

**BC CORONERS SERVICE DEATH REVIEW PANEL:
A REVIEW OF ILLICIT DRUG OVERDOSES**

REPORT TO THE CHIEF CORONER OF BRITISH COLUMBIA

April 5, 2018

PREFACE

On October 11, 2017, the British Columbia Coroners Service (BCCS) held a death review panel on illicit drug overdose deaths.

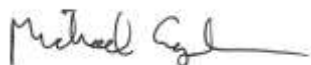
In the 19-month period reviewed, 1,854 people died of illicit drug overdoses. The circumstances of their deaths provided panel members with valuable information to consider in the course of determining what further could be done to prevent illicit drug overdoses and overdose deaths. This report is dedicated to the families, friends and communities who lost loved ones.

Panel support was provided by BCCS staff. Cara Massy provided administrative support and Carla Springinotic and Andrew Tu prepared the case review analysis and background research which formed the basis of the panel discussions, findings and recommendations.

I would like to thank the panel members for sharing their expertise, bringing the support of their respective organizations and participating in a collaborative discussion. I believe the panel has generated actionable recommendations that I am confident will contribute to addressing illicit drug overdose deaths in British Columbia (B.C.).

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Dr. Taj Baidwan – B.C. Coroners Service
Robert Bruce – Ministry of Social Development & Poverty Reduction
Dr. Jane Buxton – B.C. Centre for Disease Control
Assistant Commissioner Jim Gresham – RCMP
Erin Gunnarson – Ministry of Public Safety and Solicitor General - Corrections Branch
Dr. Reka Gustafson – Vancouver Coastal Health
Dr. Bonnie Henry – Office of the Provincial Health Officer
Dr. Trina Larsen Soles – Doctors of B.C.
Dr. Scott MacDonald – Providence Health Care's Crosstown Clinic
Jennifer McCrea – Ministry of Education
Dr. Ailve McNestry – College of Physicians and Surgeons of B.C.
Dr. Robert Parker – First Nations Health Authority
Deputy Chief Laurence Rankin – Vancouver Police Department
Alex Scheiber – Ministry of Children and Family Development
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Bill Small – Ministry of Public Safety and Solicitor General - Corrections Branch
S/Sgt. Bill Spearn – Vancouver Police Department
Dr. David Unger – College of Physicians and Surgeons of B.C.
Dr. Evan Wood – B.C. Centre on Substance Use
Michele Wong – Ministry of Mental Health and Addictions

On behalf of the panel, I submit this report and recommendations to the chief coroner of B.C.



Michael Egilson
Chair, Death Review Panel

EXECUTIVE SUMMARY

In April 2016, a significant increase in drug-related overdoses and overdose deaths in British Columbia prompted the B.C. Provincial Health Officer to declare a public health emergency. A provincial task force worked diligently to identify and implement strategies to address the illicit drug overdose crisis. Despite these intensive efforts, illicit drug overdose deaths continue to increase in B.C., with an average of almost four illicit drug overdose deaths per day in 2017. These deaths are preventable.

These deaths have occurred across the province and have had a tragic impact on the decedent's families, friends and community. In addition to those who died, thousands more individuals have experienced an overdose and some have been left with permanent, devastating health impacts.

The issue of drug use in society is complex and long-term solutions to the current level of overdoses deaths will not be simple. To better understand overdose deaths and identify some practical shorter-term public safety and prevention opportunities, a death review panel appointed under the *Coroners Act* was held in October, 2017. The panel was comprised of professionals with expertise in drugs and addictions, medicine, public health, regulatory practices, Indigenous health, child welfare, education, corrections and law enforcement.

The circumstances of 1,854 people who died of an illicit drug overdose between January 1, 2016 and July 31, 2017, were reviewed in aggregate. Additionally, data for two comparative groups (January – July 2016 and January – July 2017) were analyzed to see if there were any significant changes in overdose deaths over time. Research literature and statistics related to overdoses were also reviewed.

The review found that:

- A substantial number of overdose deaths occurred among persons with recent health care and/or recent or previous B.C. Corrections involvement;
- The vast majority of overdose deaths occurred among persons who used substances regularly;
- Most overdose deaths occurred among persons using alone;
- The majority of overdose deaths occurred in private residences;
- The identification of illicit fentanyl in overdose deaths continues to rise;
- Many of the decedents had sought treatment services in the past and experienced relapses;
- Opioid agonist therapies are an effective component of an opioid use disorder treatment continuum; and,
- There are no provincial regulations for evidence-based standards for addiction treatment.

The panel identified three key areas to reduce illicit drug overdose deaths:

1. The need to provincially regulate and appropriately oversee treatment and recovery programs and facilities to ensure that:
 - a. they provide evidence-based, quality care; and,
 - b. that outcomes are closely monitored and evaluated.
2. The need to expand access to evidence-based addiction care across the continuum including improved Opioid Agonist Therapies (OAT) and injectable Opioid Agonist Therapies (iOAT) access as well as full spectrum of recovery supports.
3. The need to improve safer drug-use through the creation of accessible provincial drug checking services using validated technologies.

These findings are the basis for the following recommendations put forward to the chief coroner by the panel.

Recommendation 1: Ensure Accountability for the Substance Use System of Care

Priority actions identified by the Panel are:

- By April 2019, the Ministry of Health and the Ministry of Mental Health and Addictions in collaboration with the Regional Health Authority CEOs will establish dedicated clinical and operational leadership groups dedicated to addiction services within each of the five regional health authorities.
- By September 2019, the Ministry of Health and the Ministry of Mental Health and Addictions in collaboration with First Nations Health Authority will develop and or revise provincial regulations for public and private addiction treatment facilities and services to set standards for provision of evidence-based treatment and require that these programs be systematically evaluated and monitored to ensure compliance.
- By April 2019, the Ministry of Health and Ministry of Mental Health and Addictions will establish a provincial registry of licenced, regulated addiction programs and facilities.
- By September 2018, the Ministry of Mental Health and Addictions will consult and engage on an ongoing basis with persons who use substances, persons in recovery and affected families in the planning for addiction systems of care and adhering to the principles of cultural safety and humility.

Recommendation 2: Expand Opioid Agonist Treatment and Assessment of Substance Use Disorders

Priority actions identified by the Panel are:

- By April 2019, the Ministry of Health and Ministry of Mental Health and Addictions in partnership with health authorities will support physicians within emergency departments, hospitals and community settings to assess patients for substance use

disorders, and develop and implement referral mechanisms to link patients at risk of overdose to evidence-based treatment services.

- By April 2019, the Ministry of Mental Health and Addictions and the Ministry of Health in partnership with health authorities will invest in health care provider training programs (e.g. continuing medical education, medical student training, fellowships) and support services to ensure the availability of Opioid Agonist Therapies (OAT) and injectable Opioid Agonist Therapies (iOAT) for treatment of persons with opioid addiction not responsive to oral OAT, or at risk of overdose.

Recommendation 3: Expand Drug Use Safety Options

Priority actions identified by the Panel are:

- By September 2018, B.C. Corrections in collaboration with the Provincial Health Services Authority and regional health authorities will ensure those released from incarceration have access to Take Home Naloxone kits, are aware of how to access drug checking services, and are linked to the spectrum of addiction services in their community, including Opioid Agonist Therapy.
- By April 2019, B.C. Corrections, in collaboration with the health authorities will ensure those on community supervision will have access to Take Home Naloxone kits, and are aware of how to access drug checking services, and, for sentenced offenders with identified addiction needs, are referred to available evidence-based addiction treatment.
- By April 2019, the Ministry of Mental Health and Addictions will establish and evaluate community based drug checking services.
- By September 2018, the Ministry of Health will ensure point of care access to PharmaNet medication information for all prescribers and dispensers of opioid medications and require prescribers and dispensers to check PharmaNet for **at risk use**.
- By September 2018, the Ministry of Health will ensure access to PharmaNet medication information for all regulatory Colleges¹ of health care professionals prescribing and dispensing opioid medications.

¹ Includes: the College of Physicians and Surgeons of B.C., the College of Registered Nurses of B.C., and the College of Pharmacists of B.C.

LIFE STORIES

The continued toll of unintentional overdose deaths has devastating effects on the families, friends and communities of the deceased. Although this review looks at overdose deaths in aggregate, the people who died were individuals whose lives, hopes and futures were changed by addiction or drug use.

The following two vignettes provide actual examples (the names have been changed) of these deaths and are representative of many of the circumstances found throughout the review which form the basis of the report's recommendations.

