

Opioid Use in Vancouver 2017: Current State

Daniel Paré MD CCFP DABAM CCSAM

VCH Inner City Primary Care & Assertive Community Treatment (ACT) Team

Medical Coordinator, Downtown Community Health Centre (DCHC)

Medical Coordinator, DTES Connections Addiction Team

Clinical Instructor UBC Department of Family Practice

Disclosures

- None

Objectives

- Review current statistics and epidemiology of Opioid Use Disorder and Overdose crisis
- Review Current OUD treatment guidelines and recommendations
- Discuss DTES Connections care model

Opioid Use Disorder – DSM V

- The diagnosis of Opioid Use Disorder under DSM V can be applied to someone who uses opioid drugs and has at least two of the following symptoms within a 12 months period:
 - Taking more opioid drugs than intended.
 - Wanting or trying to control opioid drug use without success.
 - Spending a lot of time obtaining, taking, or recovering from the effects of opioid drugs
 - Craving opioids
 - Failing to carry out important roles at home, work or school because of opioid drugs.
 - Continuing to use opioids, despite use of the drug causing relationship or social problems.
 - Giving up or reducing other activities because of opioid use.
 - Using opioids even when it is physically unsafe.
 - Knowing that opioid use is causing a physical or psychological problem, but continuing to take the drug anyway.
 - Tolerance for opioids.
 - Withdrawal symptoms when opioids are not taken.

