Impact of participation in a peer-led overdose program for people who use drugs

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Abstract

Abstract

Opioid overdose prevention training programs represent harm reduction initiatives for people who use drugs (PWUD). While studies have investigated their impact after participants have intervened in overdose situations, the impact of the training alone has not been examined in detail. This study explores the personal impact, including benefits and apprehensions, for PWUD who participated in a peer-led overdose prevention program and did not intervene post-training.

Semi-structured interviews were conducted with 75 PWUD following training. Data collection took place in two phases (2016 and 2020; $n = 37$ and $38$, respectively), and qualitative results of a thematic analysis are presented.

The following participation benefits were reported, even if no naloxone administration occurred following training: improved sense of control and competency in potential overdose and other emergency situations, heightened feelings of responsibility to help others, overcoming social stigma, increased pride, confidence and self-esteem, renewed sense of hope, and changed drug use behaviours, namely reduced at-risk consumption behaviours. Over half of participants reported sharing prevention knowledge with others following training. As for apprehensions, participants reported: fear of intervening and of being stigmatized, disappointment and regret related to past overdose experiences, feeling
burdened or stressed to intervene, and cutting ties with others to avoid overdose situations.

Keywords: overdose, training, peer-helper
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1. Introduction

The situation surrounding increased opioid use and related deaths has affected various countries around the world. In most European countries, there has been an increase in opioid prescriptions in the past two decades (Häuser et al., 2021). Nonetheless, according to Van Amsterdam et al. (2021), the situation around opioid use appears to be under control in countries such as France, Germany and the Netherlands, though there are some concerns regarding the UK, and more particularly, Scotland. However, its presence has been particularly significant in the United States and Canada (Donroe, Socías, & Marshall, 2018), affecting thousands of people from all types of socio-economic backgrounds (Martins, Sampson, Cerdá, & Galea, 2015; Wermeling, 2013). In the United States, 50 042 opioid-related deaths were reported in 2019 alone (Ahmad, Rossen, Spencer, Warner & Sutton, 2020), and 3 811 were reported in Canada for the same year (Public Health Agency of Canada, 2020). Various prevention efforts have been put in place to reduce the number of opioid overdoses across the world (Degenhardt et al., 2019; Dwyer, et al., 2018; Fairbairn, Coffin, & Walley, 2017; McAuley & Bird, 2019). One example is naloxone distribution programs, which offer training to people who use drugs (PWUD), with the aim of reducing the number of deaths caused by overdose (Strang et al., 2019). The notion behind training PWUD is that they often consume together (Oliver and Keen, 2003), and are therefore already on-site when an overdose occurs. These programs provide information so that participants can correctly identify the signs of an
overdose and learn how to administer naloxone, an antidote that reverses the effects of an opioid overdose (Van Dorp et al., 2006). Individuals who complete the training program have the potential to become peer-helpers, as they learn how to assist their peers in overdose situations (Rochester & Graboyes, 2020). Beyond preventing overdose-related deaths, there is also a perceived impact associated with becoming a peer-helper that has been documented in studies involving peer-led overdose prevention (Marshall, Perreault, Archambault et al., 2017). In opioid overdose prevention training programs specifically, studies have shown that participants who take on the role of peer-helper report numerous positive effects, including increased empowerment (Banjo et al., 2014; George, Boulay & Begley., 2010; Mitchell et al., 2017), self-esteem (McAuley, Best, Taylor, Hunter & Robertson, 2012; Wagner et al., 2010), feelings of heroism and pride (Banjo et al., 2014; Sherman, Gann, Scott, Carlberg, Bigg, & Heimer, 2008; Wagner et al., 2014), confidence (Banjo et al., 2014; George, et al., 2010; Mitchell et al., 2017; McAuley, et al., 2012; Wagner et al., 2014), sense of control and responsibility (Wagner et al., 2014), renewed sense of hope (Maxwell, Bigg, Stanczykiewicz, & Carlberg-Racich, 2006), as well as a reduction in substance use (Wagner et al., 2010). Another observed effect is the tendency to offer prevention advice to their peers (Rochester & Gravoyes, 2020).