John's story

John was a young man who worked in the trades and had a history of regular alcohol use and heroin use. He had recently been released from a correctional facility and was living in a halfway house. John was trying to get his life back on track, had stopped using drugs, and was planning to find work and enter drug treatment.

On the night of his fatal overdose, John relapsed, and used heroin for the first time following his release from a correctional facility. The B.C. Coroners Service investigation into his death revealed that John had been smoking heroin with a friend the evening before his death. While smoking what was thought to be heroin the friend had an overdose. Staff at the halfway house were notified of the overdose, 9-1-1 was called and the police and ambulance attended. John's friend was taken to hospital for emergency treatment and monitoring.

While his friend was being taken away by ambulance John spoke with staff at the home as well as the police. John was noted to be stumbling and appeared intoxicated. John returned to his room to sleep.

Early the next morning, after returning from hospital, John's friend went to check on him. John was found unresponsive in bed. John was pulled off the bed; the friend started to do CPR and attempted to administer naloxone, but this was not successful. Although a naloxone kit was available, neither John nor his friend was familiar with how to use it. Tragically, John could not be revived.

Post-mortem testing revealed that John had died of a fentanyl overdose and methamphetamine was also detected.

Angus's story

Angus was a middle-aged, single man who worked in the tech industry. He had a history of chronic nerve pain, which he attempted to manage by heavy use of alcohol and cannabis. At his last doctor's visit Angus had insisted that his prescription pain medications be increased and threatened that if he didn't get more medications he would use heroin.

Angus's family believed that he only recently started to self-medicate using illicit drugs when prescription medications were not sufficient. Angus was known to use crack cocaine on weekends with friends, but primarily used cannabis during the work week. In addition to chronic pain, Angus also experienced depression and anxiety.

The B.C. Coroners Service investigation into his death revealed that on the night of his death, Angus was using drugs with a friend. Angus then obtained more drugs, which were thought to be crack cocaine from a drug dealer. The friend reported that Angus passed out and was thought to be enjoying the high. The friend also fell asleep and upon waking several hours later noticed Angus was in the same position, and when touched, was cold and unresponsive. Emergency Health Services were called, but on their arrival it was evident that Angus was deceased.

Toxicology results showed heroin, cocaine, fentanyl and antidepressants present.

The stories of John and Angus identify a number of themes that were noted in many of the deaths reviewed at the panel:

- *Opioid use after a period of abstinence is very dangerous as the person taking the opioid will have less tolerance to the drug than previously and is more susceptible to overdosing;*
- *Fentanyl has been detected in an increasing number of overdose deaths; and,*
- *The illicit drug supply is highly variable, unpredictable, and therefore the individual may not know the contents or strength of what they are taking.*

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INTRODUCTION

In April 2016, a significant increase in drug-related overdoses and deaths in B.C. prompted the Provincial Health Officer to declare a public health emergency. Despite intensive efforts, B.C. data show that illicit drug overdose deaths continue to increase and indicate that between January 1, 2016, and July 31, 2017, there were a total of 1,854 illicit drug overdose deaths. Of these deaths, 978 overdoses occurred in 2016, and a further 876 illicit drug overdose deaths occurred up to July 31, 2017 (B.C. Coroners Service, August 2017).

- For 2016, the illicit drug overdose mortality rate was 20.6 per 100,000 population; and,
- For 2017, the illicit drug overdose mortality rate is 31.3 per 100,000 population, a 52% increase from 2016.

A significant shift in the number of illicit drug overdose deaths occurred in November 2016, at which time the average number of deaths per month almost doubled from 68 deaths between January and October 2016, to 135 deaths between November 2016, to July 2017. Experts are unclear as to what caused this increase in deaths.

July 2017 preliminary data indicated that there were 106 deaths that month which equates to 3.4 deaths per day in B.C. from an unintentional illicit drug overdose (B.C. Coroners Service, August 2017).

For every fatal overdose there are approximately 25-50 non-fatal near miss events (Darke & Farrell, 2014).

The BCCS recognizes that the recent increase in drug overdose deaths is a complex issue which will require ongoing coordinated efforts to resolve. To better understand where, how, and why these deaths are occurring, the BCCS established a specialized drug investigative team and implemented an enhanced investigative protocol in order to collect key information about drug overdose deaths. As well, the BCCS included health and services information to identify additional factors that would support public health prevention efforts.

Although there are many systemic factors that were beyond the scope of this death review panel, the panel identified some specific actions that could be readily implemented to improve public safety and reduce the number of drug overdose deaths.

DEATH REVIEW PANEL

A death review panel is mandated² to review and analyze the facts and circumstances of deaths to provide the chief coroner with advice on medical, legal, social welfare and other matters concerning public health and safety and prevention of deaths. A death review panel may review one or more deaths before, during or after a coroner's investigation, or inquest.

² Under the *Coroners Act*

Panel members were appointed by the chief coroner under Section 49 of the *Coroners Act* and included professionals with expertise in public health, health services, substance use, mental health, aboriginal health, education, income assistance, child welfare, regulatory colleges, corrections and policing.

Regardless of their employment or other affiliations, individual panel members were asked to exercise their mandate under the *Coroners Act* and express their personal knowledge and professional expertise. The findings and recommendations contained in this report need not reflect, or be consistent with, the policies or official position of any other organization.

In the course of reviewing illicit drug overdose deaths that occurred in 2016-2017, the panel reviewed:

- BCCS investigative findings and the [Brandon Jansen inquest](#) findings;
- Information provided by panel members;
- Environmental, social and medical factors associated with the deaths;
- Possible trends or themes;
- The current state of related public policy and strategies; and,
- Existing challenges.

The panel collectively identified actions for improving public health prevention processes with respect to illicit drug overdose deaths.

DATA LIMITATIONS AND CONFIDENTIALITY

The BCCS operates in a live database environment. The preliminary data presented within this review is based on open and closed BCCS case files as of July 31, 2017. It includes analysis of BCCS investigative notes, toxicology results, medical records and other documents collected or protocols completed during the course of a coroner's investigation. Some of the deaths were in the early stage of investigation and, therefore, the information was incomplete. This review includes qualitative and quantitative findings in an attempt to provide a picture of overdose deaths in B.C.

This review found that other provinces and countries use different definitions to identify drug overdose deaths; this makes direct comparisons difficult.

Provisions under the *Coroners Act* and *Freedom of Information and Protection of Privacy Act* allow for the BCCS to disclose information to meet its legislative mandate and support the findings and recommendations generated by the review process. For the purposes of this report, information is presented in aggregate. Details that could identify the individuals have been omitted to respect the privacy of the person who died and their families. The BCCS is sensitive to the privacy of individuals and families that it serves and proceeds with caution when reporting findings.

All **bolded** terms in this report are defined in the glossary.

PART 1: B.C. CORONERS SERVICE REVIEW FINDINGS

This report includes general statistical information of 1,854 overdose deaths occurring between January 1, 2016, and July 31, 2017, as well as a more detailed comparative review of 615 deaths over two time periods (March 1- May 31, 2016, and March 1- May 31, 2017) '**the comparative sample**'. The purpose of comparing these two specific time periods was to determine if there were changes over time based on the geographic or physical location, decedent drug use characteristics or changes in toxicology findings.

The 615 overdose deaths in the comparative sample represent 33% of all illicit drug overdose deaths occurring from January 1, 2016, to July 31, 2017.

The comparative sample findings indicate:

- Individuals who use illicit drugs regularly were more likely to die from an overdose than occasional users.
- More overdose deaths occurred at private residences.
- More overdose deaths occurred among persons using illicit drugs alone than with others.
- A high proportion of individuals experiencing fatal overdoses accessed medical services³ within 12 months prior to the overdose.
- Many decedents had accessed treatment in the past for substance use.
- Fentanyl is being detected in an increasing percentage of illicit drug deaths.
- Regional variations continue among Health Authorities and Health Service Delivery Areas. Large urban centres (populations greater than 100,000) experience more overdose deaths than small or medium centres or rural areas.
 - Vancouver then Surrey experienced the highest number of overdose deaths.

There was a significant increase in illicit drug deaths in November 2016. The comparative sample (March 1- May 31, 2016) and after (March 1 – May 31, 2017) showed no differences among overdose deaths by age, sex, **Indigenous** identity, and place of injury.

³ Medical services includes: emergency department, hospital, or community physician visit.

A. THE DECEDENT

Sex



For the comparative sample, 81% of illicit overdose deaths were among males (n=500), and 19% of illicit overdose deaths were among females (n=115).