Mild: 2 or 3

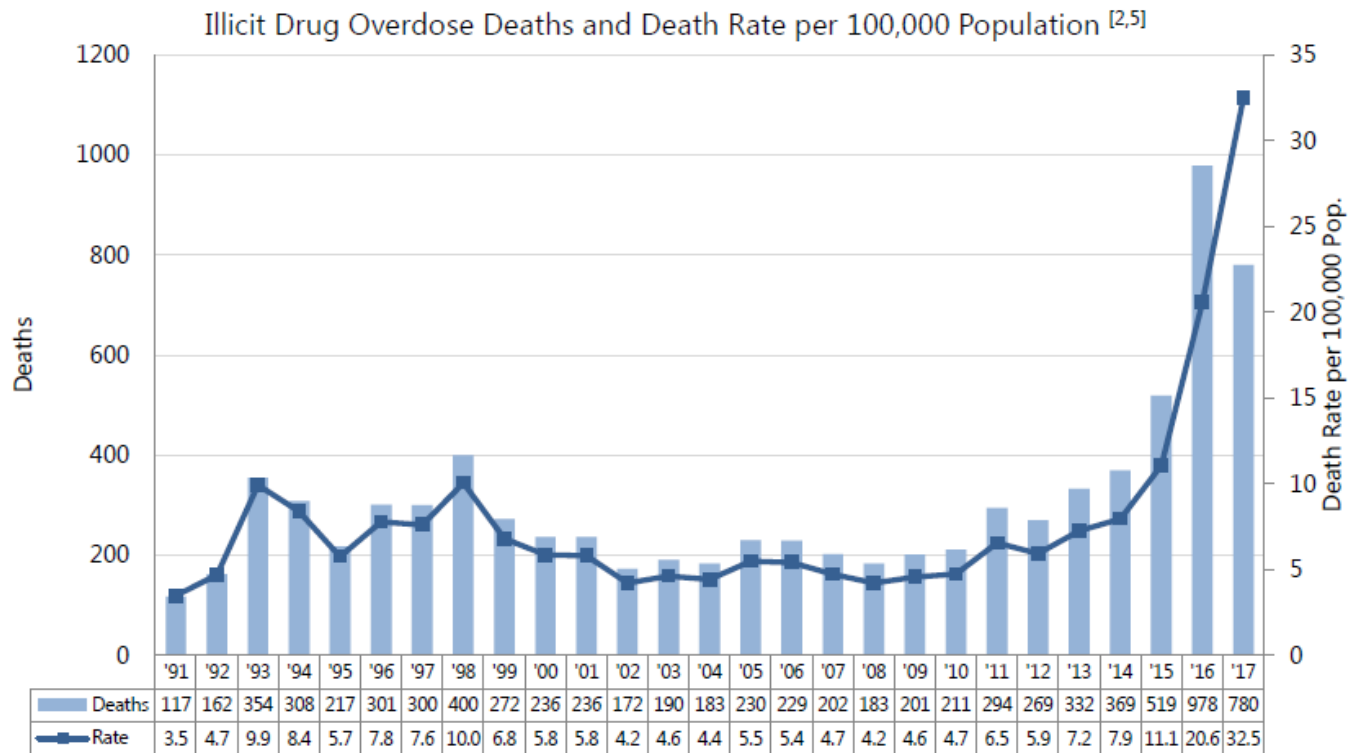
Moderate: 4 or 5

Severe: >5

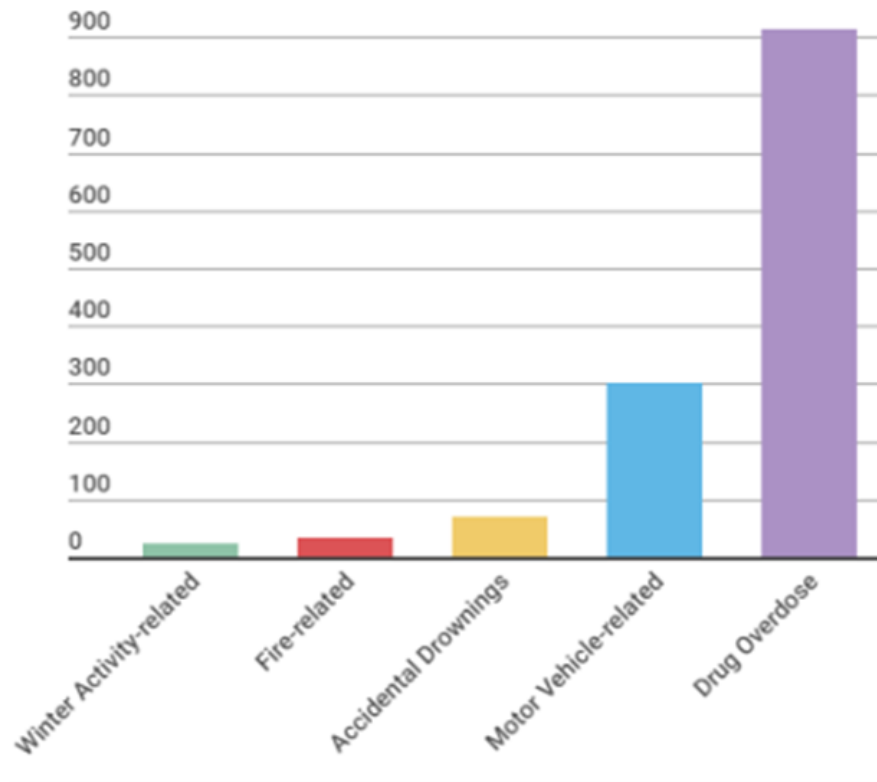
Prevalence
estimated at 1 to 2%
of Americans



Illicit Drug Overdose Deaths in BC



External Deaths in BC



BC Data by Gender/Age

Illicit Drug Overdose Deaths by Gender, 2007-2017^[2]

Gender	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Female	47	49	55	49	82	75	79	86	101	192	142
Male	155	134	146	162	212	194	253	283	418	786	638
Total	202	183	201	211	294	269	332	369	519	978	780

Illicit Drug Overdose Deaths by Age Group, 2007-2017^[2]

Age Group	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
10-18	5	6	2	4	4	5	6	3	5	12	11
19-29	33	36	46	40	74	61	94	83	118	206	139
30-39	53	48	51	49	75	61	77	101	135	261	238
40-49	70	42	57	66	77	66	74	85	127	230	177
50-59	36	43	33	45	54	56	60	72	107	222	156
60-69	4	8	12	7	10	19	21	25	26	44	55
70-79	1	0	0	0	0	1	0	0	1	3	4
Total	202	183	201	211	294	269	332	369	519	978	780

Note: The age range of decedents of illicit drug overdose between 2007-2017 ranged from 14 to 76 years of age.