Some undesirable effects have also been reported by peer-helpers in this domain, including cutting social ties, feeling a sense of burden or fear, and experiencing regret, all of which can be associated with the stressful nature of witnessing and intervening in overdose situations (Wagner et al., 2014). Various specific fears or concerns reported by peer-helpers have also been documented. In one study, PWUD who had received a kit
Overdose prevention program’s impact

and administered naloxone to peers in an overdose event also reported being worried that
the presence of naloxone could make PWUD less cautious in their substance use
(Hanson, Porter, Zöld, & Terhorst-Miller, 2020). PWUD sometimes reported no change
in substance use after gaining access to naloxone, or the use of naloxone as a ‘safety net’
in order to continue or increase use (Heavey, Chang, Vest, Collins, Wieczorek, &
Homish, 2018). Finally, some peer-helpers reported being worried to call 911 in an
overdose event, as they feared facing police officers and the possibility of being arrested
(Koester, Mueller, Raville, Langegger, & Binswanger, 2017; Wagner, et al., 2019). Some
were also concerned that they would be putting the overdose victim in a bad situation
(Hanson, et al., 2020).

Overdose prevention training programs are often community-based (Clark, Wilder &
Winstanley, 2014; Mueller, Walley, Calcaterra, Glanz, & Binswanger, 2015), and peer-
led interventions of this kind, as well as peer-led harm-reduction interventions have
proven to be successful and mostly positive with PWUD (Bassuk, Hanson, Greene et al.,
2016; Powell, Treitler, Peterson, et al., 2019). The evaluation of those trainings and their
impact have mainly focused on PWUD who intervened in an overdose situation
following their training (Heavey, et al., 2018; Wagner et al. 2014), or on the number of
lives that were saved (McAuley, Aucott, & Matheson, 2015).

By contrast, the objective of the present study is to document the personal impact,
including benefits and apprehensions reported by PWUD who participated in an overdose
prevention training program and who had not encountered situations in which they could
potentially intervene. The goal is also to examine whether they take on the role of peer-helper, or perceive themselves as potential rescuers for their peers and relatives.

2. Material and methods

2.1 Setting

In this study, participants of PROFAN (French acronym for “Prevention and reduction of overdoses - training and access to naloxone”), a Montreal overdose prevention and naloxone administration program, were consulted. Unique aspects of this program include the fact that it is initiated and administered by peer-trainers and has a longer format than most other programs, due to the inclusion of a specialized cardio-pulmonary resuscitation (CPR) training and extensive prevention information. The inclusion of a CPR element in the training allows participants to learn not only how to administer naloxone, but also how to intervene in other types of emergency situations. The PROFAN program offers PWUD training on how to recognize the signs of a potential overdose and intervene in these situations by administering injectable naloxone (this was the only method available at the time of the first phase of interviews – intranasal naloxone administration was added to the training as it became available, in 2018). It utilizes an innovative peer-driven approach, with peers providing training to other peers. Unlike other overdose prevention programs, which tend to be brief, with some lasting only 10 minutes (Clark, Wilder, & Winstanley, 2014), PROFAN involves a full day of training, which is given by two peer-trainers. The format includes opioid overdose
Overdose prevention program’s impact

prevention information, followed by the specialized CPR course. Information covered in the opioid overdose prevention component includes harm reduction principles, such as not using alone, using less, warning others before using, avoiding mixing substances, testing the substances when in doubt, having someone around with a naloxone kit, learning how to administer naloxone, not using after being revived from an overdose, detecting and differentiating the signs of an opioid overdose compared to overdoses involving other substances, how to intervene and administer naloxone, and an explanation of the good Samaritan law to reduce fear of calling 911 (https://metadame.org/profan-formation-naloxone/). At the end of the training, participants receive a card indicating that they are certified to administer naloxone. This card also provides access to free naloxone when presented at one of the participating pharmacies. The program was developed by Méta d’Âme, a Montreal peer-driven day centre for PWUD, in collaboration with the Centre de recherche et d’aide pour narcomanes (Cran), and the Montreal Public Health Directorate. At the time, it was the sole training of its kind available in Quebec for PWUD, as well as their only access to naloxone, and so participants automatically had to register for a full day of training. While it was initially made available in Montreal, in 2018, funding was received by the provincial government to form new partnerships and extend the training to make it available across the province. The present study was conducted by a research team from the Douglas Hospital Research Centre, and was approved by the Research Ethics Committee on Addiction, Social Inequality and Public Health of the Integrated University Health and Social Services Centre of the Montreal South-Centre. All participants signed a consent form to take part in the evaluation.
2.2 Participants