The higher percentage of male overdose deaths is consistent with the literature. Drug use is higher among males; males have patterns of more intensive or regular patterns of use (European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), 2017).

Age

For the comparative sample, mortality rates were higher for persons aged 30 to 59 years.

U.S. data (2013 to 2014) shows statistically significant increases in drug overdose deaths for both males and females, persons aged 25-34 years, 35-44 years, 55-64 years and >65 years (Rudd, Aleshire, Zibbell, & Gladden, 2016).

Indigenous Persons

For the comparative sample, 64 **Indigenous** persons died of an illicit drug overdose. Indigenous people represented 10% of overdose deaths; an overrepresentation based on population size.



Indigenous females are at higher risk of overdose death compared to non-Indigenous females.

First Nations in B.C. comprise 3.4% of the population (FNHA, 2017). A recent report on overdose deaths among First Nations people reported that First Nations people are overrepresented in illicit drug overdose deaths based on population percentages (FNHA, 2017).

Health Authority

Regional variations for illicit overdose death were noted at the Health Authority and Health Service Delivery Area. The comparative sample revealed that a greater number of deaths occurred in Fraser Health Authority, then Vancouver Coastal (VCH), then Interior and Island. Northern Health had the fewest number of overdose deaths (see Table 1).

Table 1: Number and Rate of Illicit Drug Overdose Deaths by Health Authority, Jan 1, 2016-July 31, 2017

| | Jan 1 to Dec 31, 2016 | | Jan 1 to July 31, 2017 | |
|-------------------|-----------------------|-----------------------------|------------------------|-----------------------------|
| | # deaths | Rate per 100,000 population | # deaths | Rate per 100,000 population |
| Fraser | 329 | 18.4 | 291 | 27.5 |
| Interior | 161 | 21.7 | 146 | 32.9 |
| Island | 160 | 20.6 | 138 | 29.9 |
| Northern | 52 | 18.5 | 31 | 18.0 |
| Vancouver Coastal | 276 | 23.5 | 270 | 38.9 |
| Provincial | 978 | 20.5 | 876 | 31.0 |

As well, for the comparative sample, the four communities with the highest number of overdose deaths were: Vancouver, Surrey, Victoria and Abbotsford (see Table 2).

Table 2: Number of Overdose Deaths by Township

| | March – May 2016 | March – May 2017 | Total Overdose Deaths |
|------------|------------------|------------------|-----------------------|
| Abbotsford | 11 | 19 | 30 |
| Surrey | 25 | 47 | 72 |
| Victoria | 19 | 24 | 43 |
| Vancouver | 27 | 101 | 128 |

March - May 2016 versus March - May 2017

- *The number of overdose deaths increased by more than 3 times in Vancouver Coastal Health*
- *The number of overdose deaths increased by 1.5 to two times in Interior, Island and Fraser Health Authorities*
- *Overdose deaths decreased in Northern Health*

Population Centres

For this review, injury overdose locations were categorized based on population size.

For the 2016-2017 time period, 67% of overdose deaths occurred in large urban centres (more than 100,000 residents). This is consistent with B.C.'s population distribution, as approximately 85.4 percent of the B.C. population lives in urban areas (B.C. Stats 2006 Census).

B.C. data, January 1, 2016 - June 30, 2017 indicates that there has been no shift in the distribution of overdose deaths among these geographic categories. Even though overdose deaths have been increasing in the last few years, the same proportion is occurring in each of these categories (see Table 3).

Table 3: Overdose Deaths by Size of Population Centre

| Time Period | Small Urban Centre Pop. 1000-29,999 | Medium Urban Centre Pop. 30,000-99,999 | Large Urban Centre Pop. 100,000+ | Rural Area |
|----------------------------------|---|--|--|------------|
| January 1, 2016 to June 30, 2017 | 8% | 14% | 67% | 10% |

These findings appear consistent with the literature. An Ontario review found that 90% of persons who died of an overdose lived in an urban area (Gomes et al., 2014).

Injury Location of Overdose Deaths

Illicit drug overdoses may occur at any location; however, the ability to obtain assistance in the event of an overdose is dependent on whether the person is in a private location, is alone, or is with others who can recognize the signs of an overdose, provide assistance or call 911.

For the comparative sample, injury location of overdose deaths was consistent with provincial data January 1, 2016, to July 31, 2017 (see Table 4).

- Most overdose deaths occurred at a residence;
- Proportionately, few overdose deaths occurred outside; and,
- No overdose deaths occurred on a school, college or university campus (see Table 4).

Approximately 9% of decedents were homeless.

Table 4: Physical Location Where Overdose Injury Occurred

| Injury Location Type | March 1 – May 31, 2016 | March 1 – May 31, 2017 |
|--|------------------------|------------------------|
| Private Residence (includes garage, trailer homes) | 68% | 58% |
| Other Residences (includes rooming house, hotel/motel, homeless shelter, single room occupancy (SRO), drug recovery house, halfway house, group home, senior residence) | 19% | 27% |
| Public Building (includes washroom, restaurant, occupational setting, hospital, medical clinic, correctional facility) | 4% | 4% |
| Outside (includes parking lot, park, sidewalk, school ground) | 8% | 10% |
| Other (includes unknown, unspecified place) | 1% | 1% |
| Total | 100% | 100% |

This review found that there were a higher percentage of deaths occurring in 'Other Residences' in Vancouver Coastal (44%) compared to the other health authorities (17%).

Frequency of Illicit Drug Use

For the comparative sample, files were analyzed for indications about frequency of drug use. Information was obtained through investigative notes (coroner interviews with decedent's friends, family or medical providers or other persons involved in the decedent's life), scene investigation, and physical examination of the deceased person.

Four categories denoting frequency of use were identified:

1. **Regular use** = daily or regular use of an illicit substance with negative health impacts or social effects.
2. **Occasional / Recreational** = occasional use of an illicit substance (e.g. weekend use only, once a month etc.).
3. **Never (Not recent)** = no evidence of drug use within a year of death (e.g. period of abstinence).
4. **Unknown** – frequency of use could not determine the use was either 'regular' or 'occasional/recreational'.

This review of 615 overdose deaths identified differences in frequency of illicit drug use (see Table 5).

- More deaths occurred among persons with a pattern of regular illicit drug use (80%).
- Approximately 9% of overdose deaths occurred among persons with a pattern of occasional or recreational drug use.
- In 10% of overdose deaths the use pattern could not be determined.

Table 5: Frequency of illicit drug use

| | Regular | Occasional/ Recreational | Never (Not Recent) | Unknown⁴ | Total Deaths |
|-------------------------------|----------------|-------------------------------------|-------------------------------|----------------------------|-------------------------|
| March 1 – May 31, 2016 | 156 (78%) | 32 (16%) | 1 (1%) | 10 (5%) | 199 |
| March 1 – May 31, 2017 | 334 (80%) | 26 (6%) | 2 (1%) | 54 (13%) | 416 |
| Total | 490 (80%) | 58 (9%) | 3 (1%) | 64 (10%) | 615 |

⁴ The increase in 'unknown' use is due a higher proportion of open investigations. For some individuals the frequency of drug use could not be determined from the existing investigative notes.

Illicit Drug Use in Presence of Others

Investigative notes and case details were analyzed for evidence of drug use while others were present. This comparative sample found that more than half (52%) of overdose deaths occurred among persons using illicit drugs alone. For the comparative sample, there were a higher percentage of individuals using alone in 2017 (57%) compared to 2016 (43%).

A recent focus group conducted by Fraser Health Authority found that persons may use drugs alone for a number of reasons including:

- Stigma:
 - feeling embarrassed, shame and guilt;
 - fear of being judged/looked down upon; and,
 - feeling there is a lack of empathy for people who use drugs.
- Too proud to ask for help ('I could handle it myself', 'I know what I'm doing'); or,
- Did not wish to share drugs with others (Fraser Health Authority, 2017).

As well, some persons may prefer to use drugs in the comfort and quiet of their own home (Buxton, J. 2017).

The risk of opioid overdose death is greater for persons who use illicit drugs alone. They may be unable to recognize danger signs and call for help. Some people who use drugs alone do so because of fear of being stigmatized. It is important to use non-stigmatizing language so that persons who use substances feel more comfortable about disclosing drug use, seeking assistance or support (BC Centre for Disease Control, 2017).

