A Qualitative Study of BC Paramedics' Responses to Opioid Overdose Calls During the COVID-19 Pandemic

by

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Abstract

Deaths attributed to illicit substance use increased dramatically during the COVID-19 pandemic. Given the rise in opioid overdoses, the delivery of overdose care has become a significant service for BC paramedics. The present research examined paramedics' interactions with, and attitudes towards, overdose patients during the pandemic. Five BC Paramedics were interviewed about their experiences. A reflexive thematic analysis was used to explore patterns across participant narratives. Responses were categorized into the following themes: 1) simultaneously experiencing both sympathy and decreased tolerance for overdose patients; 2) considerations of whether patients who use drugs deserve medical priority compared to patients who do not use drugs; 3) increased difficulty building patient rapport on overdose calls; and 4) navigating pandemic-specific barriers which caused delays to call response times. It was found that the intersection of COVID-19 and the opioid epidemic created unique challenges for paramedics in their abilities to serve patients on overdose calls.

Keywords: opioid; overdose; first responders; COVID-19 pandemic

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List of Acronyms

BCEHS	British Columbia Emergency Health Services
PPE	Personal Protective Equipment
SRO	Single Room Occupancy
BOS	Burnout Syndrome
EMS	Emergency Medical Service
RTA	Reflexive Thematic Analysis

Chapter 1.

Introduction

In April of 2016, British Columbia's Provincial Health Officer declared the first-ever public health emergency in response to the drastic increase in overdose deaths related to illicit drug toxicity (BC MMHA, n.d.). In British Columbia, unintentional illicit drug overdose deaths increased from 211 in 2010 to an estimated 1,450 in 2017 (BC Coroner's Service, 2018). This radical spike in deaths has largely been attributed to accidental overdoses of the potent synthetic opioid, fentanyl (BC Coroner's Service, 2022; Howlett, 2020). Synthetic opioids, like fentanyl, can be up to 50 to 100 times more powerful than morphine (CAMH, 2017; Department of Justice/ Drug Force Administration, 2020). Opioids are a central nervous depressant and affect the part of the brain that controls breathing. Thus, an overdose of opioids can result in respiratory depression, decreased level of consciousness, and death (Garza & Dyer, 2016). Given the potency of synthetic opioids, as well as the rise in their availability in the illegal drug market, the risk of accidental overdose has increased substantially over the past several years (Belzak & Halverson, 2018). Although opioid toxicity is not specific to British Columbia, the province continues to have one of the highest rates of deaths attributed to illicit drugs in Canada (Special Advisory Committee on the Epidemic of Opioid Overdoses, 2022). In 2023, the number of deaths in BC attributed to drug toxicity is approximately 7 deaths per day (BC Coroner's Report, 2024).

1.1. Opioid Overdose Calls During the COVID-19 Pandemic

In March 2020, British Columbia's Provincial Health Officer declared a second public health emergency in response to the COVID-19 virus. Suddenly, BC health services were in the midst of two co-occurring public health emergencies. Between 2020 and 2021, there was a 26 percent increase in deaths attributed to illicit drug overdose (BC Coroner, 2021). Fentanyl was detected (alone or in combination with other drugs) in 84% of illicit drug toxicity deaths in 2021 (BC Coroner's Service, 2022). Non-fatal overdoses also increased during the COVID-19 pandemic. From June to August 2021, there were approximately 7,500 overdose calls in BC, approximately 80 calls per day (Watson, 2020). This volume of calls marked the highest number of overdose calls ever

recorded in a three-month period by BC Emergency Health Services (EHS) (Watson, 2020).

Increases in overdoses have been attributed to social isolation triggered by mandates to prevent the spread of the virus, including stay-at-home orders and social distancing measures (Won et al., 2023). Additionally, the pandemic may have decreased the availability of social and recovery support, and health care services for individuals with opioid use disorders (Won et al., 2023).

1.2. Impact on BC's Emergency Health Services

The rise in overdoses during the pandemic resulted in an increased strain on BC's paramedical services. Paramedics are often the first point of medical intervention for suspected opioid overdoses (Government of Canada, 2021). Paramedics also often attend to other medical complications associated with overdoses, including nausea or vomiting, stomach cramps, elevated heart rate, increased blood pressure, and respiratory and cardiac arrest (Farkas et al., 2020) Additionally, paramedics regularly treat overdose patients who are withdrawing or are still intoxicated and may be become agitated, confused, belligerent and/ or violent (Canada Paramedicine, 2021).

Prior to the COVID-19 pandemic, medical providers reported increased levels of burnout associated with the rise of opioid overdose-related emergencies (Crowe et al., 2020; Maragh-Bass et al., 2017; Williams-Yuen et al., 2020). Burnout is a psychological concept associated with long-term exhaustion and diminished interest and motivation, usually in the work environment (Embriaco et al., 2007). Burnout syndrome (BOS) consists of three dimensions: exhaustion, depersonalization (negative or cynical attitudes toward patients), and a reduced sense of personal accomplishment (Pines & Maslach, 1978). People who experience all three symptoms have the greatest degree of BOS (Pines & Maslach, 1978). Burnout in healthcare workers can have negative implications for the health care system, including increased staff shortages, absenteeism, and increased rates of turnover (Elshaer et al, 2018). BOS has been shown to predict job turnover in primary care clinicians (Willard-Grace et al, 2019).