Participants took part in the PROFAN training on a voluntary basis. The peers of Métad’Âme and partner organizations shared information on the program and how to register via email and website postings, signs that were put up around these organizations, announcements during meetings, and by word of mouth from social workers to PWUD and from participants to their peers, friends and family. At the time of their training, participants were asked whether they would be willing to take part in a research study four months later (to allow them time to settle into their new role of peer-helper). A research assistant attempted to contact each of these participants both by telephone and by email, with the help of the peers from Métad’Âme, and was able to reach 130 of them. Among them, 75 agreed to take part in a semi-structured individual interview (response rate of 58%). The remaining participants either did not want to take part in an interview (n = 45), did not show up for their scheduled interview (n = 3), had already encountered an overdose situation, and were therefore excluded from the study (n = 7), or were peers of PWUD instead of PWUD (n = 2). The sample was collected in two phases of recruitment, the first taking place in 2016 with participants from Montreal (n = 37), and the second taking place in 2020 (n = 38) in order to increase the sample size and enrich the sample by including participants from other regions of the province. Interviews took place between February and June 2016, as well as May to August 2020.

2.3 Data collection and analysis
The first series of interviews was conducted in a private office at Méta d’Âme. Each interview lasted around one hour and was recorded for transcription purposes. The second phase of interviews was conducted via telephone due to COVID-19 restrictions and also recorded for transcription purposes. All interviews were led by a trained research assistant, and were conducted either in English or French, depending on the participant’s preference. Participants received $20 CAD as compensation.

The interview protocol included questions on participants’ perceived benefits and apprehensions after taking part in PROFAN, and was adapted for the second round of interviews to further develop upon spontaneous responses that arose from the initial interviews.

An analysis grid was developed, grouping expected benefits from the training, as well as potential apprehensions, mainly based on the literature review conducted by Marshall et al. (2018) on empowerment, recovery impacts, and psychological benefits and challenges encountered by peer-helper from take-home naloxone (THN) programs (see Appendix 1 and Table 1). Since overdose prevention training programs offered to PWUD can provide them with knowledge and confidence to take on a peer-helper role, empowerment and recovery outcomes could arise from participation in the training, even when the participant does not intervene in an overdose situation. Accordingly, expected benefits in the grid included empowerment components: decision-making, feelings of control and competency, social identity and overcoming stigma (Zimmerman & Rappaport, 1988), three of the recovery processes described in the CHIME recovery framework: connectedness, identity and redefinition of self, and hope for the future (Leamy, Bird, Le
Overdose prevention program’s impact

Boutillier, Williams & Slade, 2011), and changes in substance use, a potential indicator of recovery.

A thematic analysis of the interview transcriptions was conducted based on Paillé and Mucchielli’s procedure (2008). Comments were classified within the categories of benefits (empowerment and recovery processes) and apprehensions regarding a potential intervention. They were then divided into units of meaning that could be applied within the definition of one or more of the predetermined categories, as concepts such as confidence and competency, for example, can be highly related. When necessary, the data from one predetermined category was further divided into “subcodes,” that could be considered emerging categories (Miles & Huberman, 1999).

Two research assistants coded all material for both the predetermined and emerging categories with an inter-rater agreement higher than 95%. For each individual interview, the presence of all predetermined themes was noted in order to assess their relative representation among the participants.

[TABLE 1]

3. Results

3.1 Participant characteristics

Of the 75 interview participants (36 women, 41 men), the majority were between 35-44 years of age (31%, n = 23), while 24% were between 25-34 and 45-54 years (n = 18) and 16% were between 55-64 years of age (n = 12). The younger participants were between 18 to 24 years of age (5%, n = 4). Thirty-four respondents had witnessed an overdose in
Overdose prevention program’s impact

the past (45%), and 21 reported that they had personally experienced an overdose prior to taking part in the training (28%). Over a third of respondents (n = 31; 41%) identified an overdose experience as being their main motivation for participating in the program. Thirty-four participants (45%) reported that their motivation to take part in the training was mostly to help and protect a member of their entourage. Ten participants noted that their main motivation was either related to a current job as a peer-helper or for future employment in harm reduction and substance use treatment. Eleven participants reported that they had stopped using substances before taking part in the training, while three participants reported receiving opioid agonist treatment prior to the training. Three participants explained that they considered their substance use to be “moderate and safe,” prior to taking part in the training. The remainder reported that they were either still using substances (n = 20) or did not comment on their current substance use (n = 38).