The comparative sample also revealed that one-quarter (25%) of decedents had used the illicit substance in the presence of others. Some investigative notes indicated that persons with the decedent:

- Did not recognize the signs of an overdose (snoring, unresponsiveness);
- Delayed contacting 9-1-1; they provided CPR, and/or administered naloxone;
- Were unable to assist the decedent due to their own impairment; or,
- Called for help, but left the scene prior to emergency services arrival.

For some decedents (22%), it could not be determined if the person was using substances alone or with others. Some decedents were found after a wellness check; because of concerns when the decedent could not be contacted; were not responding to texts or calls; or, had not been seen recently.

It is important to note that many decedents were living with a family member, friend or roommate at the time of death. Some investigative notes revealed that persons were in the residence at the time of death but they were unaware of the drug use or thought that the decedent was 'clean and sober'.

B. TOXICOLOGY FINDINGS

The literature suggests that the drug overdose epidemic has escalated, with the rise in deaths related to illicitly manufactured, synthetic opioids such as fentanyl, and increase in the availability of counterfeit pills containing varying amounts of fentanyl and fentanyl-related compounds (CDC, August 2016) (NIDA, March 2017).

In B.C., toxicology testing is routinely completed for all drug overdose deaths. For this review, drug testing information from a variety of sources found that the illicit drug supply was highly variable, unpredictable, and therefore more dangerous for the user:

- Fentanyl is being detected in an increasing percentage of illicit drug deaths. In 2016, 67% of suspected illicit drug overdose deaths had fentanyl detected. Data up to July 2017 suggest that this percentage has increased to 81%.
- Polysubstance⁵ use is common. Other substances frequently detected on toxicology include cocaine, methamphetamines/amphetamines and heroin.

Toxicology results for alcohol were available for 615 of the decedents. Alcohol was found in over 40% of the results.

The literature indicates that combining opioids with alcohol and sedative medications increases the risk of respiratory depression and death, and combinations of opioids, alcohol and sedatives are often present in fatal overdoses (WHO, 2014).

Polysubstance Use

Although fentanyl is being increasingly detected, polysubstance use remains high. In 2016, polysubstance use was identified in 81% of the overdose deaths where toxicology results were available for the death panel review. Polysubstance use was identified in 79% of the overdose deaths in 2017 where toxicology results were available.

In B.C., the high rates of polysubstance use (e.g., cocaine and heroin) among opioid-dependent individuals highlights the needs for combining opioid agonist or antagonist treatments with other therapies (BC Centre on Substance Use, 2017) (Nuijten et al., 2016).

Suboxone (Buprenorphine and Naloxone) Prescription

This review found no decedents with buprenorphine present on toxicology tests. This is consistent with the evidence demonstrating the safety of buprenorphine/naloxone and the role this medication in preventing overdose deaths.

⁵ Defined as two or more illicit drugs found on toxicology tests; includes opioids, cocaine, methamphetamine/amphetamine, MDMA, benzodiazepines, GHB, ketamine, W-18, and phencyclidine.

Methadone

Toxicology test results were reviewed for evidence of methadone use. The comparative sample found that 31 decedents tested positive for methadone on toxicology screens.

- Almost all persons (96%) with methadone found on toxicology had evidence of polysubstance use.

The literature finds that for opioid addiction, methadone and Suboxone are more effective than abstinence-based treatment (Srivastava, Kahan, & Nader, 2017). The literature also finds that slow release oral morphine and supervised, injectable Opioid Agonist Therapy (iOAT) should be considered for patients who have failed to respond to optimised methadone maintenance treatment or Suboxone maintenance treatment (Lingford-Hughes et al., 2012).

C. CONTACT WITH SUPPORTS AND SERVICES

This review found that many of the persons who died of illicit drug overdoses had contact with multiple agencies (e.g. health care, service providers, fire, B.C. Ambulance Service, police, or community agencies). Persons experiencing substance misuse or dependency may have other chronic health or mental health conditions that bring them into contact with physicians, nurse practitioners, emergency room settings or clinics. Additionally, a high percentage of persons who died of overdose had past contact with corrections. These points of contact provide opportunities for further engagement, support, or intervention.

Assessing, treating and monitoring mental health is an essential component of care for patients with opioid use disorder, especially given the high prevalence of concurrent medical and mental health diagnoses among this population (e.g., post-traumatic stress disorder, depression, anxiety) (B.C. Centre on Substance Use, 2017).

Health Services

A review completed by B.C. Centre for Disease Control, January 2015 - November 2016, found that a high proportion of individuals experiencing fatal overdoses accessed medical services within 12 months prior to the fatal overdose. Data about fatal overdoses (BCCDC, October 2017) indicates that, in the previous 12 months:

- 55% of the individuals had at least one emergency department visit;
- 28% of the individuals had a prior hospital admission (any reason); and,
- 76% of the individuals had at least one community based physician visit.

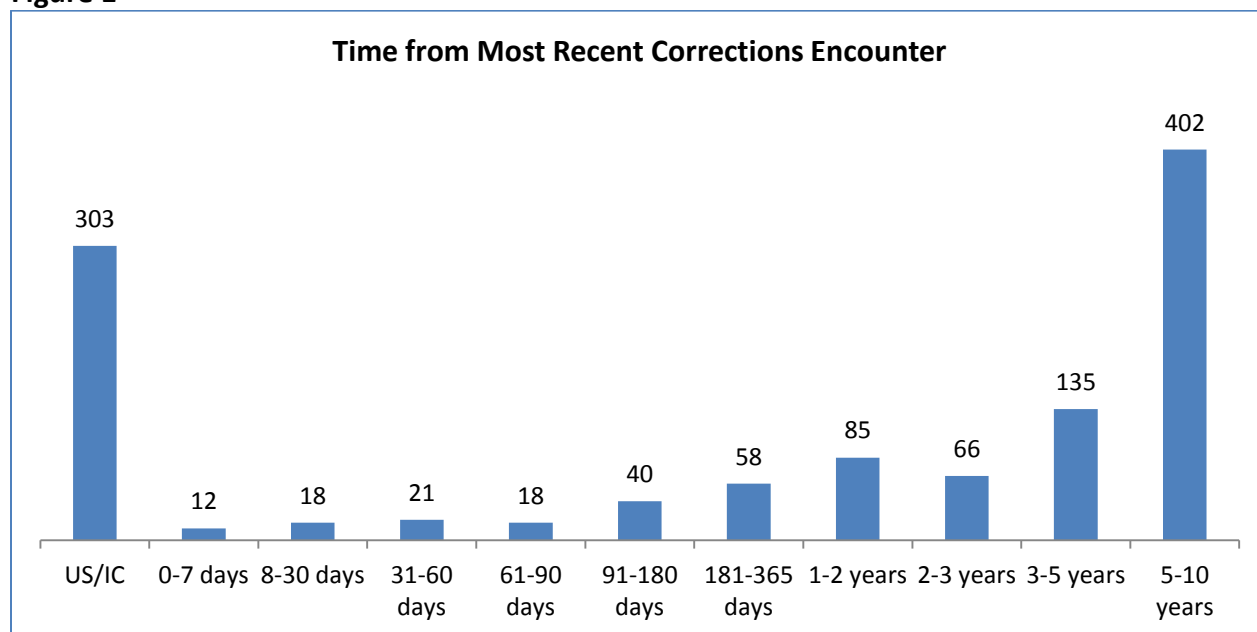
B.C. Corrections Experience and Recent Release from Custody

Persons released from correctional facilities are at high risk of fatal drug overdose. The increase in mortality among released prisoners who formerly used opiate drugs is attributed to loss of tolerance and erroneous judgment of dose on return to opiate use (Strang et al., 2003).

BCCS January 1, 2016 - July 31, 2017 data found that a high proportion of decedents (66%, n=1223) had B.C. Corrections involvement at some time in their lives or were under current supervision. Specifically:

- 18% (n=333) of decedents died while under community corrections supervision or within 30 days of release from a correctional facility;
- 25% (n=470) of decedents died while under community corrections supervision or within 1 year of release from a correctional facility; and,
- 30% (n=555) of decedents died while under community corrections supervision or within 2 years of release from a correctional facility.