BC Data by Place of Injury

Illicit Drug Overdose Deaths by Place of Injury, BC, 2016-2017 ^[2]		
	2016	2017
Inside:		
Private Residence	600 (61.3%)	448 (57.4%)
Other Residence	230 (23.5%)	211 (27.1%)
Other Inside	41 (4.2%)	38 (4.9%)
Outside	97 (9.9%)	77 (9.9%)
Unknown	10 (1.0%)	6 (0.8%)
Total	978	780

Preliminary circumstances suggest that the majority of fatal illicit drug overdoses in 2017 occurred in inside locations (89.4%) while 9.9% occurred outside.

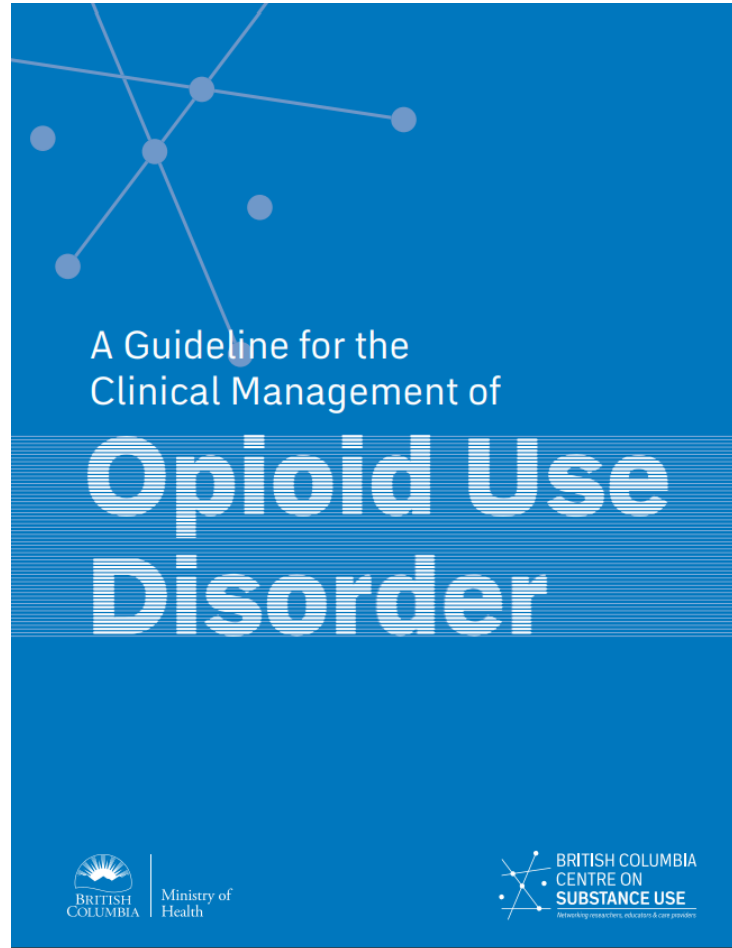
Private Residence – includes driveways garages, trailer homes and either decedent’s own or another’s residence.

Other Residence - includes hotels, motels, rooming houses, shelters, etc.

Other Inside– includes facilities, occupational sites, public buildings, and businesses.