Additionally, burnout may negatively affect the quality of care provided to patients. Healthcare provider burnout has been demonstrated to negatively impact the

delivery of safe and effective patient care (Boland, et al., 2018; Garcia, et al., 2019; Hall et al., 2016). Burnout is also associated with increased rates of compassion fatigue (Figley, 1995). Compassion fatigue refers to the emotional and physical exhaustion that can affect helping professionals and caregivers over time. It has been associated with a gradual desensitization to patient stories, a decrease in quality care for patients and clients (sometimes described as “poor bedside manner”), an increase in clinical errors, higher rates of depression and anxiety disorders among helpers, as well as rising rates of stress leave and degradation in the workplace climate (Figley, 1995).

Previous research has explored paramedics’ experiences treating overdose patients; however, little research exists about Canadian paramedics’ experiences on overdose calls during the COVID-19 pandemic. To date, only one study has been published investigating paramedics’ experiences during the pandemic. A qualitative study by Won and colleagues (2023) surveyed 99 American paramedics across 18 cities and states throughout the US about their response to overdose calls during the pandemic. They found that the increases in call volumes, long work hours, fear of COVID-19 contamination, physical and emotional exhaustion, and feeling under-appreciated contributed to an increased rate of burnout symptoms. Other contributing stressors for Emergency Medical Services (EMS) staff during the pandemic involved personal protective equipment (PPE) mandates, including having to keep track of changes in PPE protocols, the physical discomfort caused by working long hours in PPE, an PPE interference with patient interactions and clinical task execution (Won et al., 2023).

1.3. The Present Study

BC paramedics are uniquely situated in their role in attending to Canada’s overdose crisis. British Columbia accounts for approximately one third of Canada’s overdose deaths, despite representing only 13% of the population (Williams-Yuen et al., 2020). The rise in overdose calls during the pandemic increased strain on BC paramedical services, which were already strained. Given the magnitude of the volume of overdose calls in BC, the need to understand BC paramedics’ experiences with and attitudes towards overdose patients has become increasingly important.

The current study investigated paramedics' experiences on opioid overdose calls during COVID-19. Specific attention was paid to the issues of 1) whether COVID-19 procedures and protocols impacted paramedics' ability to administer medical treatment on opioid overdose calls; and 2) if encounters and interactions with overdose patients changed as a result of the pandemic.

Investigating paramedics' experiences during the pandemic provides an invaluable opportunity to better understand how their attitudes towards, and interactions with, overdose patients may be influenced when emergency health services (EHS) are under additional strain. Reports from BC paramedics can help inform policy and procedures to better protect the mental health of EMS personnel and to ensure better care for overdose patients. Additionally, these findings may be of use for other provinces in Canada and help health care systems to better understand the impact of co-occurring health crises and plan more effectively.

Chapter 2.

Methods

2.1. Recruitment

Participants were recruited via social media (e.g., Facebook and Instagram) and word-of-mouth, whereby participants referred their colleagues for the opportunity to participate in the study. Interested individuals were instructed to contact the primary author via email. Potential participants were asked specific questions to determine their eligibility to participate in the study.

For individuals to be included in the study, they must have been employed as a paramedic for BC EHS in the Lower Mainland of the Greater Vancouver area of British Columbia for at least four years, with two years of service having occurred during the pandemic (i.e., March 2020 to March 2022).

2.2. Participants

Five BC paramedics (3 females and 2 males) were interviewed about their experiences responding to opioid overdose calls during the COVID-19 pandemic. Individual descriptions of the participants could not be reported due to concerns that it may violate their anonymity. However, individual variation between participants was assuaged by the similarities in their responses. Participants' ages ranged from 25 to 41 years (M = 33.8 years). All participants were employed as paramedics in the Lower Mainland of British Columbia during the COVID-19 pandemic. Four participants worked fulltime, and one participant worked parttime. The number of years in which participants had worked as paramedics ranged from 5 to 18 years (M = 13 years). In the last two years (2021 to 2023), participants reported that they responded to 24 to 32 (M = 28.4) total emergency calls in an average four-day working block. Out of the total calls, it was estimated that between 2 and 8 (M = 5) were opioid overdose calls.

2.3. Procedure

Once participants had been screened and deemed eligible, they were scheduled to participate in an online interview via Zoom videoconferencing software. Interviews were video recorded. All interviews were conducted between February and August 2023 by the primary author and lasted between 30 and 90 minutes. Prior to the interview, participants were sent an email with an informed consent form, which was also reviewed verbally with the participant prior to the start of the interview. Additionally, participants were emailed a demographic survey to be completed prior to the interview. To ensure that the data storage complied with Canadian privacy laws (PIPEDA), interviews were recorded using SFU Zoom (all data is stored in Canada).

Participants completed a semi-structured interview consisting of open-ended questions concerned with their experience serving overdose patients during the pandemic. Interview questions were designed to gain insight on 1) whether COVID-19 procedures and protocols impacted ability to administer medical treatment on opioid overdose calls, and 2) if encounters and interactions with overdose patients had changed during the pandemic. These primary topics guided the structure of the interview, but ultimately the participants determined what they were willing to disclose and discuss. At the end of the interview, participants were asked if there was any other relevant information that they wished to add. (The interview questions can be found in Appendix A.)