Figure 1

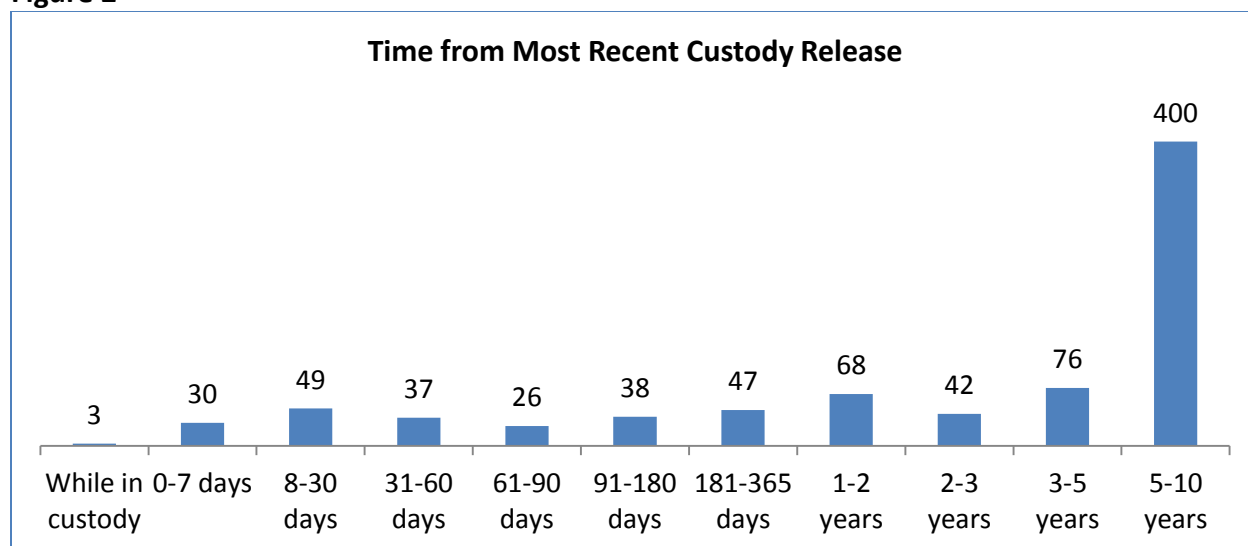


US/IC means Under Community Corrections Supervision/In Custody

Of the persons who died and who had been in custody (see Figure 2):

- 10% (n=79) died of an overdose within 30 days of release from a correctional facility in B.C.;
- 36% (n=295) of decedents died within 1 year of release from a correctional facility; and,
- 44% (n=363) of decedents died within 2 years of release from a correctional facility.

Figure 2



For the review period, a naloxone kit was found at the scene for 15% of decedents who had a B.C. Corrections encounter within the previous year. Of the individuals with adult custody involvement, 158 (20%) had participated in Opiate Agonist Therapy (Suboxone or Methadone) at some point during their time in custody (B.C. Corrections, 2017).

This review was consistent with the literature: finding that individuals who had a fatal overdose were more likely to have had previous correctional experience. Therefore, it would be helpful to consider past corrections experience when medical professionals are assessing patient treatment needs along the continuum of care.

Rehabilitation and Treatment Programs

In this comparative sample, records revealed that many decedents had accessed treatment in the past for substance use.

Some decedents had completed substance-use rehabilitation programs (ranging from weeks, to months to one year). Some decedents were residents in recovery houses or had recently been evicted from a recovery house due to continued drug use.

Others had completed detox programs ranging from one-day detox to seven-day detox. Some case files indicated that the decedent had attempted to quit on their own. Others did not seek out treatment services.

As the first point of engagement in clinical care, opioid withdrawal management can serve an important role as a bridge to treatment, but is not recommended unless a strategy is in place for referral to ongoing addiction treatment (e.g., intensive outpatient treatment, residential treatment, access to long-term opioid agonist treatment, or antagonist treatment) (B.C. Centre on Substance Use, 2017).

A few decedents were under court ordered treatment for addictions.

Case notes indicated that many decedents experienced relapses following treatment; some relapses occurred days, weeks, months or years after treatment. Some of the decedents had disclosed challenges with drug cravings prior to the overdose.

The literature finds that persons released from facilities following detox or after a period of abstinence are at high risk of fatal drug overdose if relapse in opioid use occurs following release. Even when short-term OAT is used for stabilization, a high percentage of individuals will relapse to opioid use even when structured evidence-based counselling services are offered (Weiss, Potter, et al, 2011).

Opioid dependence is a chronic, relapsing condition that requires long-term treatment (CADTH, 2012).

Currently in B.C., there is no dedicated regulation under the *Community Care and Assisted Living Act* specific to substance-use treatment facilities. This means there is a lack of provincial regulation for addiction services, inconsistent provision of evidence-based treatment and treatment outcomes are unknown or not monitored. Health care providers report that they are unable to determine which programs and facilities deliver evidence-based treatment and care.

Existing licensing under the *Community Care and Assisted Living Act* focus on the facility, not on regulating evidence-based standards of treatment. As well, not all facilities are licenced; many supportive recovery homes for people recovering from substance use issues are not licensed.

Specialized Investigations

Following a coroner's investigation, recommendations may be forwarded to the chief coroner for consideration. These recommendations address systemic issues with policies and practices and are intended to prevent future deaths in similar circumstances. Of the deaths reviewed including [inquests](#), there were 26 coroner or jury recommendations related to illicit drug overdose deaths.

D. BRITISH COLUMBIA RESPONSE

To address the rising number of overdoses and deaths, a B.C. Task Force was convened in 2016 to focus and take action on [seven key areas](#) with respect to prevention, treatment, harm reduction, enforcement, monitoring and surveillance:

1. Expanding naloxone availability and reach of supervised consumption services;
2. Improving treatment options for people with opioid use disorder;
3. Improving public awareness and education about overdose prevention and response;
4. Improving access to data collection;
5. Improving the scheduling of substances and equipment under the *Controlled Drugs and Substances Act* and the Precursor Control Regulations;
6. Improving federal enforcement of the importation of illicit drugs (intercept, detect and investigate); and
7. Enhance capacity of police to support harm reduction efforts related to street drugs.

Specific accomplishments for these seven areas can be found on the [B.C. Government website](#).

Prevention, Treatment and Harm Reduction

The literature finds that successful public health models for addiction management focus on increasing resources, expanding and improving prevention, treatment, harm reduction and social reforms such as social reintegration programs, job training and guaranteed minimal income (Murkin, 2014). The Portugal model has shown that there can be significant improvement in public safety and health if penalties are eliminated for low-level possession and consumption of illicit drugs, and if investments are made in treatment and harm reduction services (Drug Policy Alliance, 2015). The success of the Portugal model may not have been achieved without the broader health and social reforms.

Primary Prevention

The literature identifies a number of primary prevention approaches including a focus on public and patient safety:

- Prescribing practices: Research suggests that “if opioids are used, clinicians should prescribe the lowest effective dosages, monitor the patient closely to reduce the risk of adverse events and overdose, and consider alternative treatments if there is no meaningful improvement in the patients’ pain and function”(BMJ, 2016) (Busse et al., 2017).
- Prescription monitoring programs (PMP): may improve patient care, support safer use of controlled prescription drugs by monitoring prescription dispensing information, and may reduce diversion of controlled prescription drugs (Canadian Centre on Substance Use and Addiction, 2015).
- Medication ‘take back’ whereby unused prescription drugs are returned to a pharmacy or collected at a specified drop off area for appropriate disposal. Unused pain medications are a source of access to drugs taken for non-medical purposes (Moyer, 2014).

In B.C.:

- The College of Physicians and Surgeons of British Columbia has established standards on Safe Prescribing of Drugs with Potential for Misuse/Diversion (College of Physicians and Surgeons of British Columbia).
- “Physicians who prescribe opioids, sedatives or stimulants will be expected in the future to have PharmaNet access in all clinical locations and to use it appropriately. In situations where PharmaNet access is not currently available, physicians are expected to consult colleagues, including pharmacists and prescribe only necessary medications until the patient’s dispensing history is available. Walk-in, urgent care, multi-physician clinics and methadone clinics must have on-site access to PharmaNet” (College of Physicians and Surgeons of British Columbia, October 2016).

Treatment

Opioid dependence is a chronic, relapsing condition that requires long-term treatment (CADTH, 2012). Many scientific studies have established that drug dependence and addiction are features of an organic brain disorder caused by drugs' cumulative impacts on neurotransmission (NIDA, 2017).

In B.C., clinical guidelines for the management of opioid use disorders and guidance for injectable opioid agonist treatment for opioid use disorder have been developed.

Opioid Agonist Treatment (OAT)

Evidence supports the use of Opioid Agonist Treatments (methadone, Suboxone) as a first-line treatment for opioid dependence (Saulle et al., 2016). Literature indicates that OAT delivered with counseling and behavioural therapies is an evidence-based practice for treating opioid use disorder (SAMHSA) (B.C. Centre on Substance Use, 2017). Studies indicate that methadone and Suboxone are substantially more effective than abstinence-based treatment (Srivastava, Kahan, & Nader, 2017).