3.2 Reported benefits associated with taking on the peer-helper role

Overall, the 75 interviewed participants reported multiple benefits associated with their role of peer-helper, which could be classified into 6 categories: 1) improved sense of control and feeling of competency to deal with potential overdose and other emergency situations, 2) heightened feeling of responsibility to help others, 3) increased feelings of pride, confidence and self-esteem, 4) overcoming social stigma, 5) renewed sense of hope, and 6) changes in drug use behaviours. Table 2 lists the number of participants who
provided comments for each category, as well as the categories identified within the apprehensions theme.

### TABLE 2

3.2.1 Improved sense of control and feeling of competency to deal with potential overdose and other emergency situations

More than two thirds (n = 66; 88%) of respondents reported that after taking part in the training, they felt that they would be more in control if they were to encounter an overdose situation. More specifically, these participants explained that they would be able to make informed decisions in order to intervene not only in the case of an overdose, but also in other types of emergency situations that would require CPR. They reported feeling less afraid to face an overdose situation and more equipped to do so with the tools and information acquired through the training and hands-on manipulation of the materials. Learning how to properly intervene to save someone’s life also provided a sense of hope, in that they would no longer feel helpless anymore in such a situation, according to five participants.

“It allows us to take action...because if ever we find someone on the ground, we don’t know if it is because of an overdose or something else, so we are able to intervene in both situations.” (Participant 11)
“You feel so powerless when you lack the information (and witness an overdose). Now if I see one, I know I can do something about it.” (Participant 16)

Gaining access to a personal naloxone kit and having the training to be able to use it correctly were also reported as contributing to this feeling of being in control and competent, according to one participant:

“It’s reassuring to have your kit on you; knowing that you can save someone’s life instead of being there and not knowing what to do; not having the tools to do anything, and then having to wait for a paramedic who might not even have a kit to be able to help them.” (Participant 14)

The majority of participants (n = 65, 86%) reported increased feelings of competency following the training. This was expressed with respect to their newly-acquired knowledge (27 participants), the practical skills learned to potentially intervene in overdose or emergency situations (22 participants), and gaining access to and learning to administer naloxone, which could allow them to help themselves and others with their substance use (29 participants). Two participants noted that after the training, they also felt more competent to inform and spread awareness to their peers, and another reported that he gained information that allowed him to correct false assumptions regarding overdoses and substance use.
“Before the training, if I had been in an overdose situation, I would have been dismayed; I was not adequately trained to react, even if I had taken CPR back in the 80s. Now I feel that I can act (in an overdose situation).” (Participant 19)

3.2.2 Heightened feeling of responsibility to help others

Over three-quarters of the interviewed participants (n = 64; 85%) mentioned that they felt more responsible as a member of their community following their training. This theme was initially defined as “Connectedness,” taken from the CHIME recovery framework, but was renamed to better convey the participants’ responses. They pointed out that their newly acquired skills would allow them to make a difference, and expressed a duty and willingness to help others. Thirty-three participants (44%) explained that they now exerted a more active role in society by acting as informal spokespersons for PROFAN. Sixty-two participants (82%) reported that they adopted various prevention behaviours, such as encouraging their friends, family, and other members of their community to participate in the training by emphasizing the dangers to be aware of, as well as the importance of being trained. Among them, five participants spread messages of prevention within their workplace, with four referring peers and family members to local resources or encouraging others to obtain a naloxone kit. Two participants facilitated access to naloxone within their communities, by verifying which local services had access to naloxone and assisting those who did not, by distributing kits themselves, or by spreading information on how to obtain a kit to their peers. Finally, one participant
mentioned having personally trained members of his family and friends in order to pass on his knowledge.

“I could make a huge difference, for sure. I could save someone’s life.” (Participant 37)

“First thing, I inform people that I have the [naloxone] kit. So, ‘no matter what, no matter what time, you know my address…come knock on my door 24/7…there’s no problem at all.’” (Participant 19)

“I promote the training: ‘enrol in PROFAN!’ And I trained my people [friends, family]. Because being powerless when faced with a loved one who is dying isn’t funny. It isn’t funny at all.” (Participant 32)

3.2.3 Increased feelings of pride, confidence and self-esteem

Over half of the participants reported that they viewed themselves differently after participating in the training, with 38 trainees explaining that they felt more confident after PROFAN. They also reported feeling proud to have this new knowledge and explained that their self-esteem had increased. Four participants mentioned that the training could be an asset when seeking employment.