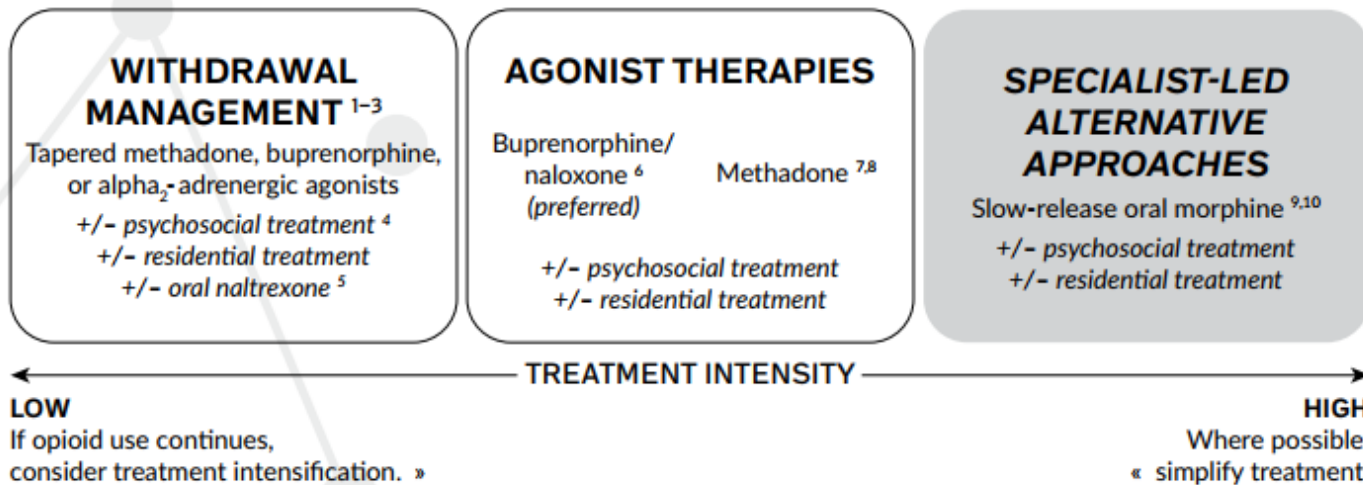
Outside – includes vehicles, streets, sidewalks, parking lots, public parks, wooded areas, and campgrounds

Treatment



Treatment

Table 1. Clinical management of opioid use disorder



HARM REDUCTION ¹¹⁻¹³

Across the treatment intensity spectrum, evidence-based harm reduction should be offered to all, including:

- Education re: safer user of sterile syringes/needles and other applicable substance use equipment
- Access to sterile syringes, needles, and other supplies
- Access to Supervised Injection Sites (SIS)
- Take-Home-Naloxone (THN) kits



Outcomes associated with Methadone and Buprenorphine

- Treatment retention
- Withdrawal suppression
- Decreased illicit opioid (and cocaine) use
- Reduced risk of HCV/HIV
- Increased ARV adherence, lower vL
- Decreased criminal activity
- Significantly reduced mortality; both all-cause and drug/substance related

Risk of mortality on and off methadone substitution treatment in primary care: a national cohort study

Gráinne Cousins¹, Fiona Boland², Brenda Courtney², Joseph Barry³, Suzi Lyons⁴ & Tom Fahey²

School of Pharmacy, Royal College of Surgeons in Ireland, Dublin, Ireland,¹ Health Research Board Centre for Primary Care Research, Royal College of Surgeons in Ireland, Dublin, Ireland,² Trinity College Centre for Health Sciences, Tallaght Hospital, Dublin, Ireland³ and Health Research Board, Dublin, Ireland⁴

ABSTRACT

Aim To assess whether risk of death increases during periods of treatment transition, and investigate the impact of supervised methadone consumption on drug-related and all-cause mortality. **Design** National Irish cohort study. **Setting** Primary care. **Participants** A total of 6983 patients on a national methadone treatment register aged 16–65 years between 2004 and 2010. **Measurement** Drug-related (primary outcome) and all-cause (secondary outcome) mortality rates and rate ratios for periods on and off treatment; and the impact of regular supervised methadone consumption. **Results** Crude drug-related mortality rates were 0.24 per 100 person-years on treatment and 0.39 off treatment, adjusted mortality rate ratio 1.63 [95% confidence interval (CI) = 0.66–4.00]. Crude all-cause mortality rate per 100 person-years was 0.51 on treatment versus 1.57 off treatment, adjusted mortality rate ratio 3.64 (95% CI = 2.11–6.30). All-cause mortality off treatment was 6.36 (95% CI = 2.84–14.22) times higher in the first 2 weeks, 9.12 (95% CI = 3.17–26.28) times higher in weeks 3–4, compared with being 5 weeks or more in treatment. All-cause mortality was lower in those with regular supervision (crude mortality rate 0.60 versus 0.81 per 100 person-years) although, after adjustment, insufficient evidence exists to suggest that regular supervision is protective (mortality rate ratio = 1.23, 95% CI = 0.67–2.27). **Conclusions** Among primary care patients undergoing methadone treatment, continuing in methadone treatment is associated with a reduced risk of death. Patients' risk of all-cause mortality increases following treatment cessation, and is highest in the initial 4-week period.