2.4. Analysis

To evaluate participants' responses, a reflexive thematic analysis (RTA) was utilized (Braun & Clarke, 2020). RTA refers to a process for identifying, analyzing, and reporting patterns within a data set (Braun & Clarke, 2020). RTA was chosen as it aligned with the researcher's desire to describe the complex interactions between paramedics and opioid overdose patients and offered the possibility of an inductively-oriented experiential analysis that focused on patterned meaning. This method of analysis allowed the opportunity to use a "bottom-up" approach in which there was no attempt to fit data into an existing theory (Smith, Moller, & Vossler, 2017 as seen in Braun & Clarke, 2020). As there was negligible research on paramedics and the opioid crisis during Covid, the advantage of an inductive approach is that it can derive

information from participants without the framework of preconceived theories or hypotheses. The analysis was conducted in six phases in accordance with the guidelines laid out by Braun and Clarke (2020). Verbal interviews were transcribed verbatim by the primary author. All identifying participant information was removed during transcription. To ensure accuracy, transcripts were verified manually by the primary author. Analysis involved multiple rounds of coding to ensure that all data were appropriately considered.

First, the researcher listened to the audio recordings to gain familiarity with what was discussed across interviews. This initial review resulted in the creation of several preliminary codes. Codes were then applied to portions of the transcripts that were applicable to the research questions. Throughout the analysis, additional codes were developed. An expanded set of codes was used to code the transcripts a second time. The coding process resulted in 54 individual codes, which were then used to identify the key themes.

Transcripts were then imported into NVivo 12 (QSR International, 2020), a qualitative software tool to assist with the organization and coding of the dataset. Next, codes were categorized into meaningful clusters, which represented themes across the dataset. Throughout analysis, themes were reviewed, revised, and renamed in consideration of the main research questions.

Chapter 3.

Results

The qualitative analysis of the interview transcripts resulted in four overarching themes pertaining to paramedics' experiences during the COVID-19 pandemic: 1) simultaneously experiencing both sympathy and decreased tolerance for overdose patients; 2) considerations of whether patients who use drugs deserve medical priority compared to patients that do not use drugs when resources are limited; 3) increased difficulty building patient rapport on overdose calls; and 4) navigating pandemic-specific barriers which caused additional delays in call response times.

3.1. Theme 1: I'm Sympathetic but ….

The first theme related to increased compassion fatigue toward overdose patients during the COVID-19 pandemic. All participants reported increased feelings of compassion fatigue throughout the opioid epidemic; however, compassion fatigue attitudes and feelings toward overdose calls were exacerbated during the pandemic.

Responses revealed that the participants struggled with conflicting attitudes toward opioid overdose patients during the pandemic. Specifically, participants reported feelings of sympathy towards overdose patients while simultaneously feeling less tolerant of this population. Participants reported experiencing fluctuations between polarities in attitude throughout the pandemic. Some asserted that increased compassion fatigue led them to disconnect personally on overdose calls, and instead focus on only doing what was medically necessary. Such an attitude shift suggests that paramedics became less empathic and more purely focused on clinical needs and practice.

The increase in opioid overdose calls during the pandemic and staff shortages led some participants to adopt a matter-of-fact attitude in dealing with overdose calls. A few participants reported that during the pandemic they adopted a matter-of-fact attitude in dealing with overdose calls.

> "I don't think that my attitude has really changed toward them as a population group. I think over time, my tolerance has decreased. I got to the point where I was like 'okay, do you want us or not? We're leaving then". (Participant, D006).

> "I think a lot of us at the beginning of COVID were a little annoyed we were still doing overdose calls when there's so much else going on. It probably just added to the burn out of COVID. We're all like "well, why are we still going to overdose when there are so many other things going on and we are so busy with COVID". (Participant, D005).

Many participants emphasized that although they remained professional while providing care, that they felt a decreased desire to emotionally connect with overdose patients apart from providing medical care. One paramedic who worked on Vancouver's Downtown East Side (DTES) and had experience working with addiction prior to becoming a paramedic, reported acknowledging the decline in his compassion toward overdose patients.

> "I still take pride in my job. I'm still very professional. A lot of people who are burnt out will unfortunately not be as nice to them. For me I maintained a level of professionalism, but definitely wasn't emotionally involved. That's a huge reason why I left (the DTES). Not just for me, but for them as well. I know that a lot of them came from a rough place and they deserve a compassionate paramedic that wishes to work with that clientele. That was a big move for me to leave the downtown east side. I was actually willing to go to work anywhere else aside from the downtown east side or Vancouver in general". (Participant, D009).

However, participants also indicated that at times their compassion fatigue would lead to them trying harder to connect with opioid overdose patients. Many participants reported feelings of helplessness because of increased overdose calls and frustration when responding to the same patients repeatedly. One participant reported that compassion fatigue helped her to accept her lack of control over the opioid epidemic. She indicated that compassion fatigue would cause her to shift her focus onto trying harder to connect with patients and doing what she could to help in the moment.

> "At the beginning, I definitely got some burnout and maybe started to dehumanize them a bit. It's like 'here I am again, here's your medication. You aren't going to listen to me, but don't do this. Don't do that'. Whereas now, I think I've work through a lot of that. Now I just try to make it, I want them to have a positive interaction with me, so they will continue to call me for help. You know, whether it's 'you've made a big mistake here. However, you have the right to redirect your care. Can I get you some blankets? Can I get you a bottle of water?' Reach out and establish connections. Like, 'I see you as a human being.' Please see me as someone trying to help, and hopefully down the road,

> small gains, they will be more willing to work with us". (Participant, D001).