“All these things [training sessions] are good for the self-esteem, which is often low. It makes you feel good.” (Participant 37)
3.2.4 Overcoming social stigma

Thirty-six participants (48%) reported that following the training, they felt that they would be perceived differently by others, and that they could overcome stigma due to their new role. According to these participants, having this training, and also having a card to certify that they could administer naloxone, helped them to no longer feel stigmatized as ‘junkies’ by others, namely first responders. During the first year of training, naloxone was still relatively new and limited in terms of access, and while first responders might not be able to administer naloxone, PWUD who had taken part in the PROFAN training could. Twenty-five participants (69%) reported that having their training certification card and the knowledge to administer naloxone could alleviate potential prejudices of first responders regarding their presence or their intervention. Five participants also noted that their presence was now a source of reassurance for their peers due to their newly-acquired knowledge, and that they were considered as potential rescuers by their friends and relatives. They indicated that they felt more valued as members of society and believed that others (relatives and even first responders) would now share this opinion. For three participants, the training helped them to reduce their own self-stigma, while two other participants reported feeling less prejudiced towards other PWUD after the training.
“We often have the tendency to be stigmatized, as ‘junkies’. You get told ‘you’re not good for anything.’ Now, you can say, ‘I have my card [proving that the participant is certified to administer naloxone].’” (Participant 33)

“I have less prejudices towards people stuck on the street. It changed my vision. It’s important to help them instead of just ignoring them.” (Participant 11)

“My friends who use substances and who haven’t done the training, they perceive me as someone who can help them.” (Participant 28)

“My mother, she is proud because she knows that I am now able to possibly save lives. There are not a lot of people that can brag about that...My employers are proud too. They were very proud when I told them.” (Participant 36)

3.2.5 Renewed sense of hope

Nineteen participants (25%) explained that taking part in PROFAN and being trained by peers like themselves instilled hope in them for their futures and inspired them to go back to school or become support workers to help others in trouble and in distress, or bring change to their lives. For those who had lost a loved one due to an overdose, the training renewed their sense of hope, as there was now a way to intervene in an emergency situation and prevent overdose-related deaths (19 participants).
“*This training inspired me to go back to school.*” (Participant 30)

3.2.6 Changes in drug use behaviours

Though decreased drug use was not the main objective of PROFAN, about a sixth of interviewed participants (n = 13, 17%) referred to positive changes in the amount or style of their consumption, such as being more conscious and careful about their drug use habits and methods (doses, material used, where they used, having people around when using, and consumption times).

Three participants were undertaking an opioid agonist treatment. For three participants, there was no reported change in their substance use, but they explained that they were more aware of the risks that could lead to an overdose and how to reduce them. For one participant who had been taking prescribed opioids for a few years, the training and interaction with a peer-trainer resulted in a boost of confidence that allowed him to assert himself and request that his opioids be reduced by his healthcare provider.

“It makes me realize that I need to stop shooting up...I want to stop. I’ve started to moderate my use.” (Participant 16)

“[The training] gave me lots of information that I did not know or that I was wrong about. It allowed me to learn about healthy habits and medical procedures to use in
overdose situations, and even healthy behaviors - to think about being careful of my dosage, where the drugs come from and all that.” (Participant 28)

3.3 Apprehensions from taking on the role of peer-helper

Despite the many benefits associated with their participation in the PROFAN program, 24 trainees (32%) reported that there were some apprehensions that arose after participating in the training and from taking on the role of peer-helper. These included fear of intervening as well as fear of being stigmatized, disappointment and regret, burden, stress, and cutting ties (see Table 2).

3.3.1 Fear of intervening in an overdose situation

As participants had not yet encountered an overdose situation following their training, the idea of having to intervene elicited some feelings of fear for nearly a third of them (n = 24; 32%). In particular, participants feared hurting the overdose victim while performing the rescue procedures (CPR, as well as the injection of naloxone). They also mentioned hoping that they would not have to intervene, since it would mean that someone would be in danger. One participant feared panicking and not being able to intervene if the situation would arise.

“I hope that this will never happen… I hope to never have to use the [naloxone] kit.”