Table 2. Advantages and disadvantages of methadone vs. buprenorphine/naloxone

METHADONE	BUPRENORPHINE
ADVANTAGES	
<ul style="list-style-type: none"> • Potentially better treatment retention • May be easier to initiate treatment • No maximum dose • Potentially better alternative if buprenorphine was unsuccessful in relieving withdrawal symptoms, or was associated with severe side effects • Approved in Canada for the primary purpose of pain control (as split dose BID or TID dosing; Health Canada exemption to prescribe methadone for analgesia also required) 	<ul style="list-style-type: none"> • Less risk of overdose due to partial agonist effect and ceiling effect for respiratory depression (in the absence of benzodiazepines or alcohol) • Reduced risk of injection, diversion, and overdose due to naloxone component, allowing for safer take-home dosing schedules • Milder side effect profile • Easier to rotate from buprenorphine/naloxone to methadone • More flexible take-home dosing schedules may contribute to increased cost savings and patient autonomy • Shorter time to achieve therapeutic dose (1–3 days) • Potentially more effective analgesic for treatment of concurrent pain (however, see disadvantages) • Fewer drug interactions • Milder withdrawal symptoms and easier to discontinue, thus may be a better option for individuals with lower intensity opioid dependence (e.g., oral opioid dependence, infrequent or non-injectors, short history of opioid dependence, currently abstinent but risk of relapse), and individuals anticipated to be successfully tapered off maintenance treatment in a relatively short period of time • Alternate day dosing schedules (as daily witnessed or take-home doses) are possible • Optimal for rural and remote locations where daily witnessed ingestion at a pharmacy is not possible
DISADVANTAGES	
<ul style="list-style-type: none"> • Higher risk of overdose, particularly during treatment initiation • Generally requires daily witnessed ingestion • More severe side effect profile (e.g., sedation, weight gain, erectile dysfunction, cognitive blunting) • More expensive if daily witnessed ingestion required • Longer time to achieve therapeutic dose (see Appendix 1) • More difficult to transition to buprenorphine once on methadone • Higher potential for adverse drug-drug interactions (e.g., antibiotics, antidepressants, antiretrovirals) • Higher risk of non-medical or other problematic use • Increased risk of cardiac arrhythmias as a result of QTc prolongation • At high doses, may block some of the analgesic effect of concurrent opioid medications administered for pain 	<ul style="list-style-type: none"> • Potentially higher risk of drop-out • If appropriate dose induction schedules are not used (see Appendix 2), may cause precipitated withdrawal • Doses may be suboptimal for individuals with high opioid tolerance • At high doses, may block the analgesic effect of concurrent opioid medications administered for pain • Not approved in Canada for the primary purpose of pain control, though moderate evidence of efficacy • Reversing effects of overdose can be challenging due to pharmacology of buprenorphine



Impact of treatment for opioid dependence on fatal drug-related poisoning: a National cohort study in England

- Aims: To compare the change in illicit opioid users' risk of fatal drug-related poisoning (DRP) associated with opioid agonist pharmacotherapy (OAP) and psychological support, and investigate the modifying effect of patient characteristics, criminal justice system (CJS) referral and treatment completion.

