

Background

A public health emergency was declared in the province of British Columbia on April 14, 2016 to address a significant increase in the number of opioid-related overdose deaths. This declaration remains in force to this day. Beginning in March 2020, a policy of safer supply was enacted as a tool to address this crisis. Pharmaceutical-grade opioids (usually hydromorphone) could be prescribed to individuals at high risk of overdose to reduce their reliance on toxic street-purchased opioids and reduce the risk of overdose-related mortality. There is an urgent need to understand how prescribed hydromorphone is being utilized in Vancouver's inner city and any impact its use may have had on opioid-related adverse health outcomes, including mortality.

Methods

In March & April 2024, 50 individuals enrolled in our opiate substitution program with an active prescription for hydromorphone were identified. A urine sample was collected and tested for hydromorphone, cocaine, amphetamines, fentanyl, and methadone. An anonymous demographic and behavioral questionnaire was administered to elucidate hydromorphone usage patterns. The questionnaire was administered in a linked but anonymous manner separately from the process of prescription renewal.

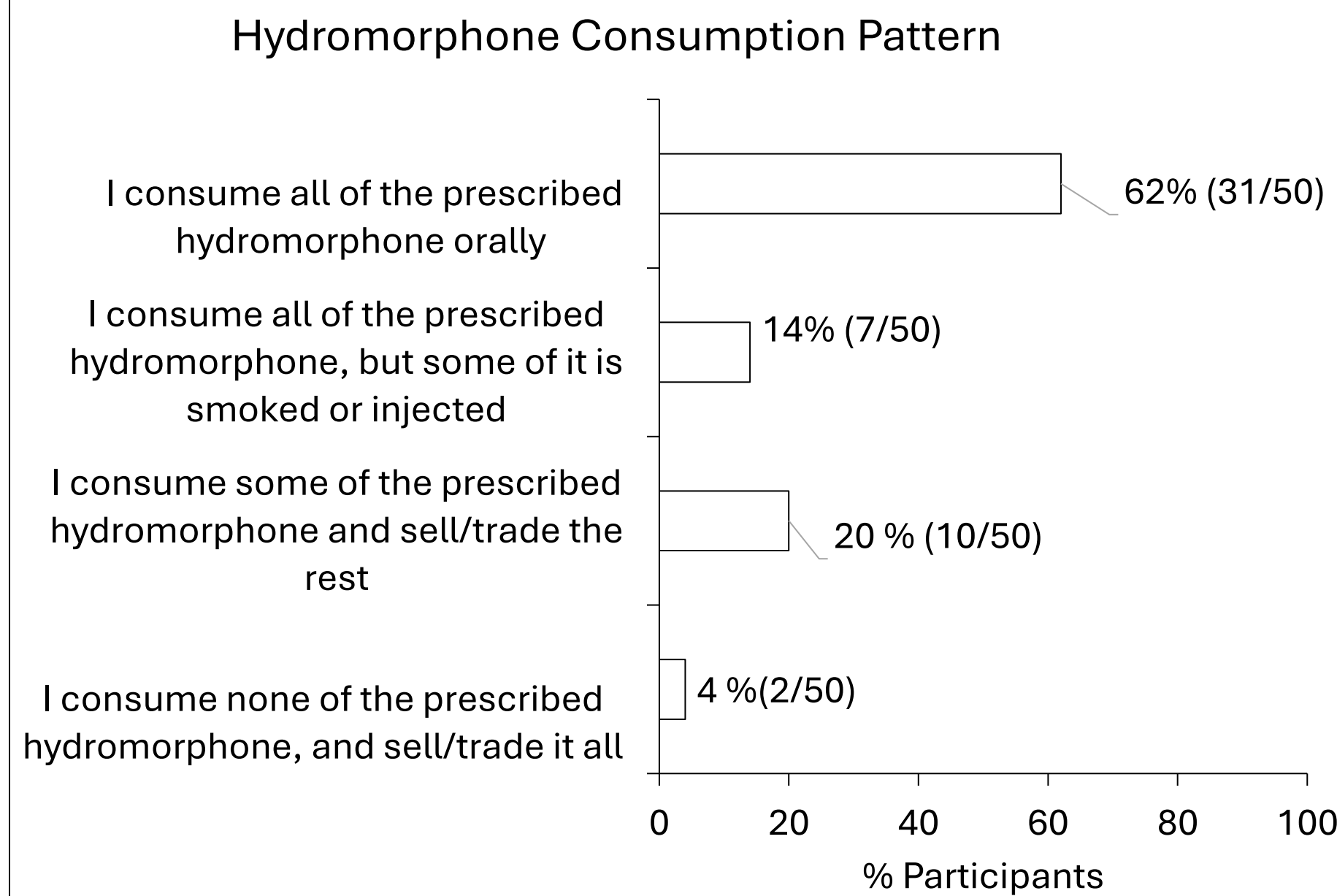


Figure 1. Hydromorphone consumption pattern.