Another participant echoed the sentiment that maintaining a non-judgemental stance and trying to connect with patients helped her to feel increased empathy when responding to overdose calls.

> "A lot of times when they come up from an overdose (they) are really confused. They see the uniform and they think that we are police, they just keep their mouth shut and they don't want to help, they just walk away. By saying, "I don't care what's onboard, I just want to help you. We don't tell police any of this". To be honest, they don't care either …. Because nothing is going to get done about it anyways …. So, we are just trying to have that type of attitude when they come up, that it doesn't matter, just tell us what you did so I know and I have to get NARCAN ready or prepare for some sort of an airway issue cause your are going to be vomiting". (Participant, D005).

Overall, participants reported increases in compassion fatigue toward overdose patients during the COVID-19 pandemic. Additionally, participants reported experiencing both sympathy and reduced tolerance for overdose patients. Some asserted that increased compassion fatigue led them to disconnect from patients and focus on only what was medically necessary for the call. However, others reported that increases in compassion fatigue led to them to "double down" on creating a connection or building rapport with patients.

3.2. Theme 2: Who Deserves Priority When Resources Are Limited?

Another theme that arose related to considerations of which type of patient emergencies deserve priority when paramedical resources are limited. Specifically, this theme revolved around priority of care between drug-using and non-drug using patients during the pandemic. In 2018, BC EHS implemented a system in which calls are labeled with specific colours based on the urgency of the medical event. Calls coded as "Purple" and "Red" are the highest priority (i.e., immediately life threatening or time critical), "Orange" (i.e., urgent / potentially serious, but not immediately life threatening), and "Yellow, Green, and Blue" (i.e., non-urgent - not serious or life threatening). Prior to this system, ambulances were dispatched similarly for acute and non-acute events. The colour coded system was implemented to ensure calls that were of greater urgency were

responded to first. Calls involving opioid overdoses are commonly classified by BC EHS as code Purple or Red (i.e., patient's condition is immediately life threatening).

The increase in overdose calls during the pandemic led to an influx of emergency calls labeled as immediately life threatening or time critical. This increase in urgent and acute, life threatening calls correspondingly delayed wait times for ambulances and, in some cases, ambulances were cancelled or "bumped" for higher priority calls. Two of the five participants reported feeling some contempt that medical priority was being given to overdose emergencies.

> "If you have a family member that you love having a cardiac emergency and we are on the way there, but we get cancelled for that [to respond to an overdose call]. Especially with the staff shortages. Now there may not be an ambulance responding to them [the original call]. We get cancelled for them, for somebody that chose to do drugs and you know, go down…. To me, personally in my opinion, that's a disservice to the population of BC, of people that are taxpayers. Who have paid for service, who have worked their whole lives. Become retirees. And needed help, and [they] get cancelled … In a perfect world there would be another ambulance attached to them, but we don't live in a perfect world. We are very short staffed the majority of the time. And, unfortunately, we are going to overdose calls where a person has chosen to do drugs and there is lots of resources for them already. That's the thing". (Participant, D009).

One participant voiced that at times she found herself comparing drug users to non-drug users, highlighting that it was difficult not to attribute opioid overdoses to poor choices that were made by patients. This highlighted the perspective of drug-users being more personally responsible for their medical condition compared to other segments of the population.

> "I think that overall, my tolerance for the population existing as they do, has gone down. It's not that I don't care. I don't want to say that they are choosing it but I think there are different choices that they could make after the fact, like get themselves into a better situation. And I know it's easier said than done, it's just like you see someone else who is genuinely struggling for their survival, say a single mom of three kids and they are dealing with stuff and they are actually fighting. And then you have that population, sometimes they don't even care. They would rather have drugs, than see their own family member alive. That part kind of shocks me". (Participant, D006).

To conclude, dealing with multiple health emergencies increased compassion fatigue among BC paramedics and further increased feelings of intolerance toward

patients on opioid overdose calls. Increased compassion fatigue manifested in two diametric attitudes and behaviours in participants. One such mentality involved paramedics emotional disengaging from patients and focusing solely on the provision of medical treatment. However, other paramedics handled increased feelings of intolerance toward overdose calls by trying to double down on making a connection and doing whatever possible to help overdose patients in the moment. An interesting subtheme emerged regarding considerations of worthiness of care between drug users verses non-drug users when medical resources are limited. Specifically, two out of five participants reported struggling with giving priority of care to drug using patients who they believe are responsible for their own medical state.

3.3. Theme 3: I Promise, I'm Just Trying to Help You.

A third theme involved increased difficulties in building rapport with overdose patients during the COVID-19 pandemic. Participants attributed several explanations for heighted challenges in building patient connections on overdose calls during the pandemic. Several participants noticed increased distrust toward the medical system among marginalized populations that use drugs during the pandemic. Participants reported it is not uncommon for marginalized populations who use drugs to be mistrusting of the medical system due to past trauma and negative past encounters.

> "A common theme, in terms of the population who do overdose, some of those don't actually trust the medical system. A lot of them actually deny opioid drug use when they do get revived from Naloxone. Many of them refuse to go to the hospital at all. Even when we offer community supports like referral programs they often deny it, based on the trauma they have faced in the health care system before". (Participant, D008).