Intervention	In treatment, modality received									
Residential	3.8	15	3.9	(2.4, 6.5)	1.50	(0.90, 2.49)	1.28	(0.76, 2.13)		
OAP	272	712	2.6	(2.4, 2.8)	1		1			
Psychological support	31	163	5.3	(4.5, 6.1)	2.00	(1.69, 2.38)	2.07	(1.75- 2.46)		
Out of treatment	136	609	4.5	(4.1, 4.9)	1.74	(1.56, 1.94)	1.92	(1.72, 2.15)		

< 0.001

OAT and Psychosocial Treatment

- Methadone Maintenance Therapy Summary
- In general, the studies reviewed **provide support for the use of psychosocial interventions in the context of MMT.**
- Nine of the 14 studies reviewed reported **significant effects of the psychosocial treatment on treatment attendance and drug use.**
- Specifically, 5 studies ([Hesse and Pedersen, 2008](#); [Hser et al., 2011](#); [Chen et al., 2013](#); [Gu et al., 2013](#); [Kidorf et al., 2013](#)) demonstrated greater treatment attendance and 2 studies ([Gerra et al., 2011](#); [Gu et al., 2013](#)) demonstrated lower treatment dropout rates when psychosocial treatment was provided relative to a comparison group.
- Five studies ([Gruber et al., 2008](#); [Chawarski et al., 2011](#); [Hser et al., 2011](#); [Chen et al., 2013](#); [Marsch et al., 2014](#)) demonstrated decreased opioid use among MMT clients receiving psychosocial treatment relative to a comparison group. In addition, 7 studies revealed significant effects of psychosocial interventions on secondary outcomes including HIV risk ([Chawarski et al., 2011](#)), psychosocial functioning ([Hesse and Pedersen, 2008](#); [Gerra et al., 2011](#)), adherence to psychiatric medications ([Kidorf et al., 2013](#)), alcohol use ([Gruber et al., 2008](#)), and fear of detoxification ([Stotts et al., 2012](#)) relative to a comparison group. It should be noted that the comparison groups varied across studies and the majority were not MMT-only conditions.



OAT and Psychosocial Treatment

- **Buprenorphine Treatment Summary**
- In general, the support for the efficacy of delivering concurrent psychosocial interventions was less robust for buprenorphine.
- **Three of the 8 studies reviewed found significant effects of the psychosocial treatment on treatment attendance and drug use.**
- One study ([Katz et al., 2011](#)) demonstrated higher rates of treatment retention, completion, and attendance among groups receiving concurrent psychosocial treatment.
- Two studies ([Brigham et al., 2014](#)) found reductions in opioid use in groups assigned to receive psychosocial interventions, and 1 study ([Ruetsch et al., 2012](#)) found that it improved buprenorphine compliance.
- In addition, 3 studies found significant differences for secondary outcomes including treatment satisfaction ([Ling et al., 2013](#)), counselor rating ([Katz et al., 2011](#); [Ruetsch et al., 2012](#)), and 12-step/self-help meeting attendance ([Ruetsch et al., 2012](#)).



Sustained-Release Oral Morphine (SROM)

- Less QTc prolongation
- ? Reduced cravings
- ? Fewer side effects
- ? Improved depression/anxiety/mood symptoms



Supervised-injectable opioid assisted treatment (siOAT)

Summary

- 46-65% of patients discontinue methadone treatment in the first year
- 40-70% of patients discontinue buprenorphine/naloxone treatment in the first six months
- Diacetylmorphine treatment is beneficial in terms of reducing illegal or non-medical opioid use, treatment drop-out, criminal activity, incarceration, and mortality
- 67-88% of patients retained on diacetylmorphine in the first six months
- 77% of patient retained on hydromorphone in the first six months
- Average length of diacetylmorphine treatment is approximately three years

Supervised-injectable opioid assisted treatment (siOAT)

Summary HAT vs Methadone Treatment- via Centre for Interdisciplinary Addiction Research at Hamburg University

- Higher Retention
- Higher reduction in criminality
- Better Quality of Life
- Better Working Ability
- Less Alcohol Use
- Positive long-term effects: health, drug use, social stabilization
- Comparable results also in patients without previous maintenance treatment

Barriers

- Methadone/buprenorphine prescribers
- Intake processes
- Titration to therapeutic dose
- Clinical environment
- MSP/pharmacare coverage
- Clinic fees
- Pharmacy fees
- Supervised dosing
- Missed doses
- Refills/maintenance requirements

Model of Care Case Study

DESIGN PAPER



Downtown Eastside Second Generation Health System Strategy

Coordinated partners, integrated
care and performance excellence
will lead to healthier clients

dtes.vch.ca

4.2 Low-threshold methadone clinic/Low-threshold addiction care

- An area identified as a critical gap in recent years is low-threshold methadone. To this end, VCH will establish a care team in the DTES for people with untreated opioid
- Addiction who have proven to be difficult to engage and retain in health services.