(Participant 11)
3.3.2 Fear of being stigmatized

Twelve participants (16%) reported feeling that there was somewhat of a stigma associated with being a peer advocate for the training. Participants also worried about how first responders would react to them intervening in on overdose situation. One participant explained that a PUD administering naloxone by injection could lead to more prejudice from the first responders, or that the police might disregard their training certification. For another participant, telling his family that he took the training only maintained their vision of him as an “addict.” Another participant reported feeling judged when going to obtain a naloxone kit after training, and expressed that it was a difficult process to obtain the kit from the local pharmacy.

“I don’t tell people that I’ve done the training. It really depends (on how people perceive us as peer-helpers). It’s a different situation with different people. Some are stubborn, stuck-up; there are questions of prejudice, negative perceptions…” (Participant 38)

“Now they have training, but it can be debatable. I much prefer first responders to policemen. The latter, they don’t touch us, they need to put gloves on first. Since we’re street guides, it’s like for them, we’re not exactly close to shit but…” (Participant 2)
“It was very hard [to receive a naloxone kit]. I had to answer a ton of questions about why I needed it. And when I received it, the dose was only good for 30 days, and it’s not like I see overdoses every day. I had to call many times, and if I ended up on another pharmacist, I had to re-explain everything and re-answer questions.” (Participant 10)

3.3.3 Disappointment and regret linked to past overdose experiences

Twelve participants (16%) mentioned that they felt regret for not having the information obtained from the training or access to a kit in the past, and therefore being unable to save someone’s life. For these individuals, having witnessed an overdose in the past and lacking the tools to intervene represented a source of disappointment and regret, particularly knowing that they could now help in these types of situations.

“Having been aware of this 10 years ago, I could’ve saved at least 15 people. At least 15 people if I knew this before...” (Participant 1)

“Lost my brother to an opioid overdose... It’s why I wanted this training.” (Participant 105)

3.3.4 Burden associated with the role of peer-helper

Eight participants (11%) expressed feeling burdened by their new role, emphasizing that being a peer-helper involved a significant responsibility on their part, especially if they
were already trying to reduce their own substance use or if they had only taken the training to be able to prevent an overdose for one specific person.

“I try to keep to myself that I did the training, because I don’t want to be responsible for all of the ‘junkies’ in the city.” (Participant 3)

3.3.5 Stress involved with potential intervention

Seven participants (9%) reported that they felt stressed about potentially intervening in an overdose situation. More specifically, five of them expressed feeling stressed about their ability to react quickly enough and correctly when faced with an overdose. They also reported other expected sources of stress, including managing their own emotions and maintaining their composure during the intervention, as well as the pressure of having other people around to witness the intervention.

“I think it’s to stay calm. I think that has to be the hardest. It’s to manage the panic around the person, because if you arrive and everyone is screaming, you want to get close to help but you can’t with everyone around. Dealing with that level of stress around the person, that’s a challenge.” (Participant 14)

“There’s the stress of when it happens, what if I’m not able to react because I’m too stressed.” (Participant 66)
3.3.6 Cutting ties and avoiding substance use situations

For five participants (7%), exposing themselves to PWUD represented a challenge, since otherwise, they would have little risk to encounter an opioid overdose. All participants reported that they felt like avoiding certain situations involving substance use in order to avoid risk or temptation for themselves, especially if they had decided to stop consuming.

“I try to be there if someone needs help, but it’s hard, because I stopped [using substances]. But sometimes, I have to get out [of the situation], or else it is me who is going to be in danger.” (Participant 31)

4. Discussion

This study is based on interviews with 75 participants from a peer-led overdose prevention and naloxone administration training program in Quebec. The aim was to document the benefits and apprehensions reported by PWUD who participated in the training and who had not yet encountered an overdose situation. Empowerment concepts appeared in the participants’ responses, including improved sense of control, as was observed by Wagner et al., (2014), and heightened confidence, as reported in various studies (Banjo et al., 2014; George, et al., 2010; Mitchell et al., 2017; McAuley et al., 2012; Wagner et al., 2014). Empowerment has been defined in many ways, but a core interpretation involves gaining or regaining control over one’s life or
health, and the underlying ability to create social change (Rappaport, 1987). Being able to reverse an opioid overdose and to save someone’s life is a significant way to create change and provide a sense of control over the situation. Since stigma towards PWUD is strong and not limited to others’ opinions and treatment of them, but extends to how they view themselves (Hammarlund, Crapanzano, Luce, Mulligan, & Ward, 2018), the increase in confidence and the act of taking on the role of peer-helper can also lead to overcoming this self-stigma and changing one’s view of how others perceive them. This can also happen by carrying naloxone and promoting prevention among their entourage (Rochester & Graboyes, 2020).