In BC, PharmaCare provides 100% coverage for opioid agonist therapies including methadone and Suboxone under the Psychiatric Medications Plan (B.C. Government, 2017).

Injectable Opioid Agonist Treatment (prescription diacetylmorphine, injectable hydromorphone) is an evidence-based alternative for persons who cannot be effectively treated using OAT and/or slow release oral morphine (B.C. Centre on Substance Use, 2017) (Byford et al, 2013) (Lingford-Hughes et al., 2012).



“In jurisdictions where diacetylmorphine is currently not available or for patients where it is contraindicated or unsuccessful, hydromorphone could be offered as an alternative within the supervised model of care” (Oviedo-Joekes et al., 2016).

In B.C.:

- The use of in-custody Opioid Agonist Treatment (OAT) for opioid addiction in correctional facilities has increased as a result of targeted policy changes to increase OAT accessibility (B.C. Corrections, 2017).
- Providence Crosstown Clinic offers medical grade heroin and hydromorphone within a supervised clinical setting to chronic substance use patients (Providence Health Care, October 2017).

While OAT and iOAT are critical for addictions treatment and stabilization, there must be a continuum of care from withdrawal management through to OAT and to recovery programs and after care (B.C. Centre on Substance Use, 2017).

Addiction Services

In B.C. addiction services (e.g. outpatient treatment, detoxification, residential treatment, stabilization units and supportive recovery residences) are delivered through local health authorities and private care facilities. Treatment and support services available through local health authorities, are listed on the [B.C. Government Website](#).

In most health authorities, addiction services do not have their own independent operational leadership or resources. Staff delivering addiction services may have responsibility for multiple program areas with competing priorities such as mental health or medical services.

Provision of addictions care requires unique knowledge and clinical expertise. An accountable system of addictions care with dedicated clinical and operational leads should have close links to primary care, public health, the medical system and the mental health system.

No single treatment is effective for all individuals; diverse treatment options are needed, including psychosocial approaches and pharmacological treatments (WHO, 2014).

In B.C., addiction services include:

Detoxification or Withdrawal Management

Detoxification is the process where the effects of opioid drugs are eliminated in a manner, so that withdrawal symptoms are minimized. During this process clinical support is provided to individuals withdrawing from substances. Withdrawal management may take place in different settings, including community-based outpatient settings, hospitals and home (with clinical team support).

Withdrawal management alone is not a recommended treatment for opioid-use disorders as it can reduce an individual's tolerance and increase the risk of an overdose with relapse. If used, withdrawal management should be accompanied by ongoing addiction treatment, such as outpatient treatment services, residential treatment, and/or opioid agonist therapy (Government of BC, 2017).

Psychosocial treatment interventions appear to be beneficial adjuncts to opioid withdrawal management. When offered in addition to pharmacologically-supported withdrawal management (i.e., opioid agonist taper), psychosocial treatment interventions may be effective in improving treatment retention and completion, sustaining abstinence from illicit opioids, and reducing opioid use during treatment. However, there is currently limited evidence due to small study sample sizes and varying assessment and outcome measurements (B.C. Centre on Substance Use, 2017).

In B.C., health authorities offer some medically supervised units for detoxification. These include substance-use sobering and assessment beds and short-term stay programs for acute medical withdrawal.

Outpatient Treatment Services

Substance use services and supports provided in an office or outpatient clinic setting. Services may include one-on-one or group counselling, connection to medical treatment such as Opioid Agonist Therapy, and help with accessing other community supports such as housing and peer support groups.

Residential Treatment

Time-limited, live-in intensive treatment (typically 60-90 days) for individuals experiencing substance-use problems. Treatment includes group and one-on-one counselling, medical consultations, as well as life skills training, family support programs and other support programs such as art yoga, music and narrative therapies.

Stabilization and Transitional Services

A temporary residential setting that provides a safe environment with medical and clinical supports for individuals who are experiencing complex substance-use problems and unstable living conditions.

Supportive Recovery Residences

Time-limited (1-3 months) residential setting that offers low to moderate supports in a safe and supportive environment for individuals experiencing substance-use problems. People may go into supportive recovery that are preparing for or leaving intensive residential treatment but require additional support to reintegrate into the community, or require a longer term structured environment while preparing to transition into a more stable lifestyle.

To address longer stay treatment there are some private agencies offering programs for drug rehabilitation and detoxification. Some residential treatment centers (particularly private centers) provide detox as a means of facilitating an admission to their residential program.

- Patients may not be able to access these detox beds without agreeing to stay for residential treatment.
- Persons on stable opioid agonist treatment may not be able to access residential treatment.

There is a lack of systematic reviews about the impacts of residential treatment programs for individuals with opioid use disorder. There are no large clinical trials comparing residential treatment to other interventions. The lack of evidence does not mean residential treatment is ineffective, but that the intervention needs further study (B.C. Centre on Substance Use, 2017).

As part of a treatment and harm reduction strategy, B.C. Corrections, in partnership with the Provincial Health Services Authority has established the following supports in provincial correctional centres for inmates with substance use issues:

- Mental health and health assessment upon admission to custody;
- Access to addictions counsellors for support and referrals to treatment upon release from custody;
- Access to onsite health care staff for medical support, including access to opioid agonist treatment (e.g. Suboxone and methadone) through correctional centre physicians;
- Delivery of the Substance Abuse Management Program, a cognitive behavioural program facilitated by corrections staff;
- Specialized inmate placements including the Guthrie Therapeutic Community at the Nanaimo Correctional Centre; and,
- Release planning through Integrated Offender Management.

Probation officers assess the needs of clients on community supervision and make referrals to community resources to support treatment and programming for substance use needs.

Harm Reduction Strategies

“Harm reduction is an evidence-based approach to keep people safe by minimizing death, disease, injury and other adverse outcomes associated with high risk behaviour” (BCCDC, 2014).

Harm reduction strategies aim to minimize the morbidity and mortality associated with opioid abuse and dependence, these include: targeted overdose education, distribution of harm reduction supplies, naloxone distribution, supervised consumption sites and policies to increase bystander assistance in the case of an overdose.

Awareness and Education

In B.C., government and health care providers have developed online resources and toolkits for public, families and professionals to raise awareness about opioid overdoses, and substance misuse. These sites provide information about harm reduction, prevention and treatment as well as links to local resources.

Vancouver Coastal Health, the Vancouver Police Department and the B.C. Centre for Disease Control have developed [Know Your Source](#), a public service campaign to raise awareness about overdoses risks due to fentanyl and other drugs in the Lower Mainland.

As well sites like www.towardtheheart.com provide information and resources about harm reduction and help British Columbians find local harm reduction supply distribution sites.

Naloxone is an opioid antagonist medication that reverses the effects of an opioid drug (e.g., heroin, morphine, fentanyl or oxycodone). Naloxone is administered to reverse life-threatening respiratory depression and restore breathing. Naloxone rapidly reverses the effect of opioids, including analgesia and respiratory depression, and lasts 20 to 90 minutes, allowing individuals to access medical care.

Some prescription opioids have a longer duration of effect than naloxone and their ingestion increases the risk that respiratory depression may recur and additional naloxone may be required. This is one reason that immediate transport to the emergency department is advised if naloxone is administered outside of the hospital (Hawk et al., 2015).

In B.C., a Take Home Naloxone Program was established in 2012. Take Home Naloxone kits are available, at no cost, for people who are at risk of an opioid overdose and people who are likely to witness and respond to an overdose (BCCDC, 2017) (Toward the Heart, 2017).

B.C., Take Home Naloxone Sites:



Source: Towards the Heart (Data to August 29, 2017)

Naloxone is readily available at all correctional centres for use as needed to treat suspected opioid overdoses. Inmates are encouraged to participate in the Take Home Naloxone (THN) program, which provides naloxone kits and training to inmates by health care staff. Potential inmates to participate in this program are identified at intake, through self-referral, or are referred by other health care professionals (Source: B.C. Corrections, 2017).

Supervised Consumption Services (SCS)

Supervised consumption services, are spaces where people who use drugs can do so in a safer environment and under the supervision of health-care staff. They are also able to be connected to health and social services. In addition, in response to the overdose crises **Overdose Prevention Sites** have opened in all health authorities in BC. These were established as medically necessary services by Ministerial order in November of 2016.