Best-Practices in
ORAL OPIOID AGONIST
THERAPY Collaborative

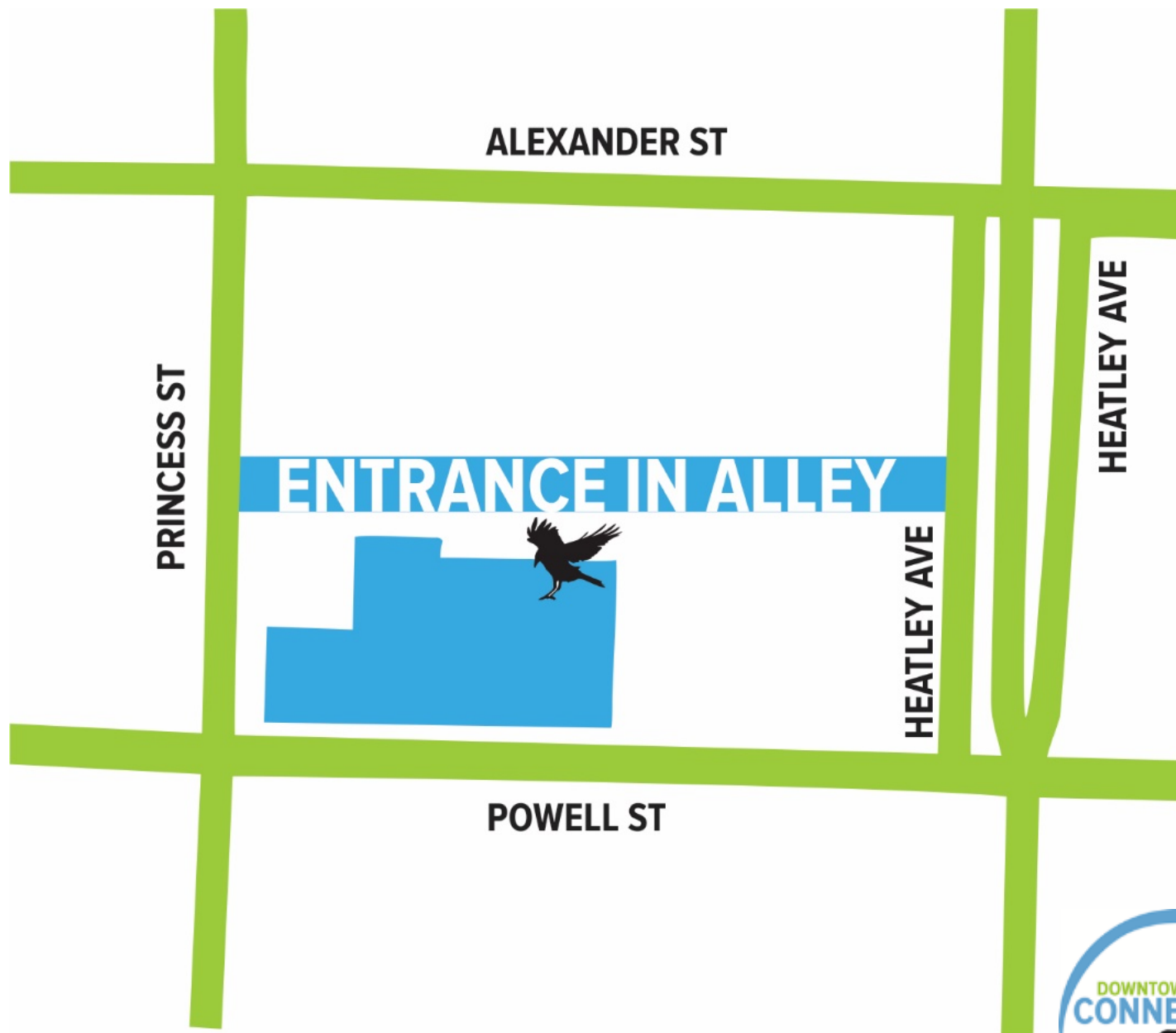
Plan

To provide a care team and facility in the Downtown Eastside for people with untreated opioid use disorder who have proven to be difficult to engage and retain in health services. A multi-disciplinary team would provide opiate agonist therapy and linkage to primary care, HIV, substance use and mental health services.

