



# BOOST

Best-Practices in Oral Opioid agonist  
Therapy Provincial Collaborative

*Welcome*  
to the  
***BOOST QI Network Educational  
Webinar 5***

***\*\*Please type your name, team name and location in the  
chat\*\****

**Tuesday, June 22<sup>nd</sup>, 2021**

*\*The session will be recorded for educational purposes,  
if there are any concerns with this, please send a direct message to Angie Semple/CfE  
BOOST (host)\**



# Welcome

*We would like to begin by acknowledging that the land on which we gather is the unceded and traditional homelands of the Coast Salish peoples.*

*We also want to acknowledge that many others may be joining from different traditional homelands today*



Santé  
Canada

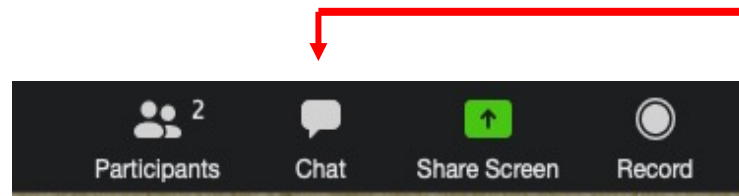


BRITISH COLUMBIA  
CENTRE for EXCELLENCE  
in HIV/AIDS

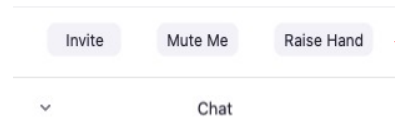


*Thank you  
to all our funders and partners,  
including  
patient partners and family voices*

# ZOOM Control Panel

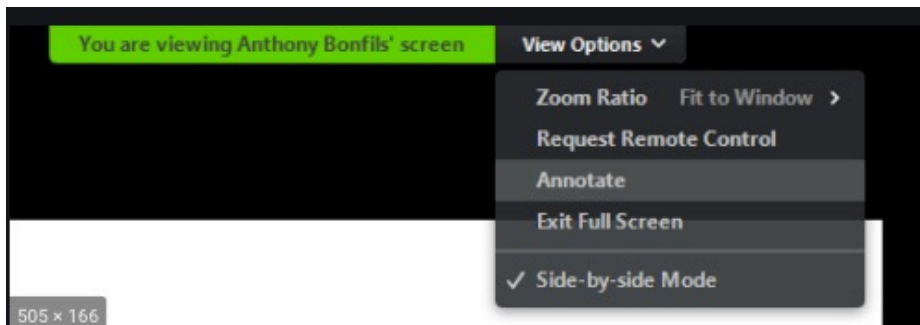


Chat or ask questions using the chat function



Use the “raise hand” feature to notify the host that you would like to be unmuted

Click “participants” and “raise hand” on the right-hand side of the screen



Click to use annotation tools

# Agenda

Time		Topic	Speaker(s)
8:30AM	5 mins	Welcome and Introductions	Valeria Gal
8:35AM	30 mins	Risk Mitigation Prescribing: What we can (and can't) learn from administrative data sources	Alexis Crabtree Heather Palis Amanda Slaunwhite
9:05AM	20 mins	Q&A/Discussion	Sharon Vipler & Cole Stanley ( <i>facilitators</i> )
9:25AM	5 mins	Wrap-up & Evaluations	All

# Objectives



- Be familiar with the small contribution of prescribed opioids to overdose mortality
- Gain an appreciation for how Pharmanet and other administrative health data is being used to monitor Risk Mitigation Prescribing
- Understand who is receiving Risk Mitigation Prescribing and what medications they are receiving
- Describe what is known about mortality among people receiving Risk Mitigation Prescribing

***Risk Mitigation Prescribing: What we can (and can't) learn  
from administrative data sources***



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# Risk Mitigation Prescribing: What we can (and can't) learn from administrative data sources

**June 22, 2021**

Alexis Crabtree, Amanda Slaunwhite, Heather Palis, Bin Zhao  
(BCCDC)



*We respectfully and gratefully acknowledge that we live and work on the unceded, ancestral and traditional homelands of the x<sup>w</sup>məθk<sup>w</sup>əyəm (Musqueam), Skwxwú7mesh (Squamish), and selílwitulh (Tsleil-Waututh) Nations.*

- 1) Be familiar with the small contribution of prescribed opioids to overdose mortality
- 2) Gain an appreciation for how Pharmanet and other administrative health data are being used to monitor Risk Mitigation Prescribing
- 3) Understand who is receiving Risk Mitigation Prescribing and what medications they are receiving
- 4) Describe what is known about mortality among people receiving Risk Mitigation Prescribing

Data collected routinely for an alternate purpose – eg physician billing or community pharmacy records

BC has some of the most comprehensive administrative health data infrastructure in Canada!