SCS have been proven to reduce overdoses, morbidity (e.g. HIV and HCV acquisition) and mortality from drug use, syringe sharing, unsafe injection practices, public injection drug use and public syringe disposal (Bouvier et al., 2017).

Systematic reviews have demonstrated that SCS do not increase injection drug use, drug trafficking or crime in surrounding areas (Bouvier et al., 2017).

In B.C.:

- Supervised consumption services, (e.g. Insite and Powell Street Getaway) operate under a Health Canada exemption from prosecution under federal drug laws (Vancouver Coastal Health, October 2017).
- Regional health authorities have submitted applications to Health Canada to open new supervised consumption sites.
- Overdose Prevention service locations operate across the province.

Drug Checking

Drug checking is a harm reduction approach which allows people who use substances to identify the contents of a street drug, and receive drug information or counselling about using an illicit substance. It helps drug users understand the risks that are present in illicit drugs so that they can use the information to reduce their risk. “Drug checking may be done through a range of technologies using stationary labs where samples are dropped off or shipped for analysis, or at an on-site location where drugs may be consumed” (B.C. Centre on Substance Use, 2017).

In Canada, drug checking requires an “exemption under the *Controlled Drugs and Substances Act* to allow service staff to offer clients the means of drug checking without handling the samples themselves” (B.C. Centre on Substance Use, 2017).

There is literature that suggests that drug testing may lead to the appearance of safety, and may increase risks for some (National Drug and Alcohol Research Centre, 2017).

In Vancouver, a pilot drug-checking project is underway at Insite. The project allows people who use drugs to check substances for the presence of fentanyl (B.C. Centre on Substance Use, 2017). The pilot uses paper strips originally intended for urine samples. The test strips were designed to detect the presence of fentanyl, and are able to detect the presence of some fentanyl analogues like carfentanil. However, the test strips still need to be validated to understand how well and accurately they are able to detect fentanyl or analogs in drug samples versus urine samples for which they were approved for use. The pilot project found that people who tested their drugs before taking them and found them to contain fentanyl were more likely to take a smaller dose, and less likely to overdose (Vancouver Coastal Health, May, 2017).

Drug checking should be combined with other harm-reduction activities including information about overdose prevention and safer-use messages, addiction support and counselling programs (National Drug and Alcohol Research Centre, 2017).

Monitoring and Surveillance

Public health surveillance is essential for planning, implementing and evaluating public health practice and preventing and controlling disease and injury (WHO, 2017).

The literature supports active monitoring and surveillance of illicit drug use, treatment and interventions through surveys, data collection and rigorous study.

The Drug Overdose and Alert Partnership (DOAP) was established in B.C. to prevent and reduce the harms associated with substance use. The partnership identifies and disseminates information about harms related to substance use including overdose and coordinates public health responses to these emerging issues (B.C. Centre for Disease Control, 2014).

An ineffective service is inefficient and cannot be cost-effective, no matter how cheaply it is provided (Cochrane, 1972).

PART 2: LEGISLATION AND REGULATIONS

Research suggests that the most effective way of minimizing drug harms is through regulation, rather than prohibition (Rolles, 2009). The evidence indicates that there is no relationship between the punitive nature of a country's drug laws and its rate of drug use. Instead, drug use tends to rise and fall in line with broader cultural, social or economic trends (Murkin, 2014).

There are a number of Acts and Regulations pertaining to controlled substances, and provision of health care and treatment. These include:

- The federal [Criminal Code of Canada](#) is the main statutory source of criminal law and procedure in Canada, and the [Controlled Drugs and Substances Act](#) is the statutory source respecting the control of certain drugs, their precursors and other substances.
- In B.C., the [Pharmacy Operations and Drug Scheduling Act Drug Schedules Regulation](#) includes drug schedules indicating which drugs must be sold from licensed pharmacies, and under what conditions.
- In July 2016, the [College of Physicians and Surgeons of British Columbia](#) eliminated prescriber restrictions on Suboxone that required an exemption under section 56 of the *Controlled Drugs and Substances Act* in order to prescribe Suboxone.
- [Community Care and Assisted Living Act](#) which is the statutory source for licensing for community care facilities that offer care to vulnerable people in child day care, child and youth residential and adult residential settings. Within the Act are supporting regulations such as [Continuing Care Program Regulations](#), and [Residential Care Regulations](#).

There is no dedicated regulation under the *Community Care and Assisted Living Act* specific to substance-use treatment facilities nor does it address treatment standards. Supportive recovery homes for people recovering from substance use issues are generally not licensed but are required to register if they offer three or more beds. These homes are often short lived business operations in rented housing.

PART 3: RECOMMENDATIONS

This death review panel has developed a set of recommendations considering the BCCS investigative findings, current research and applying subject matter expert opinion to illicit drug overdose deaths. The recommendations arising from the death review panel were developed in a manner that was:

- Collaborative;
- Attributable to the deaths being reviewed;
- Focused on identifying opportunities for improving public safety and prevention of future deaths;
- Targeted to specific parties;
- Realistically and reasonably implementable; and,
- Measurable.

The overall findings of this review indicate that:

- A substantial number of overdose deaths occurred among persons with recent health care and/or recent or previous B.C. Corrections involvement;
- The vast majority of overdose deaths occurred among persons who used substances regularly;
- Most overdose deaths occurred among persons using alone;
- The majority of overdose deaths occurred in private residences;
- The identification of illicit fentanyl in overdose deaths continues to rise;
- Many of the decedents had sought out treatment services in the past and experienced relapses;
- OAT is an effective component of an opioid use disorder treatment continuum; and,
- There are no provincial regulations for evidence-based standards for addiction treatment.

The panel identified three key areas to reduce illicit drug overdose deaths:

1. The need to provincially regulate and appropriately oversee treatment and recovery programs and facilities to ensure that:
 - a. they provide evidence-based, quality care; and,
 - b. that outcomes are closely monitored and evaluated.
2. The need to expand access to evidence-based addiction care across the continuum including improved Opioid Agonist Therapies (OAT) and injectable Opioid Agonist Therapies (iOAT) access as well as full spectrum of recovery supports.
3. The need to improve safer drug-use through the creation of accessible provincial drug checking services using validated technologies.

ACCOUNTABILITY

An accountable system of care is needed for addictions treatment and services. In 2017, the B.C. Government created the Ministry of Mental Health and Addictions to improve access to, and the quality of, mental health and addictions services. Its mandate includes developing an immediate response to the public health overdose emergency.

Addictions services (e.g. outpatient treatment, detoxification, residential treatment, stabilization units and supportive recovery residences) are delivered through local health authorities and private care facilities. Addiction treatment needs to be held to the same level of provincial regulation and standards that all other chronic disease treatment is required to meet (e.g. diabetes, cancer, etc.). In most health authorities, addiction services do not have their own independent operational leadership or resources. Staff delivering addiction services may have responsibility for multiple program areas with competing priorities such as mental health or medical services.

An accountable system of addictions care with dedicated clinical and operational leads should have close links to primary care, public health, the medical system and the mental health system. Provision of addictions care requires unique knowledge and clinical expertise.

This review and the [Jansen Inquest](#) also found that there is a lack of program standards for addiction services, and treatment outcomes are lacking, unknown or not monitored. There is inconsistent provision of evidence-based treatment, and health care providers report that they are unable to determine which programs and facilities deliver evidence-based treatment and care.

Currently, there are no provincially regulated standards for addictions treatment. Existing licensing under the *Community Care and Assisted Living Act* focus on the facility not on regulating evidence-based standards of treatment. Not all facilities are licenced, for example, many supportive recovery homes for people recovering from substance use issues are not licensed.

There is a need to eliminate silos, ensure standards are in place, ensure governance and accountability, evidence-based treatment, and that program outcomes are provincially evaluated and monitored.

Recommendation 1: Ensure Accountability for the Substance Use System of Care

Priority actions identified by the Panel are:

- By April 2019, the Ministry of Health and the Ministry of Mental Health and Addictions in collaboration with the Regional Health Authority CEOs to establish dedicated clinical and operational leadership groups dedicated to addiction services within each of the five regional health authorities.

- By September 2019, the Ministry of Health and the Ministry of Mental Health and Addictions in collaboration with First Nations Health Authority will develop and or revise provincial regulations for public and private addiction treatment facilities and services; to set standards for provision of evidence-based treatment and require that these programs be systematically evaluated and monitored to ensure compliance.
- By April 2019 the Ministry of Health and Ministry of Mental Health and Addictions will establish a provincial registry of licenced, regulated addiction programs and facilities.
- By September 2018, the Ministry of Mental Health and Addictions will consult and engage on an ongoing basis with persons who use substances, persons in recovery and affected families in the planning for addiction systems of care and adhering to the principles of cultural safety and humility.