One participant reported that this distrust was exacerbated by misinformation about COVID-19. One participant highlighted that some patients seemed to be especially fearful of paramedics, especially at the beginning when less was known about the virus.

> "During one period of time, there was a lot of hatred towards us. Some people had no issues, but some people associated us with health care and at that time there was a big conspiracy going on about vaccines and everything else. I feel like that population trusted us less, and some legitimately hated us. Like, I had bread thrown at me, on my ambulance, and a banana peel thrown on me". (Participant, D006).

Additionally, participants reported that PPE caused unique challenges in building rapport with people on overdose calls. Several participants noted that the appearance of paramedics in full PPE (i.e. gowns, face shield, and respirators) was intimidating to some patients and seemed to create a physical barrier in establishing connection. Specifically, several participants indicated that seeing paramedics in full PPE was often intimidating for patients, especially those who already had distrust of the medical system. One participant explained that overdose calls often rely heavily on connecting with the patient on a personal level to establish trust; however, PPE often impeded the ability for paramedics to connect with patients as they would prior to the pandemic.

> "It all comes back to us looking very distant for other people because everything we were wearing on us. I think this population really needs to be able to communicate with us and know what's going on and feel like we're communicating on a human basis. And I think that kind of distanced us from that. Us wearing extra things made the communication with this population a little bit worse because we just seemed really distant from what they need…. It's the type of population we have a hard time communicating with them as it is…. With all that PPE on, it just made that even worse because maybe we seemed more distant to them. They didn't want to tell us anything because of that". (Participant, D005).

All participants reported that PPE made communicating with patients more difficult, specifically when paramedics were required to wear respirators on calls. However, there were specific challenges in communicating with patients and bystanders on overdose calls. Several participants reported even prior to the pandemic that people on overdose calls can be more challenging to communicate with because of physical and mental health conditions as well as the effects of intoxication. During the pandemic, PPE often made it more difficult for patients to hear what paramedics were saying and obstructed their ability to see the facial expressions of paramedics. Several paramedics stated that PPE made communication during overdose calls especially difficult.

> "Later, when we had the respirators, we had a lot of communication issues. When we talked it was muffled and we couldn't communicate. So a lot of times when patients came up, we are trying to communicate with them and the best of times it's like 'good luck with that.' They are still dozing off, they are still hypoxic and now you have the respirator and you are trying to communicate with them. One thing with clientele in that area, they don't like repeating themselves. So they would get more combative or worked up having to repeat themselves a couple of times. Patient barrier-wise it was definitely the communication and not being able to see faces. A lot of time we have to yell through the respirator, and they are like 'why are you angry at me?' and because

> you don't have facial features to go along with what you are trying to say or how you are saying it. Sometimes things can be misconstrued. Whether you are being disrespectful or whether you are being rude. So a lot of time that had an impact on how you communicated with the patients, and the could go from a simple overdose call to a combative patient". (Participant, D009).

> "The only thing that made it difficult is communication because it was harder to hear us and harder to understand us when we wearing all that extra protective equipment on out face. Because the respirators has filters on it, it was very hard to hear us. So we had to literally yell for every patient. So that would be for everyone, than just overdose patients. It was communication barriers". (Participant, D005).

To conclude, participants reported that the ability to build rapport on overdose calls was impeded by the pandemic protocols, especially the requirement for PPE. During the pandemic, some participants indicated that distrust in the medical system was exacerbated among patients and bystanders on overdose calls. Reasons given for the increases in distrust were attributed to the propensity of medical-trauma experienced by those in marginalized populations and misinformation about COVID-19. Additionally, PPE created barriers for paramedics as the equipment made it more challenging to communicate and could look intimidating to patients and bystanders.

3.4. Theme 4: I Know I'm Late, But I Can Explain.

The fourth theme involved paramedics' experiences navigating pandemic specific barriers which caused additional delays in call response times. Prior to the pandemic, BC EHS faced challenges with staff shortages and high rates of turn over which contributed to prolonged wait times for patients. Pertaining to overdose calls, prior to the pandemic the role of paramedics began to evolve to include more options for non-acute medical services as well as addiction and mental health support for overdose patients. Given the additional care options available through paramedics, participants reported that overdose calls can be prolonged if a patient wants to pursue other referral pathways. One paramedic spoke about how the role of paramedic has shifted since she started on the job 20 years ago.

> "With overdoses and health care in general, when I first started, we were emergency paramedics. It was 'get on scene and grab your stuff and go.' Ten minutes…. Quick as possible. And now, especially as our protocols are evolving, we are doing a lot more and we are also filling in a lot because family doctors are basically non-existent and medical

> clinics are so hard to get into and the ER is backed up the wazoo. We kind of become a band aid for the medium there [overdose and addiction patients]… So originally, it was all rush, rush, rush, get into the car …. Whereas now, I take a very in-depth history because no one is coordinating this person's health care. So, I try to get as much as I can out of the patient, that way I can write a really concise list for the doctor to be like 'okay we are here for the overdose today; however, they also have kidney failure and heart disease.' So maybe we can line something else up for them". (Participant, D001).