Following their training, a few participants mentioned that they wanted to make changes in their drug use behaviours, because they felt that they were “worth more.” By developing new skills and the knowledge to become a peer-helper in an overdose and other emergency situations, the PWUD taking part in PROFAN can become more empowered to make positive changes in their lives and overcome stigma. In fact, with respect to overcoming stigma, nearly half of participants reported that they expected a potential interaction with first responders to be positive, and even rewarding, due to their new knowledge and the fact that they had a certification card.

Finally, participants reported an increased sense of competency as a peer-helper (Wagner et al., 2014). They considered that their training was an important a tool to promote and share knowledge, and would be an asset for current or future jobs related to harm reduction.

In all, four recovery components were reported by participants as being results of their training. First, they reported feeling more responsible to help others, and more capable of
providing help, as was also observed for PWUD who had intervened in an overdose situation (Wagner et al. 2014). The PWUD from the sample also reported feeling proud after taking part in PROFAN, and that it had helped increase their confidence and self-esteem, similar to results observed with PWUD who had intervened (McAuley, Best, Taylor, et al., 2012; Wagner et al., 2010). In addition, participants reported feeling hopeful, partly because they would not have to face the same helplessness as before in an overdose situation where they lacked the tools to intervene, but also because the training inspired them to become outreach workers and help others.

In a study with peers working in an overdose prevention setting, three overarching themes appeared as motivators, despite the associated stress: “sense of purpose to help others, pride from being an inspiration to others, and a sense of belonging within a community” (Pauly et al., 2020). These themes are quite similar to those observed in both empowerment and recovery processes.

One third of participants in this study reported a change in substance use behaviours following the training. This included either a reduction in the amount used, or the adoption of safer practices. This change could be due to the participants being at a point where they were already looking for resources and information that could lead to these types of changes, as was the case for 62% of the participants, who had taken part in an overdose opioid prevention event oriented toward recovery (Huber, Umphrey, Surico, et al., 2019). While not the main objective of the PROFAN training, these positive changes in health behavior suggest that overdose prevention training programs can be a preventative measure for overdoses by contributing to the reduction of at-risk consumption behaviors, rather than solely preventing deaths by administering naloxone.
Results from this study are consistent with literature on overdose prevention that suggest that equipping peers with knowledge to intervene in emergency situations allows them to feel a new sense of empowerment that can impact their self-perception, societal role and recovery journey (Banjo et al., 2014; Wagner et al., 2014).

Apprehensions from taking on the role of peer-helper were also reported, including fear related to intervening. Interestingly, though overcoming stigma appeared as a positive effect of the training, fear of being stigmatized also emerged in participant apprehensions, namely in relation with eventual interactions with first responders and police. These reported apprehensions suggests that overdose prevention training programs should include more elements to address these concerns. Studies in the United-States also suggest that changes in policing of PWUD be made to alleviate the fear of calling 911 in the event of an overdose (Bennet et al., 2011; Koester, Mueller, Raville, et al., 2017) as well as in British Columbia (Collins et al., 2019).

The feeling of burden reported by participants with respect to feeling responsible for other PWUD was also reflected in the results of Wagner et al., (2014), as was the disappointment and regret of not having had access to naloxone in previous overdose situations (Devries, Rafie, Ajayi, et al., 2019). Some participants expressed feeling stressed regarding a potential intervention, similar to findings in studies involving peers working in a mental health setting (Ahmed, Hunter, Mabe, et al., 2015), and a few preferred to cut ties with PWUD and avoid substance use situations altogether, as reported in Wagner et al., (2014). These participants appeared to be farther in their recovery process, or to have taken part in the training to protect one specific person, most often a significant other who still used substances. In one study, the naloxone
administration training consisted of a two-hour event with a motivational interview and peers sharing their recovery experiences (Huber et al., 2019). Participants from this study reported valuing the opportunity to speak with peers and felt that they understood their experiences. Furthermore, in a study on the experiences of individuals with co-occurring substance use and mental illness in professional and peer-led group interventions that explored factors facilitating or hindering recovery, participants reported feeling safe in the peer-led group to disclose private, sensitive information about themselves, but were hesitant to do so in the presence of a staff member, which emphasizes the benefits of peer-led interventions (Pallaveshi, Balachandra, Subramanian & Rudnick, 2014).