OPIOID AGONIST TREATMENT (OAT) - ACCESS AND THE CONTINUUM OF CARE

Opioid dependence is a chronic, relapsing condition that requires long-term treatment. No single treatment is effective for all individuals; diverse treatment options are needed, including psychosocial approaches and pharmacological treatments (WHO, 2014).

The literature finds that persons released from facilities following detox or after a period of abstinence are at high risk of fatal drug overdose if relapse in opioid use occurs following release. Even when short-term OAT is used for stabilization, a high percentage of individuals will relapse to opioid use even when structured evidence-based counselling services are offered (Weiss, Potter, et al, 2011).

The literature finds that for opioid addiction, methadone and Suboxone are more effective than abstinence-based treatment (Srivastava, Kahan, & Nader, 2017).

The death panel review found that a number of decedents had previously accessed detox and/or addiction treatment programs. This review found that there were no decedents with Suboxone present on toxicology tests. This may indicate the success of Suboxone in preventing overdose deaths among persons prescribed and taking Suboxone.

The literature also finds that slow release oral morphine and supervised, injectable opioid agonist therapy (iOAT) should be considered for patients who have failed to respond to optimised methadone maintenance treatment or Suboxone maintenance treatment (Lingford-Hughes et al., 2012).

In B.C., Providence Crosstown Clinic is the only clinic to offer medical grade heroin and hydromorphone within a supervised clinical setting to chronic substance use patients. The scale up of iOAT should be undertaken as part of a continuum of care whereby individuals would be able to step down to less intensive treatments once successfully stabilized on iOAT.

While OAT and iOAT are critical for addictions treatment and stabilization, there must be a continuum of care from withdrawal management through to OAT and to recovery programs and after care.

Recommendation 2: Expand Opioid Agonist Treatment and Assessment of Substance Use Disorders

Priority actions identified by the Panel are:

- By April 2019, the Ministry of Health and Ministry of Mental Health and Addictions in partnership with health authorities will support physicians within emergency departments, hospitals and community settings to assess patients for substance use disorders, and develop and implement referral mechanisms to link patients at risk of overdose to evidence-based treatment services.
- By April 2019, the Ministry of Mental Health and Addictions and the Ministry of Health in partnership with health authorities will invest in health care provider training programs (e.g. continuing medical education, medical student training, fellowships) and support services to ensure the availability of Opioid Agonist Therapies (OAT) and injectable Opioid Agonist Therapies (iOAT) for treatment of persons with opioid addiction not responsive to oral OAT, or at risk of overdose.

DRUG SAFETY

An increase in the availability of illicitly manufactured synthetic opioids appears to be driving a significant increase in overdose deaths” (Davis, Green, & Beletsky, 2017) (Rudd et al., 2016). There is a need to keep people alive and safe so they can seek treatment when they are ready (B.C. Government, September 2017).

This review found that a high proportion of decedents had recent B.C. Corrections involvement. A targeted approach for this population is needed.

In addition to the continued need for ongoing public awareness and education and naloxone access and distribution, this panel identified two safer drug use actions. These are drug checking and real time access to PharmaNet for prescribers, dispensers and college regulators.

Drug checking is a harm reduction approach which allows people who use substances to identify the contents of a street drug, and receive drug information or counselling about using an illicit substance. Drug checking services have been shown to influence if and how a substance is used (Government of BC, September 2017). Technologies currently exist which would allow samples to be tested at labs, at on-site locations, or where drugs are consumed.

To improve patient safety, point of care access to PharmaNet is urgently needed for all prescribers and dispensers of opioid medications. Access to PharmaNet would ensure all health care providers have a patient’s current and complete medication history, and allow providers to assess for problematic medication use patterns and appropriately monitor prescription drug use. This will be especially important with the use of OAT and iOAT. As well, PharmaNet data

access must be extended to regulatory Colleges so that they may monitor problematic prescribing practices and evaluate outcomes associated to opioid prescribing standards and policy.

Access to prescription monitoring programs like PharmaNet enhance patient care and assist in the safe use of controlled prescription drugs (Canadian Centre on Substance Use and Addiction, 2015).

Recommendation 3: Expand Drug Use Safety Options

Priority actions identified by the Panel are:

- By September 2018, B.C. Corrections in collaboration with the Provincial Health Services Authority and regional health authorities will ensure those released from incarceration have access to Take Home Naloxone kits, are aware of how to access drug checking services, and are linked to the spectrum of addiction services in their community, including Opioid Agonist Therapy.
- By April 2019, B.C. Corrections, in collaboration with the health authorities will ensure those on community supervision will have access to Take Home Naloxone kits, and are aware of how to access drug checking services, and, for sentenced offenders with identified addiction needs, are referred to available evidence-based addiction treatment.
- By April 2019, the Ministry of Mental Health and Addictions will establish and evaluate community based drug checking services.
- By September 2018, the Ministry of Health will ensure point of care access to PharmaNet medication information for all prescribers and dispensers of opioid medications and require prescribers and dispensers to check PharmaNet for **at risk use**.
- By September 2018, the Ministry of Health will ensure access to PharmaNet medication information for all regulatory Colleges of health care professionals prescribing and dispensing opioid medications.

APPENDIX 1: GLOSSARY

Aggregate: Presentation of individual findings as a collective sum.

At risk use: any prolonged use of a prescription opioid medication that increases the risk of accidental overdose, tolerance, dependence or the development of a substance use disorder, or results in opioid prescription diversion.

Comparative sample: the 615 deaths over two time periods (March 1- May 31, 2016 and March 1- May 31, 2017).

Detoxification: is the process where the effects of drugs are eliminated in a manner, so that withdrawal symptoms are minimized.

First Nations: The term 'First Nations' has largely become the preferred terminology for Indigenous peoples of North America in what is now Canada, and their descendants, who are neither Métis or Inuit. First Nations people may be 'Status' (registered) or 'non-Status' as defined under the *Indian Act*.

Frequency of Illicit Drug Use

- **Regular use** = daily or regular use of an illicit substance with negative health impacts or social effects.
- **Occasional / Recreational** = occasional use of an illicit substance (e.g. weekend use only, once a month etc.).
- **Never (Not recent)** = no evidence of drug use within a year of death (e.g. period of abstinence).
- **Unknown** – frequency of use could not determine the use was either 'regular' or 'occasional/recreational'.

Illicit drugs inclusion criteria: The illicit drug overdose category includes the following:

- Street drugs (controlled and illegal drugs: heroin, cocaine, MDMA, methamphetamine, illicit fentanyl etc.).
- Medications not prescribed to the decedent but obtained/purchased on the street, from unknown means or where origin of drug not known.
- Combinations of the above with prescribed medications.

Indigenous: Is most frequently used in an international or global context and is referred to by the United Nations broadly as 'peoples of long settlement and connection to specific lands who have been adversely affected by incursions by industrial economies, displacement, and settlement of their traditional territories by others'. Similarly the term can also refer to groups of peoples or ethnic groups with historical ties a territory prior to colonization or formation of a nation state. Typically, Indigenous peoples have preserved a degree of cultural and political

separation from the mainstream culture and political system of the nation state within the border of which the Indigenous group is located.

Injectable opioid agonist treatment: prescription diacetylmorphine, injectable hydromorphone

Non-medical opioid use: the use of illicit, prescription or over-the-counter opioid drugs in a manner other than directed by a physician.

Opioid: any substance, both natural and synthetic, that bind to opioid receptors. E.g. heroin, morphine, methadone, and prescription pain relievers.

Overdose: the use of any drug in such an amount that acute adverse physical or mental effects are produced. Overdose may produce transient or lasting effects, or death. The lethal dose of a particular drug varies with individuals and circumstances (WHO, 2018).

Overdose Prevention and Supervised Consumption Services: are locations where people can use illegal drugs under supervision by trained staff. As part of healthcare services, staff monitor people who are at risk of overdose and provide rapid intervention as needed. Overdose Prevention Services are allowed under special Ministerial Order (*Ministerial Order M488*) under the *Emergency Services Act*. Supervised Consumption Services are approved by Health Canada for exemption under the *Controlled Drugs and Substances Act*. (Source: Island Health Authority, 2018).

A [literature review](#) was conducted as part of the death review panel process. It is available on the B.C. Coroners Service website.

APPENDIX 2: REFERENCES AND BIBLIOGRAPHY

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