Ministry of Health datasets commonly used in BC for surveillance and monitoring in public health:

- Medical Services Plan (MSP)
- Discharge Abstract Database
- PharmaNet
- National Ambulatory Care Reporting System (NACRS)

## Strengths:

- **Who** is experiencing illness? (Population demographics)
- **What** illness is occurring? (Disease prevalence and incidence)
- **When** and **where** is an illness occurring? (*Temporal trends*)
- **Comprehensive** – not just opt in or most motivated taking part

## Limitations:

- **How** and **why** is an illness, condition or disease occurring? (Etiology)
  - In the area of substance use and overdose research, the ‘how’ and ‘why’ often include unregulated illicit drug supply

## Common challenges to using administrative health data in substance use and overdose research:

- Unable to tell what drugs a person actually uses – only what was diagnosed by physician or found on post-mortem toxicology
- Unable to measure illnesses or conditions where health care was not sought (eg non-fatal OD without EHS)
- Cannot know if prescribed meds were taken
- Difficult to identify interventions and conditions that don't have a specific ICD-9/10 or pharmacy code (eg risk mitigation)



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# Using administrative health data to understand the contribution of prescribed opioids to overdose in BC: Two analyses

# Prescribed opioids analysis one: *Comparing prescription histories of people experiencing overdose with those not experiencing overdose*

**Data:** linked from Pharmanet, MSP, DAD, BCEHS

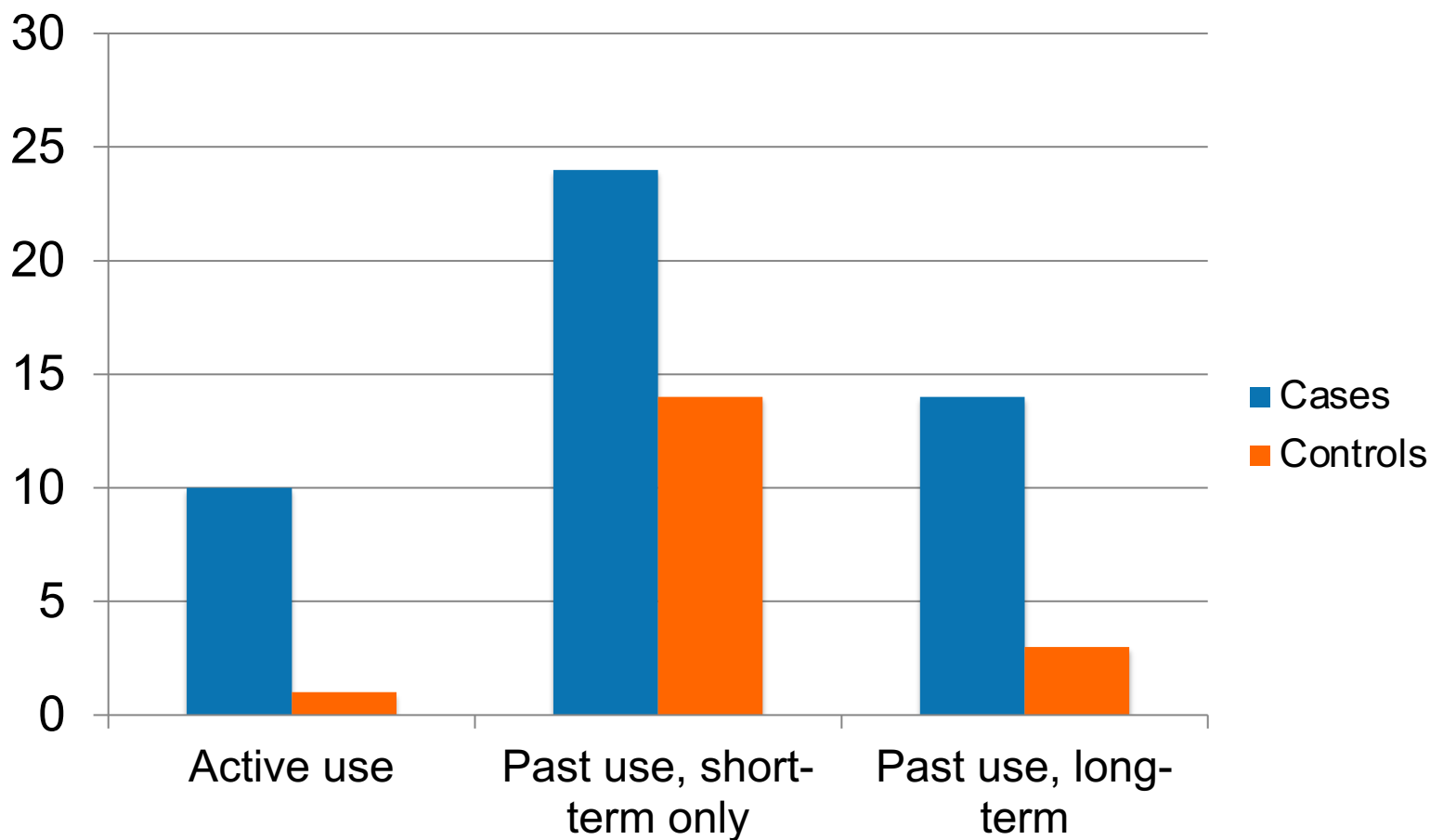
- Cases = non-fatal OD, controls = no recorded OD
- Excluded extremes of age, palliative care, non-residents