Prevention training programs like PROFAN can offer multiple benefits in both empowerment of PWUD and their recovery. This might be due to the extended length of the training, which consists in a full day, including periods where discussions between the peer-trainers and the PWUD can take place.

In all, important benefits were reported by participants of the PROFAN program who did not intervene in an overdose situation following their training. While reducing deaths is an important measure, and is often reported in the evaluation of THN programs as a result of training, there are other benefits that can arise from peer-led programs. For one, it is less common to see programs administered by, and aimed at peers, as most tend to be given by medical staff, pharmacists, or public safety officers. The PROFAN training content is specifically tailored to the requests of its clientele, and designed to ensure that its content can be easily understood and retained. In addition, participants may find that training provided by peers is more appropriate for them, as suggested by the study
conducted by Pallaveshi et al. (2014). These program characteristics may all contribute to the program’s “appropriateness” (i.e. its perceived fit and relevance; Proctor et al., 2011).

Secondly, not only can deaths be prevented, but the overdoses themselves can be prevented through the knowledge obtained through this type of training. Participants from the current study who did not intervene in overdose situations reported wanting to make changes in their substance use, or cease use altogether. This demonstrates that participating in the training has the potential to prevent overdoses, due to the information and messages relayed that can instigate positive changes in substance use among the participants (promote more responsible and careful use, reduced use, or ceasing use altogether), and therefore avoid leading to an overdose. A third benefit arises from the inclusion of the CPR element to this training, as participants are trained to become ‘rescuers’ that can intervene in other types of emergency situations and not only opioid overdoses. This was highly pertinent for the province of Quebec, where the program was implemented, given that in 2019, it was reported that a large proportion of overdose deaths in this province were caused by stimulants (138, compared to 203 deaths attributed to opioid overdose), the importance of providing training that covers more than simply opioid overdose intervention through naloxone administration is crucial (INSPQ, 2021).

Further research could explore whether interactive and peer-oriented opioid overdose prevention training programs might have extended benefits for PWUD outside of overdose intervention. In the case of the PROFAN training, participants became peer-advocates of the training by sharing what they had learned and recommending the training to others, as well as spreading prevention messages to their friends and families, or facilitating access to naloxone in their communities, whether it be by assisting
community services or by distributing kits and providing information to others. By giving PWUD the potential to act as rescuers in other emergency situations, PROFAN might represent an initiative that can lead to a number of long-term positive outcomes. Further studies could explore the various factors involved, such as the inclusion of extensive prevention knowledge and peer-to-peer interactions (Huber et al., 2019), or the ability to overcome self-stigma (Hammarlund, et al., 2018).

Limitations

A small number of limitations arose in this study, such as the potential for social desirability bias, as participants could be unwilling to reveal that they had not intervened after witnessing an overdose, or that they had not yet collected their naloxone kit. They might also be reluctant to share a “negative” change in substance use after the training. It is important to note, however, that some participants did report having not changed their substance use following the training. One aspect that did not arise in the present study involved the potential false sense of security associated with naloxone and the worry that PWUD would be less cautious in their consumption due to the existence of naloxone, though this result was observed in other studies (Heavey, et al., 2018; Hanson et al., 2020).

5. Conclusion
Overall, providing peers with intervention skills appears to generate benefits on both personal and societal levels. This study suggests that such an impact can be present among participants, even if they have not intervened in an overdose situation following their training. Most interviewed PROFAN participants reported that having acquired new information and intervention skills had increased their sense of self-confidence and sense of control, and also helped to redefine their identity by upholding their self-esteem and belief in themselves.

Future research could focus on comparing the impact of programs that solely provide naloxone administration training, and those that also include CPR training and the opportunity for interactions among PWUD and peer-trainers, to explore to what extent an extended training version can contribute to developing the perceived “rescuer” role of the trainees as compared to shorter trainings. By exploring the specific contribution of the CPR element of the training, it would be possible to verify whether similar results would arise if there was only the main training program content without the CPR aspect.

Ethical approval

Research ethics approval for this study was obtained by the Research Ethics Committee on Addiction, social inequality and public health of the Integrated university health and social services centre of the Montreal South-Centre.

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Declarations of interest

All authors declare no conflicts of interest.
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