During the pandemic, participants reported that extra sanitization procedures and PPE protocols resulted in additional delays. All participants voiced that donning PPE was the primary cause of delays when responding to calls. Unlike other first responders, paramedics were unable to don PPE in advance of calls. Donning PPE in advance of calls was not possible for paramedics for several reasons, including inability to predict what PPE would be needed for upcoming calls and inability to change into PPE while driving to the scene. As such, paramedics would often be required to wait until arriving at the scene until they were able to put on PPE. Several participants reported feeling excess pressure from onlookers at the scene while putting on PPE. One participant described feeling slightly embarrassed when arriving at acute events and having to put on PPE in front of bystanders, specifically in acute situations when patients were unresponsive, which often occurs on many overdose calls.

> "It's just there was quite a bit of a delay because of having to take the time to do extra cleaning prior to the call or when you get to the call … at the worst point, for any unresponsive individual we had to wear full PPE including gown and what not … but the thing is that you can't really do that while you're driving to the call. So then you get there and it's just like super awkward, it like 'hold up one second, I know this person isn't breathing but let me just put all my stuff on". (Participant, D006).

Having to don PPE at the scene, sometimes also caused frustration and confusion for observers. Participants reported that it was not uncommon for bystanders to voice that the paramedics were taking too long to put on PPE. As a result, some paramedics were verbally harassed while donning PPE. One participant stated that bystanders' anxiety and misunderstanding of PPE protocol occasionally lead to animosity between bystanders and paramedics.

> "I would say the biggest change was having to put on PPE when we arrived on scene and sometimes people were more panicky … they were like 'hey, what are you doing? Take your time why don't you.' They are yelling at you 'come in, come in.' They don't understand we have to put on our PPE before we enter. That definitely created some hostility

> toward first responders. We generally go from call to call. When fire department arrives, they are usually already in their PPE. We don't have the luxury of doing that because we are going from call to call. We had to just arrive on scene and put it on". (Participant, D009).

In addition to delays related to PPE, a few participants reported that the environment in which the overdose took place could also prolong calls. Specifically, two participants who often responded to overdose calls at Single Room Occupancy hotels (SROs) indicated that the conditions of the SROs would often result in more time needed to decontaminate and sanitize post-call. Given the environment, additional time was needed to ensure that proper decontamination protocol was adhered to. Participant D009, reported that the unsanitary conditions in which overdose patients can often be found in created additional challenges during the pandemic.

> "A lot of the SROs are covered in garbage and human waste and bugs. So, providing care in that environment and then afterward having to decontaminate from that effected a lot of that. I think in the beginning at least, when it was just PPE and making sure that we have bacterial filters and decontamination. Everything was prolonged. An overdose calls may take you 30 minutes to do. From administering aid to them getting up and walking away. To now it may take an hour because of PPE and decontamination and everything else". (Participant, D009).

To conclude, delays in wait times for paramedic services were extended due to the substantially greater influx of calls during COVID-19. Prior to the pandemic, BC EHS was already strained due to high rates of turnover and staff shortages in paramedics. However, the evolution of the role of paramedics in serving overdose patients has also contributed to the duration of attendance by paramedics for overdose calls since the beginning of the opioid epidemic. During the pandemic, paramedics faced unique challenges which at times caused further delays to service on overdose calls. Such delays included putting on PPE and decontamination protocols (for the paramedics and their ambulances) mandated to reduce the transmission of the virus.

Chapter 4.

Conclusion

4.1. Discussion

This qualitative study provides insight into the experiences of BC paramedics during the peak of the opioid epidemic and the COVID-19 pandemic in 2020 and 2021. Overdose calls and response have become a regular occurrence for paramedics. Thus, it has become increasingly relevant to understand factors that influence their attitudes and interactions with overdose patients. Understanding the experiences of BC paramedics is paramount in determining resources and training which could better support both paramedics and patients.

In this study, participants were asked about their experiences responding to overdose calls during the COVID-19 pandemic. Primary themes that came from these interviews were: 1) simultaneously experiencing both sympathy and decreased tolerance for overdose patients; 2) considerations of whether patients who use drugs deserve medical priority compared to patients that do not use drugs when resources are limited; 3) increased difficulty building patient rapport on overdose calls; and 4) navigating pandemic-specific barriers which caused additional delays in call response times.

4.1.1. Increases in Compassion Fatigue Toward Overdose Patients During COVID-19

Two themes all participants endorsed were increased compassion fatigue and barriers to communicating with patients due to PPE. This finding is consistent with the findings of Won and colleagues (2023) who found increased rates of compassion fatigue and PPE fatigue in American paramedics responding to opioid overdose calls during the pandemic. Participants in this study reported already experiencing declines in compassion toward overdose patients prior to the pandemic; however, all participants agreed that compassion fatigue was exacerbated by the COVID-19 pandemic.

Notably, this study found that participants simultaneously experienced both sympathy and decreased tolerance for overdose patients during the pandemic.

Interestingly, participants had mixed reactions to how they navigated waning compassion toward overdose patients. Some participants reported attempting to combat compassion fatigue by “doubling down” in their efforts to make connections with patients. However, other participants reported that decreases in compassion led them to emotionally disengage from patients and focusing only on doing what is medically necessary. Reports of emotional disengagement are consistent with the Pines and Maslach dimensions of Burnout Syndrome (BOS). Specifically, disconnection from patients can be seen as evidence of emotional exhaustion (Pines & Maslach, 1978). Maslach and Leiter (2016) also emphasize that the exhaustion dimension of BOS has been described as a “wearing out, loss of energy, depletion, debilitation, and fatigue.”