**Timeframe:** 2015–2016

## **Methods:**

- Assessed medication use in five years before OD or matched control date
- Analyzed opioids for pain separate from OAT; assessed intensity of use; also assessed other psychoactive meds

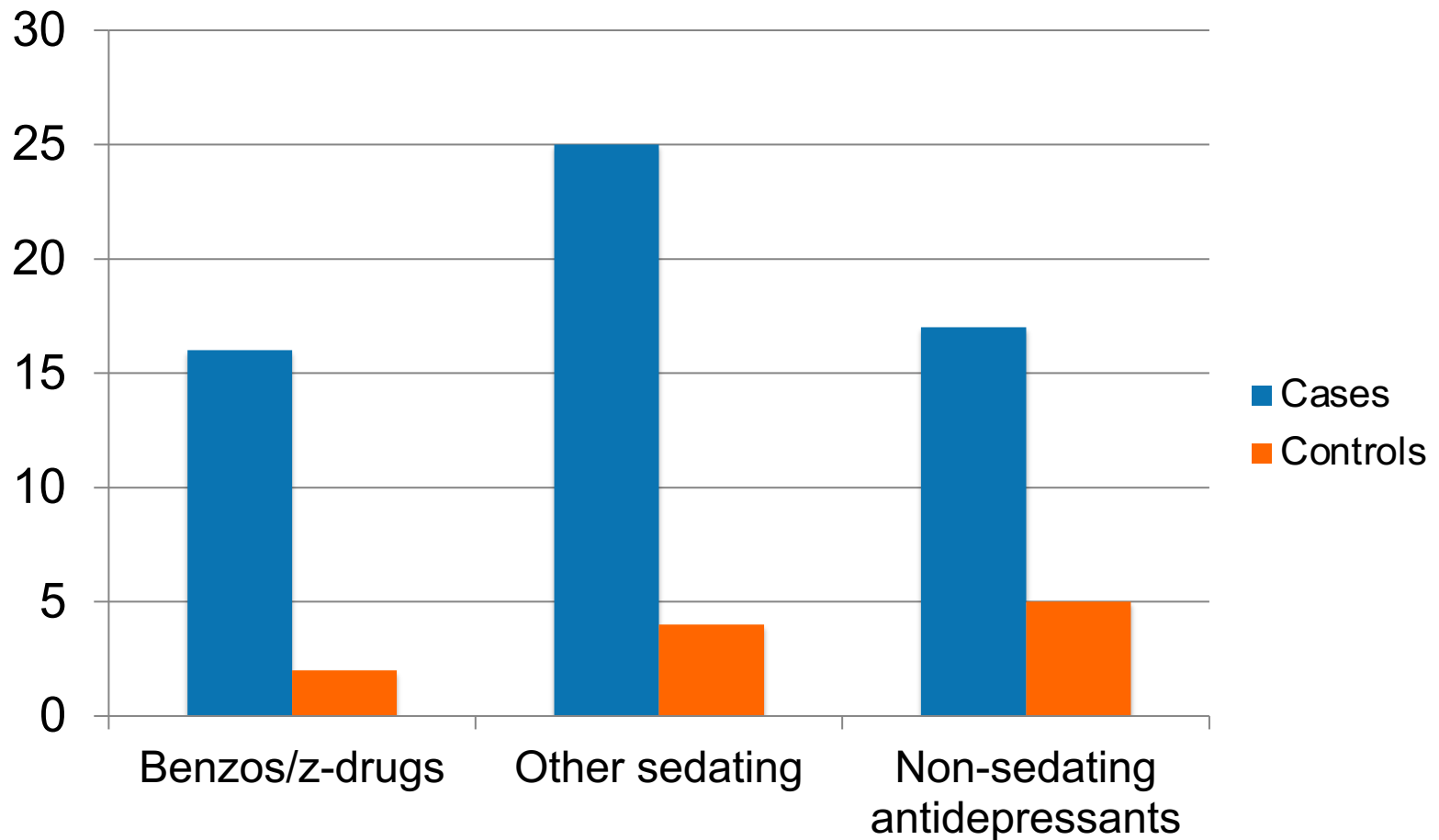
# Opioid for pain use among non-fatal overdose cases and matched controls