The objectives of this service are:

- **Engage** this population with a low threshold approach,
- **Address obstacles** to treatment initiation, adherence, and retention,
- **Generate and enhance pathways** and links for the client to other health services, particularly mental health, addiction, primary care and HIV care.
 - *As well as addresses directly, and seeks to minimize, the inherent individual & public health risks associated with the use and availability of prescribed opioids





Plan

Accessibility

- **Open 7 days/week**; including 7 days/week, *365 days/year physician coverage*
- Located in the DTES, close to other services (DCHC, Living Room, ASC, VNH, Sheway, etc.)
- Low-barrier philosophical approach and staffing model (peer support, etc.)
- **NO FEES**
- Able to serve clients/residents recently arrived from out-of-province/country and do not yet have MSP coverage

Engagement

- **Nutrition/meal program**
- **“Drop-in” atmosphere**; TVs, Computer access, board games, etc.
- Social work, counselling, financial liaison, peers, health navigators
- On-site supportive groups to enhance motivation, build self-management skills and reduce isolation



Plan

Harm Reduction Approach

- Reduction in use as primary goal, but not requiring abstinence
- Robust Take-Home Naloxone distribution
- Distribution of general harm reduction supplies (drug use equipment, condoms etc.)
- Access to Nicotine Replacement Therapy

Efficient & Expedited Intake Assessment & Initiation

- Nurse led, physician and interdisciplinary team supported
- **Goal of same day starts: ideally w/in 120mins of program entry**
- On site phlebotomy, full access to CareConnect, PARIS, Pharmanet, VCH Primary Care EMR system
- Staffing and systems designed to support buprenorphine induction (which can be challenging and resource intensive in other settings); including integrated pharmacy team



Plan

Maximize Retention

- In-house, health authority managed, dedicated clinic pharmacy for program patients
- Access to RN/MD team for primary care issues
- Focus on efficient and timely dose adjustments and titration; pharmacy/nursing/MD coordinated post-dose assessments (with aim to minimize time required to reach full therapeutic dose)
- Outreach capacity; nursing, HCW ability to outreach clients/patients who have missed doses
- Collaboration with other ORT providers to enable short term continuation of methadone/buprenorphine for patients on weekends/holidays who may have missed refill appointments, etc. (with aim of preventing relapse and/or the need for large dose decreases)
- Staffing and protocols in-place to support rapid dose re-titration for those who have missed multiple days (i.e. ability to provide post-dose monitoring)



Plan

Linkage and Transition to Care

- Referrals and collaboration with mental health system, HIV care and Hepatitis C treatment programs
- MD/RN team will also provide essential primary care
- Shared EMR/health record with PC network will greatly facilitate transfer when stability has increased

Education and Research

- Built with intent to provide rich teaching environment for all disciplines
- Direct relationship with the BC CfE Hope to Health research clinic
- E.g. early planning already in progress for a RCT of the treatment of stimulant users



Safety

- On site pharmacy, with pharmacists as key members of care team, and trained to assist with opiate intoxication/withdrawal assessments
- Increased use of buprenorphine therapy, with it's better safety profile
- Strict "no carries" policy for methadone (goal will be for patients who have stabilized to transfer to other programs)
- Take-Home Naloxone program
- Strict benzodiazepine policy (similar to PHS policy; e.g. only for EtOh withdrawal or controlled tapers)
- Full cooperation and collaboration with other DTES partners in Primary Care, PHS, VNH, private methadone clinics, etc.



Challenges

- Transitions
- Capacity & volume
- Staffing; especially MD
- Bridging issues



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