Another noteworthy result includes how increased compassion fatigue appeared to amplify cynicism and negative attitudes towards overdose patients. These findings are demonstrative of the depersonalization domain of burnout syndrome, in which workers display negative or inappropriate attitudes towards clients, irritability, loss of idealism, and withdrawal (Maslach & Leiter, 2016). Negative and cynical views toward overdose patients manifested as comments about drug-users being less worthy of emergency care services in comparison to non-drug users. Participants who expressed cynicism indicated belief that drug-users are responsible for their condition, would not listen to them regarding medical advice, and drain medical resources compared to other types of calls. Participants who spoke about emotionally detaching were the same participants who voiced viewpoints about the personalizing of overdose patients. Pines and Maslach’s model would suggest that those reporting both emotional exhaustion and depersonalization may be experiencing more severe symptoms of burnout than those who are only experiencing emotional exhaustion.

4.1.2. Difficulties Building Rapport on Overdose Calls During the Pandemic

The second theme which all participants’ comments appeared to illustrate concerned the unique challenges in building rapport with overdose patients during the pandemic. Many participants attributed difficulties establishing rapport due to patients’ distrust of the medical system and trouble communicating with PPE. The efficacy of pre-hospital emergency services is heavily dependent on the effective communication of care providers (Aengst et al., 2022). This necessity is especially true of paramedics

working with opioid overdose patients, many of whom are already leery of authorities and the medical system. People who use drugs report experiencing high rates of mistreatment, judgement, and stigmatization when engaging with health care services (Muncan et al., 2020, McNeil et al., 2014). While the benefits of PPE cannot be ignored, masks and respirators created difficulties in both verbal and non-verbal communication between healthcare workers and patients (Aengst et al., 2022; Pathan et al., 2022).

Participants reported that PPE created challenges in displaying empathy and connecting with patients. Explicitly, participants reported that PPE muffled vocalizations and that they often had to resort to yelling to communicate with patients when wearing respirators. Additionally, PPE obscured facial features which made it difficult for patients to interpret non-verbal communication. Barriers to communication created unique challenges with patients on overdose calls who may have already been experiencing confusion, disorientation, and agitation due to the effects of drugs. Some participants reported that overdose patients who were already agitated became more agitated because of having to repeat themselves or at not being able to hear what paramedics were saying. This failure in communication sometimes led patients to misinterpret the paramedics' commentary and become increasingly frustrated and hostile towards paramedics on calls.

4.2. Limitations

There are several limitations to this research. First, the results of this study will be limited to the sample of paramedics who participated. As participants were paramedics employed in the Lower Mainland of BC during the pandemic (where the highest proportion of deaths related to illicit drug toxicity occur within the province; see BC Coroner's Service, 2022), the themes reflected in the analysis may not be relevant to paramedics that practice in other parts of the province or in other parts of Canada, where there are fewer overdose calls. However, it should be noted that there existed significant overlap in the results of this study and the findings of Won and colleagues' (2023) study of attitudes of American paramedics on opioid overdose calls during the pandemic. Participants in both studies reported increases in emotional exhaustion, burnout symptoms, and challenges adhering to PPE mandates while providing effective patient care.

Further, it should be noted that there is a large degree of heterogeneity amongst overdose calls. Thus, there are many contextual factors that may impact paramedics' attitudes and interactions with overdose patients. These varied factors may include, but are not limited to, the result of the call (i.e., fatal verses nonfatal overdose); the intentionality of overdose (i.e., suicide attempt versus accidental overdose); responsiveness of the patient at time of call; and whether the patient is being treated for an overdose for the first time or if they have been treated by paramedics, including the same paramedic, on multiple occasions.

Additionally, the opioid epidemic has affected Canadians across all socioeconomic classes. As such, paramedics working with overdose patients who belong to marginalized, unhoused, and addicted groups, may have different experiences than those responding to opioid overdoses in other populations. As not all participants will have responded to the same overdose calls, it is possible that paramedics with more negative experiences on calls (such as calls that have resulted in a fatality or calls that involve verbal abuse, aggression, and/or violence towards the paramedic) may report more negative attitudes and interactions than those who have had fewer negative experiences.

Additionally, as this is a retrospective study, participants were asked to reflect on their experiences serving overdose calls over the last two years. It is possible that the passage of time may impact participants' ability to recall their behaviors and thoughts on past overdose calls. Furthermore, it is possible that participant responses may be influenced by a social desirability bias. Participants may feel compelled to report more positive attitudes toward drug users when speaking to an interviewer, than if they were to respond anonymously. The desire to appear as a compassionate caregiver may cause participants to respond in a way that they perceive to be socially desirable as opposed to reporting their true attitudes regarding patients on overdose calls.

4.3. Applications and Future Directions

Despite the recent decrease in cases of COVID-19 and the easing of provincial health restrictions, the number of opioid overdose deaths continued to rise. From January to June 2022, the BC Coroner's Service reported 1,095 overdose deaths attributable to illicit drugs - the highest number of deaths ever recorded in the first six

months of a calendar year in British Columbia (BC Corner's Service, 2022). Overdose deaths have remained above pre-pandemic levels since this time (Public Health Agency of Canada, 2023). Paramedics continue to be on the front lines providing medical services for opioid overdose patients while navigating co-occurring threats to the health care system and its resources.