Smolina K, Crabtree A, Chong M, Park M, Mill C, Zhao B, Schuetz CG. 2020. "Prescription-related risk factors for opioid-related overdose in the era of fentanyl contamination of illicit drug supply: A retrospective case-control study." Substance Abuse, DOI: 10.1080/08897077.2020.1748162.



# Other psychoactive medication use



## Prescribed opioids analysis two: *Comparing toxicology and prescription histories*

**Data:** linked from BC Coroner's Service and Pharmanet files

- "Illicit Drug Deaths"
- "Relevant to death"
- Closed cases – 1789

**Timeframe:** 2015–2017

### **Methods:**

- Matched substances on toxicology to specific prescribable substances
- Assessed for active prescription within 60 days before overdose

*Most opioids found relevant to death were non-prescribed*

	N	% of total illicit drug deaths	% of cases with opioids relevant
No opioids	259	15%	--
Any opioids	1530	86%	--
Prescribed only	36	0.2%	2%
Prescribed and non-prescribed	120	7%	8%
Only non-prescribed	1374	77%	90%

*Uncommon:  
prescribed and  
non-prescribed  
opioids in  
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*Uncommon:  
prescribed and  
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*Even less  
common:  
Prescribed  
opioids only*

	N	% of total illicit drug deaths	% of cases with opioids relevant
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# Non-prescribed opioids

	N	Total among cases with one or more non-prescribed opioids
Fentanyl or analogue	1173	78.5%
Heroin	494	33.1%
Opioids, but not fentanyl or heroin	115	7.7%

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Very few of the non-prescribed opioids were potentially diverted medications



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# Risk Mitigation Guidance Evaluation



# Mitigating risk of COVID-19 and overdose among people who use drugs

**Through a mixed methods evaluation of RM implementation and impacts on COVID-19 infection and drug-related harms, we will:**

1. Determine the impact on COVID-19 infection, continuity of care for SUD and concurrent health conditions, overdose and all-cause mortality among people who use substances
2. Determine the impact on the uptake of public health measures to reduce the spread of COVID-19, as well as other behavioural and psychosocial outcomes among people who use substances
3. Identify barriers and facilitators to implementation based on program uptake from the perspectives of people who use substances and service providers (physicians, nurses, pharmacists, outreach workers)



University  
of Victoria

Canadian Institute for  
Substance Use Research



# Mitigating risk of COVID-19 and overdose among people who use drugs

## Principal Applicants:

Dr. Amanda Slaunwhite, BCCDC, UBC

Dr. Natt Hongdilokkul, CHEOS, SFU

Dr. Bohdan Nosyk, CHEOS, SFU

Dr. Bernie Pauly, CISUR, UVic

Dr. Karen Urbanoski, CISUR, UVic



University  
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**In partnership with Co-Applicants and Collaborators** from BC/Yukon Association of Drug War Survivors, Compassion, Inclusion and Engagement Initiative Peer Network (PEEP), Cool-Aid Health Centre, BCCSU, BC Mental Health and Substance Use Services, Perinatal Services BC, FNHA, BC Ministry of Public Safety and the Solicitor General, BC Ministry of Mental Health and Addiction/Overdose Emergency Response Centre, PHAC

Funded by



Canadian Institutes of  
Health Research  
Instituts de recherche  
en santé du Canada



