrklas, K., Surrod, S., Wild, T.C., 2016. Enhanced multidisciplinary care for inner city patients with high acute care use: study protocol. *Can. J. Addict.* 7, 34–41.
- Sharma, M., Lamba, W., Cauderella, A., Guimond, T.H., Bayoumi, A.M., 2017. Harm reduction in hospitals. *Harm Reduct. J.* 14, 32. <https://doi.org/10.1186/s12954-017-0163-0>.
- Smye, V., Browne, A.J., Varcoe, C., Josewski, V., 2011. Harm reduction, methadone maintenance treatment and the root causes of health and social inequities: an intersectional lens in the Canadian context. *Harm Reduct. J.* 8, 17. <https://doi.org/10.1186/1477-7517-8-17>.
- Strang, J., Babor, T., Caulkins, J., Fischer, B., Foxcroft, D., Humphreys, K., 2012. Drug policy and the public good: evidence for effective interventions. *Lancet* 379, 71–83. [https://doi.org/10.1016/S0140-6736\(11\)61674-7](https://doi.org/10.1016/S0140-6736(11)61674-7).
- Strike, C., Guta, A., de Prinse, K., Switzer, S., Chan Carusone, S., 2014. Living with addiction: the perspectives of drug using and non-using individuals about sharing space in a hospital setting. *Int. J. Drug Policy* 25, 640–649. <https://doi.org/10.1016/j.drugpo.2014.02.012>.
- Ti, Lianping, Ti, Lianlian, 2015. Leaving the hospital against medical advice among people who use illicit drugs: a systematic review. *Am. J. Public Health* 105, e53–e59. <https://doi.org/10.2105/AJPH.2015.302885>.
- Trowbridge, P., Weinstein, Z.M., Kerensky, T., Roy, P., Regan, D., Samet, J.H., Walley, A.Y., 2017. Addiction consultation services – linking hospitalized patients to outpatient addiction treatment. *J. Subst. Abuse Treat.* 79, 1–5. <https://doi.org/10.1016/j.jsat.2017.05.007>.
- Truth and Reconciliation Commission of Canada, 2015. *Honouring the Truth, Reconciling for the Future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada*. Truth and Reconciliation Commission of Canada, Winnipeg, MB.
- Velez, C.M., Nicolaidis, C., Korthis, P.T., Englander, H., 2016. It's been an experience, a life learning experience": A qualitative study of hospitalized patients with substance use disorders. *J. Gen. Intern. Med.* 1–8. <https://doi.org/10.1007/s11606-016-3919-4>.
- Volkow, N.D., Koob, G.F., McLellan, A.T., 2016. Neurobiologic advances from the brain disease model of addiction. *N. Engl. J. Med.* 374, 363–371. <https://doi.org/10.1056/NEJMra1511480>.
- Wakeman, S.E., Kanter, G.P., Donelan, K., 2017a. Institutional substance use disorder intervention improves general internist preparedness, attitudes, and clinical practice. *J. Addict. Med.* 11, 308. <https://doi.org/10.1097/ADM.0000000000000314>.
- Wakeman, S.E., Metlay, J.P., Chang, Y., Herman, G.E., Rigotti, N.A., 2017b. Inpatient addiction consultation for hospitalized patients increases post-discharge abstinence and reduces addiction severity. *J. Gen. Intern. Med.* 32, 909–916. <https://doi.org/10.1007/s11606-017-4077-z>.
- Wall, S.S., 2014. Focused ethnography: a methodological adaptation for social research in emerging contexts. *Forum Qual. Sozialforschung Forum Qual. Soc. Res.* 16.
- Wei, J., Defries, T., Lozada, M., Young, N., Huen, W., Tulsy, J., 2015. An inpatient treatment and discharge planning protocol for alcohol dependence: Efficacy in reducing 30-Day readmissions and emergency department visits. *J. Gen. Intern. Med.* 30, 365–370. <https://doi.org/10.1007/s11606-014-2968-9>.
- White, A.M., Slater, M.E., Ng, G., Hingson, R., Breslow, R., 2018. Trends in alcohol-related emergency department visits in the United States: results from the Nationwide Emergency Department Sample, 2006 to 2014. *Alcohol. Clin. Exp. Res.* 42, 352–359. <https://doi.org/10.1111/acer.13559>.
- White, S.R., Bird, S.M., Merrill, E.L.C., Hutchinson, S.J., 2015. Drugs-related death soon after hospital-discharge among drug treatment clients in Scotland: record linkage, validation, and investigation of risk-factors. *PLoS One* 10, e0141073. <https://doi.org/10.1371/journal.pone.0141073>.
- Wood, E., Samet, J.H., Volkow, N.D., 2013. Physician education in addiction medicine. *JAMA* 310, 1673–1674. <https://doi.org/10.1001/jama.2013.280377>.