The COVID-19 pandemic provided an opportunity to examine how the opioid epidemic and care of overdose patients may be impacted when paramedics and the health care system are put under additional, significant strain. It is beneficial not only for the wellbeing of paramedics, but also for the wellbeing of the patients that they serve, that we better understand the factors that may influence attitudes towards drug users and the care provided on opioid overdose calls. It is important to understand how public health emergencies, like COVID-19, intersect with the opioid epidemic and impact paramedical services to overdose patients. Having better insight into this situation may assist health agencies and emergency services to better serve opioid overdose calls during similar cooccurring health crises in the future. Specifically, such information may guide agencies in developing emergency response plans for future health crises that take into consideration how increases in workload may impact responders' attitudes towards drug users and the care provided on opioid overdose calls. Such emergency response plans could include providing additional training and psychological services to assist frontline workers to recognize and effectively cope with symptoms of burnout, which may in turn help to address negative attitudes towards drug users during times of increased workload. Additionally, such information may encourage health agencies to explore emergency response plans that include strategies that focus on overdose prevention and harm reduction and thus do not directly draw on paramedical services. For example, this may include increasing public messaging around harm reduction strategies, such as the promotion of drug testing sites, increasing funding to supervised consumption facilities, increasing access to safe supply, and decriminalization of small amounts of illicit drugs to prevent patients from accessing care out of fear for legal repercussions.

To date, there has been limited research on how the increase in overdose calls has impacted paramedics' attitudes and interactions with patients on overdose calls during the pandemic. This study attempted to provide insight into the experiences of paramedics who have been on the front lines of these intersecting public health

emergencies. Given the novelty of this study, the results of this research may be useful in guiding future research in this area. As most of the research on paramedics is developed by those who are not paramedics, it is possible that interviewing paramedic participants may uncover issues that have not yet been studied. More specifically, the themes that are identified in this study may be useful for inspiring research based on the first-hand experiences of paramedics in the field. Additionally, this research may help inform public policies and initiatives which could improve responses to overdose calls and better support the mental health of paramedics. Further, this study may guide the creation of educational and training programs and procedures for paramedics to better handle substance and addiction-related calls.

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Appendix A.

Interview Questions

This study focuses on how paramedics have been impacted by the increase in opioid overdose calls during the COVID-19 pandemic. During the interview we will be asking you about your experiences responding to opioid overdose calls prior-to and during the COVID-19 pandemic. Your feedback is very important to us to help us understand how the increase in opioid overdose calls are affecting BC paramedics and their ability to provide care for overdose patients.

Your participation in the interview is voluntary. You do not have to answer any questions you do not want to answer, and you can stop your participation at any time and ask that your answers be withdrawn. Your responses will be confidential and will only be reported in summary form. Your identity will not be linked to your responses and any information that would link your identity to your response will be removed from the dataset. The information that you provide will not be shared with your employer and your employer will not be made aware of your participation in this study.

This interview is being recorded using SFU Zoom. When recording via SFU Zoom, three files are automatically generated - 1) an audio file, 2) an audio/video file, and 3) a transcription file. To protect your anonymity, only the audio and transcription files will be kept for data analysis. The audio and transcription data will be identified by participant code. The audio/video file will be deleted from the server within 24 hours.

Do you have any questions? Do you agree to participate under these conditions?

ADMINISTRATION OF MEDICAL CARE TO OVERDOSE PATIENTS

a. What COVID-19 safety protocols did BC EHS implement for paramedical service during the pandemic (e.g., PPE, special equipment, sanitization procedures, etc.)?

b. Did any of these protocols make it more challenging to administer medical treatment to overdose patients? If YES, explain.

a. What did you find most challenging about administering medical treatment to patients on opioid overdose calls?

b. Had what you found most challenging about responding to opioid calls changed during the COVID-19 pandemic? If YES, explain how this has changed.

Have the challenges in administering medical treatment during the pandemic impacted your motivation (e.g., eagerness, enthusiasm, drive, etc.) to treat overdose patients? If YES, Explain.

INTERACTIONS WITH OVERDOSE PATIENTS

Did your encounters/interactions with overdose patients changed during the COVID-19 pandemic? If YES, explain how.

Did changes in encounters during COVID-19 change your attitudes towards overdose patients? If YES, explain how.

Have changes in encounters with overdose patients changed your view of your job? Either during COVID or in general. If YES, explain how.

IMPACT ON PARAMEDIC WELL BEING

a. Did your paramedic work during the COVID-19 pandemic impacted your physical health?

b. Has the rise in responding to opioid related calls impacted your physical health?

c. Do you think that dealing with these health crisis at the same time has impacted your health?

a. Has your paramedic work during the pandemic impacted your mental health?

b. How much has the rise in responding to opioid related calls impacted your mental health?

Do you think that dealing with these health crises at the same time has impacted your health?

Has this influenced how you view of your job?

RECOMMENDATIONS

Do you have any recommendations for change within BC Ambulance that would help to support your ability to respond to opioid overdose calls (e.g., System changes, practice changes, support)?

Do you have any recommendations for change within BC Ambulance that would help to support your wellbeing on the job while responding to opioid overdose calls?

Do you have any suggestions to the civic or provincial governments about the drug policy.

Is there anything that we have not spoken about that you would like to add.