VICTORIA HOSPITALS  
FOUNDATION



# Project Plan

## **CISUR (UVIC), with FNHA, BCYADWS, and PEEP**

Primary data collection with multiple stakeholder groups:  
Longitudinal survey of people who have newly received or are seeking an RM prescription (n=200)  
Cross-sectional survey of people who received an RM prescription (n=200)  
Interviews with PWUD (n=40), with an additional sample of Indigenous people led by FNHA (n=20)  
Interviews with service providers/planners (n=40)

## **BCCDC (UBC)**

Surveillance data available through BCCDC/PHSA COVID-Cloud  
Includes community pharmacy dispensing (PharmaNet), COVID-19 testing (Public Health Labs), and vital statistics

## **CHEOS (SFU)**

Linked administrative health data from 10 databases available through the Persons who use substances (PSUD) Cohort  
Includes perinatal services, incarceration, and social assistance records, among others  
Data available from Jan 1, 1996 onwards



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# Risk Mitigation Guidance Surveillance Data

- 1) Estimate the number of persons who were dispensed RMG prescriptions using the most up-to-date data available through the BCC19C (COVID) Cohort;
- 2) Describe the demographic characteristics of people who were dispensed RMG prescriptions overall and by RMG prescription type;
- 3) Estimate mortality among persons who have received RMG prescriptions

Drugs listed in RMG document dated  
March 26<sup>th</sup> 2020

Data available from the From  
BCC19C Cloud for the period:  
March 27, 2020 - February 28, 2021

- PharmaNet:
  - Prescriptions identified using DIN/PINs for each of the drugs listed in RMG document
  - Directions for use variable
- Vital Statistics
  - Death date, cause of death

Drug type	Drug sub-type
Opioids	M-eslon (morphine), hydromorphone tablets
Stimulants	Dextroamphetamine, methylphenidate
Benzodiazepines	Diazepam, clonazepam
Alcohol withdrawal management	Carbamazepine, clonidine, gabapentin

# Demographic characteristics of people who received RMG dispensations

**6,498** people were dispensed Risk Mitigation Guidance (RMG) medications from March 27<sup>th</sup> 2020 to February 28, 2021

	People identified N=6498 N(%)
<b>Age</b>	
15-19	91 (1.4)
20-29	1129 (17.3)
30-39	1979 (30.5)
40-49	1576 (24.3)
50-59	1146 (17.6)
60+	577 (8.9)
<b>Sex</b>	
Female	2395 (36.9)
Male	4103 (63.1)
<b>Region</b>	
Unknown	18 (0.3)
Interior Health	704 (10.8)
Fraser Health	1351 (20.8)
Vancouver Coastal Health	2628 (40.4)
Vancouver Island Health	1324 (20.4)
Northern Health	473 (7.3)



Opioid medications were dispensed to 3,771 persons (58.0%)

Stimulant medications were dispensed to 1,220 persons (18.8%)

Alcohol withdrawal management medications were dispensed to 1,431 persons (22.0%)

Benzodiazepines were dispensed to 784 persons (12.1%)

# RMG dispensation characteristics

## Dispensation frequency by drug type

	Total unique dispensations	Opioid	Stimulant	Benzodiazepines	Alcohol Withdrawal Management
Prescription characteristics	N=179,349 N(%)	N=131,692 N(%)	N=36,374 N(%)	N=5954 N(%)	N=5329 N(%)
<b>Daily Dispensations</b>	<b>169,085 (94.3)</b>	<b>126,382 (95.9%)</b>	<b>33,782 (92.9%)</b>	<b>5204 (87.3%)</b>	<b>3717(69.8%)</b>
2-6 days	6748 (3.8)	3971(3.0%)	1612 (4.4%)	505(8.5%)	660(12.4%)
7- 22 days	3144 (1.8)	1291(0.1%)	878 (2.4%)	206(3.5%)	769(14.4%)
23 days or more	372 (0.2)	48(1.0%)	102 (0.3%)	39(0.7%)	183(3.4%)

Overall, there were 179,349 unique medication dispensations, more than 70% of which were for opioids, approximately 20% of which were for stimulants, ~ 3% for benzodiazepines, and ~3% for Alcohol withdrawal management medications.