Results

Of the 50 participants, we note: median age of 49(21-69) years, 26% indigenous, 82% unstably housed, 92% unemployed, 84% previously incarcerated, 58% with recent overdose events, 10% HIV infection and 74% HCV infection. All had been prescribed hydromorphone at our centre (median of 15 months) at a median daily dose of 112 mg. The results of urine drug screens indicate polysubstance street drug use in all participants, with predominant use of fentanyl (84%) and amphetamines (72%). Hydromorphone was detected in 38/50 (76%) samples. According to the questionnaire, 62% were taking the hydromorphone as prescribed, some were either smoking/injecting some of the prescribed quantity (14%), others were selling/trading a proportion of their hydromorphone (20%). Two participants stated they sold/traded all the prescription. By urine drug screen, as many as 24% of participants did not appear to be consuming any prescribed hydromorphone. Of 50 individuals receiving safer supply over the past year, there have been no overdose-related deaths in the study population.

Table 1. Characteristics of participants who showed a positive urine drug screening test for hydromorphone vs. who tested negative for hydromorphone.

Baseline Characteristics of Participants	Urine drug screening test for Hydromorphone	
	Hydromorphone-Positive N=38	Hydromorphone-Negative N=12
Median Age (range)	53 (24-69)	44 (21-65)
IQR	40.2-59.7	34.5-51.7
Sex (n, %)		
Female	7 (18.5%)	3 (25%)
Male	31 (81.5%)	9 (75%)
Ethnicity (n, %)		
Caucasian	29 (76.3%)	4 (33.3%)
Indigenous	8 (21%)	5 (41.7%)
Other	1 (2.6%)	3 (25%)
History of Drug Injection		
Yes	29 (76.3%)	10 (83.3%)
No	9 (23.7%)	2 (16.7%)
History of Drug Overdose		
Yes	22 (57.9%)	7 (58.3%)
No	14 (36.9%)	5 (41.7%)
Housing Stability		
Yes	7 (18.5%)	2 (16.6%)
No	31 (81.6%)	10 (83.3%)
History of Incarceration		
Yes	31 (81.6%)	11 (91.7%)
No	7 (18.5%)	1 (8.3%)
Highest level of Education		
Elementary school	13 (34.2%)	6 (50%)
High School	15 (39.5%)	5 (41.7%)
College/Univeristy/Trade School	10 (26.3%)	1 (8.3%)
Working Status		
Yes	4 (10.5%)	0
No	34 (89.5%)	12 (100%)
History of HIV		
Yes	5 (13.2%)	0
No	33 (86.8%)	12 (100%)
History of HCV		
Yes	28 (73.7%)	9 (75%)
No	10 (26.3%)	3 (25%)

Table 2. Characteristic of participants who reported to consume all of the prescribed hydromorphone compared to those who reported to sell/trade some or all of the prescribed hydromorphone.

Baseline Characteristics of Participants	Hydromorphone drug use pattern	
	Consuming all of the prescribed Hydromorphone N=38	Selling/Trading some or all of the prescribed hydromorphone N=12
Median Age (range)	54 (21-69)	38 (24-57)
IQR	43.2-61	33-47
Sex (n, %)		
Female	8 (21%)	2 (16.7%)
Male	30 (78.9%)	10 (83.3%)
Ethnicity (n, %)		
Caucasian	26 (68.5%)	7 (58.3%)
Indigenous	10 (26.3%)	3 (25%)
Other	2 (5.3%)	2 (16.7%)
History of Drug Injection		
Yes	27 (71%)	12 (100%)
No	11 (28.9%)	0
History of Drug Overdose		
Yes	20 (52.6%)	9 (75%)
No	16 (42.1%)	3 (25%)
Housing Stability		
Yes	8 (21%)	1 (8.3%)
No	30 (78.9%)	11 (91.6%)
History of Incarceration		
Yes	31 (81.6%)	11 (91.7%)
No	7 (18.4%)	1 (8.3%)
Highest level of Education		
Elementary school	13 (34.1%)	6 (50%)
High School	15 (39.5%)	5 (41.7%)
College/Univeristy/Trade School	10 (26.3%)	1 (8.3%)
Working Status		
Yes	4 (10.5%)	0
No	25 (65.8%)	12 (100%)
History of HIV		
Yes	5 (13.2%)	0
No	33 (86.8%)	12 (100%)
History of HCV		
Yes	28 (73.7%)	9 (75%)
No	10 (26.3%)	3 (25%)

Conclusion

The provision of safer supply has not led to discontinuation of reliance on street drug supply but appears to have had a benefit on opioid-related mortality. If safer supply continues to be used as a tool to address the opioid crisis (along with opiate substitution therapy, engagement in multidisciplinary care and timely access to voluntary drug treatment programs when requested), there is a need to understand the potential benefits of this intervention. A particular issue that requires urgent attention is the approach for individuals found to be diverting the entire prescribed supply of hydromorphone (as many as 24% of our cohort) in such a way as to preserve potentially life-saving engagement in care.

Acknowledgements

Dr. Conway has received grant support, honoraria and acted as a remunerated advisor for AbbVie Corporation, Gilead Sciences Inc., Indivior Canada Ltd., Merck & Co., Moderna, Sanofi Pasteur, and ViiV Healthcare. No pharmaceutical grants were received in the development of this study.