NOT FOR EXTERNAL DISTRIBUTION

# Concurrent OAT among people who received RMG opioid prescriptions

## Opioid agonist treatment access and opioid RMG prescriptions

	N=3771 N(%)
Dispensed OAT in the 30 days prior to first RMG dispensation*	2571 (68.2)
Same day OAT and RMG dispensations**	66 (1.8)
OAT dispensed within 7 days post-RMG**	554 (14.7)
No OAT dispensed in 30 days pre or post RMG	580 (15.4)

Footnotes: OAT= buprenorphine, methadone, SR/M, injectable diacetylmorphine, injectable hydromorphone

\*Of these persons, 96% (n=2463) were also dispensed OAT in the 30 days after RMG.

\*\*Did not receive OAT in the previous 30 days

# Mortality among people who received RMG prescriptions

## Between March 27<sup>th</sup> 2020 - February 28<sup>th</sup> 2021:

- We identified **6,498** people who were dispensed a RMG medication
  - Of these, **82** people died in the same period
  - Mortality rate: 13.2 deaths per 1000 person years
  - Mortality rates in other studies:
    - Meta analysis of people who inject drugs: 23.5/ 1000 person years<sup>1</sup>
    - Meta analysis of studies of OAT patients 16 per 1000 person years<sup>2</sup>
    - Meta analysis of studies of people with OUD 18.7 per 1000 person years<sup>3</sup>
    - EMCDDA European drug report 14.2 per 1000 person years<sup>4</sup>
    - BCCDCs Provincial Overdose cohort: 12 month 5% crude mortality for people who had visited an ED for overdose in the prior year<sup>5</sup>

- Cause still under investigation for 50 (61%) of the 82 deaths
  - There were >1800 illicit drug toxicity deaths in British Columbia in the same period (April 2020- Feb 2021)
- A wide variety of causes of death for the 32 (39%) deaths where cause is currently available:
  - Malignant neoplasm
  - Colitis
  - Heart failure
  - Liver disease
  - Cellulitis



- The vast majority of RMG dispensations are daily dispensed
  - 96% of all opioid RMG dispensations.
- Most persons who have received RMG opioid medications (68%) were already receiving OAT in the month prior to first RMG, or were started on OAT within 1 week of initiating RMG (16.5%)
- Mortality rate is lower than in other studies of mortality among people who inject illicit drugs, and among people receiving treatment for opioid use disorder.
  - Analysis of RMG mortality with matched control is currently underway

- Administrative health data is the primary source for basic surveillance and monitoring of RMG prescribing
- **Data assumes the person who received the intervention (medications) was the beneficiary of the treatment**
  - Unable to measure the transfer/diversion of medications to other persons
- **Mixed methods are needed to create a complete picture of RMG prescribing and to understand/evaluate effectiveness**

- Continued RMG surveillance using BCC19C
- Analysis of hydromorphone detected in illicit drug toxicity deaths with BC Coroners Service
- Potential chart review to uncover further details about context of the deaths with health authorities
- Interpretation of findings alongside primary data collection team



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**Thank you!**



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## References:

- 1) Mathers, B. M., Degenhardt, L., Bucello, C., Lemon, J., Wiessing, L., & Hickman, M. (2013). Mortality among people who inject drugs: a systematic review and meta-analysis. *Bulletin of the World Health Organization*, 91, 102-123.
- 2) Bahji A, Cheng B, Gray S, Stuart H. Reduction in mortality risk with opioid agonist therapy: A systematic review and meta-analysis. *Acta Psychiatr Scand*. 2019; 140(4):313-339.
- 3) Bahji A, Cheng B, Gray S, Stuart H. Mortality among people with opioid use disorder: A systematic review and meta-analysis. *J Addict Med*. 2020; 14(4):e118-e132.
- 4) European Monitoring Centre for Drugs and Drug Addiction. (2015). Mortality Among Drug Users in Europe: New and Old Challenges for Public health.
- 5) Moe J, Chong M, Zhao B, Scheuermeyer FX, Pursell R, Slaunwhite A. Death after emergency department visits for opioid overdose in British Columbia: A retrospective cohort analysis. *CMAJ open*. 2021; 9(1):E242-e251.



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### Data Sources

**BCC19C Cohort:** The BCC19C was established at the Provincial Health Service Authority (PHSA) as a surveillance platform to integrate various datasets including data on BC-wide laboratory tests, COVID-19 surveillance case data, HealthLink 811 calls, prescription drug dispensations, medical visits, ambulance dispatches, Intensive Care Unit (ICU) admissions, and mortality - all integrated with existing administrative data sources such as the Chronic Disease Registry, hospital admissions and the Provincial Client Roster.

BC Coroners Service: Illicit Drug Toxicity Deaths in BC. January 1, 2010 to October 31, 2020. In. <https://www2.gov.bc.ca/assets/gov/birth-adoption-death-marriage-and-divorce/deaths/coroners-service/statistical/illicit-drug.pdf>; 2020.

British Columbia Ministry of Health, British Columbia Centre on Substance Use: Risk Mitigation in the context of dual public health Emergencies. In. <https://www.bccsu.ca/wp-content/uploads/2020/04/Risk-Mitigation-in-the-Context-of-Dual-Public-Health-Emergencies-v1.5.pdf>; 2020.

BC Ministry of Health, Data Stewardship Committee: PharmaNet Data Extract. In. <http://www2.gov.bc.ca/gov/content/health/conducting-health-researchevaluation/dataaccess-health-data-central>; 2020.

BC Ministry of Health: Consolidation File (MSP Registration & Premium Billing) Data Extract. In. <http://www2.gov.bc.ca/gov/content/health/conducting-health-research-evaluation/dataaccesshealth-data-central>; 2020.

## No standard method to identify Risk Mitigation Prescriptions in PharmaNet

- No RMG-specific DINPINS
- Physicians record RMG prescriptions in different ways – ‘safe supply’, ‘pprm’, ‘risk mit’, etc
- Persons can receive these RMG medications for many reasons (i.e. often multiple indications for each DIN/PIN)
- Our team developed two case definitions to identify RMG prescriptions based on data pre/post RMG and guidance from prescribers, health authorities.

**Case definition 1: Higher specificity, lower sensitivity**

For each drug sub-type, person NOT on RMG medication in the 2 months prior to March 27, 2020, but prescribed medication after March 27, 2020 with one of the following keywords in the directions for use variable: corona, coronavir, coronavirus, coronavirus, covid, covid19, crisis, mitigat, mitigati, mitigatio, mitigation, pande, pandem, pandemic, pandemic withdrawal management, pprm, pwm, risk mit, risk mitigation, riskmitigation, safe supp, safe suppl, safe supply, safer supply

\*Exclusion: “pain” in directions for use variable

**Case definition 2: Higher sensitivity, lower specificity**

For each drug sub-type, person NOT on RMG medication in the 2 months prior to March 27, 2020, but prescribed medication after March 27, 2020 with one of the keywords in the directions for use variable as listed in definition 1 or any of the following keywords in the directions for use variable: carries, carry, craving, deliv, delivery, dispense+deliver, dispense+delivery, dispensecarries, distancing, emerge, emergen, emergenc, emergency, emergency supply, guidan, guidanc, guideline, guidelines, illici, illicit, interim, isolatio, isolation, management, outbreak, overdo, replacement, risk, safer, suply, supply, unwit, unwitne, unwitness, unwitnessed, withd, withdr, withdra, withdraw, withdraw, withdrawa, withdrawal, witness, witnessed

\*Exclusion: “pain” in directions for use variable

For cases identified only by the single underlined keywords, application of the following criteria for alcohol withdrawal and benzodiazepine cases only:

Exclusion criteria: Persons with a record in MSP or PharmaNet for palliative care or cancer from March 27 2020- Feb 28 2021 and prior to first RMG prescription.

Inclusion criteria: Record in MSP for Substance Use Disorder from March 27 2020- Feb 28 2021 prior to at least one of their RMG prescriptions.





# Questions & Discussion



A top-down view of a wooden desk. In the center is a black tablet displaying the text 'TIME TO EVALUATE!' in large, bold, black and red letters. To the right is a blue spiral notebook with a wooden pen. Above the tablet is a white cup of black coffee. Surrounding the coffee are several sticky notes (yellow, light blue, pink) and paper clips (purple, green).

**TIME TO  
EVALUATE!**

***Link in Chat*** 



# BOOST

Best-Practices in Oral Opioid agonist  
Therapy Provincial Collaborative

## THANK YOU!

### ***Upcoming Sessions:***

- *BOOST QI Network Annual Congress (Tuesday, September 28<sup>th</sup>, 9AM-12PM)*
- *QI BOOSTer Series (TBD)*

CONTACT US: [boostcollaborative@bccfe.ca](mailto:boostcollaborative@bccfe.ca)

VISIT THE WEBSITE: <http://www.stophiv aids.ca/oud-collaborative>