**YOUTH AND THE OPIOID CRISIS:**

**STRATEGIES FOR INTERVENTION AND THE BRITISH COLUMBIAN EXPERIENCE**

**ABSTRACT**

The opioid crisis is a growing public health concern in Canada, especially in British Columbia, where it has been declared a public health emergency. In response to the rising number of youth overdose deaths, British Columbia has implemented a number of harm reduction and prevention strategies. Areas for continued improvement include naloxone kit training, encouraging users to not use alone and for bystanders to call 911 in the event of an overdose, and minimizing risk factors for addiction while maximizing protective factors. As the opioid crisis continues its spread east, other jurisdictions have much to learn from the British Columbian experience.

WORD COUNT: 99

The opioid crisis is a growing public health concern in Canada, especially in British Columbia (B.C.), where it has been declared a public health emergency.1 Continuing its upward trend in British Columbia since 2012, the rate of fatal overdoses in the first nine months of 2017 has already surpassed that of 2016 by 49% (Table 1).2

Nationwide, young people aged 15–24 had the fastest growing rates of hospitalization for opioid poisoning in the last decade.3,4 In British Columbia, overdose deaths amongst youth and young adults continue to rise in 2017 (Table 1). While British Columbia has implemented a number of strategies, there is an unmet need for understanding factors contributing to drug use and overdose in youth, and for effective prevention and harm reduction programs.

Delay in seeking medical treatment is a major contributor to overdose fatalities.5 Using in the presence of others who can recognize the signs of overdose, call for help, and provide medical interventions (e.g. naloxone) reduces fatalities and is a strength of INSITE, Vancouver’s supervised injection site for adults.6 There has never been a death at a supervised consumption site anywhere in the world.7 A review of overdose deaths in British Columbia from 2009–2013 found that 77% of youth aged 13–18 were with other people when they overdosed.5 While not using drugs alone is an important step in reducing the risk of fatal overdose, in 15% of youth overdose deaths, someone had placed them in the recovery position or performed a welfare check but did not call 911.5 Educating people likely to witness an overdose and reducing barriers to seeking medical assistance are of utmost importance. The Coroners Service of British Columbia has recommended that the physical education curriculum in schools address the issue of calling 911 when witnessing someone in medical distress, including overdose.5 A common misconception among drug users is that by calling 911 for an overdose, they may face sanctions for drug possession.8,9 Education surrounding the Good Samaritan Drug Overdose Act, which provides legal protection for people seeking emergency support while experiencing or witnessing an overdose, is important for encouraging calling 911.10

Of youth who died of overdose in British Columbia, 50% lived with family, and none lived on the street exclusively.5 In 62% of youth who lived with family and 100% of those who did not, people living with them knew about their drug use,.5 Most fatal youth overdoses occurred at a residential address.5 Educating those living with drug users about the signs of overdose and how to respond is an important measure in preventing fatalities; this could be provided through pharmacies or by the Ministry of Child and Family Development, who had contact with 77% of youth who died of overdose.5 31% of youth who died had previous hospitalizations for overdose, which constitute opportunities for education for the youth and their families.5 Families can be referred to campaigns providing resources and tools, such as Moms Stop the Harm.11 Medications prescribed to someone else were involved in 31% of youth overdose deaths, usually involving medications prescribed to a family member (23%).5 This highlights the need when prescribing and dispensing opioids for patient education on risk to others, the importance of securing medications, and safe disposal.12

Educating front–line staff involved with high–risk youth (e.g. group home workers, police, school outreach programs) about naloxone kits (a lifesaving tool that can reverse opioid overdose), increasing knowledge about signs of overdose and where youth and their families can access free kits (e.g. through towardtheheart.com), and furthering awareness of resources for prevention and addiction treatment could reduce the impact of opioids.9,13–18 Several school districts in British Columbia and higher education institutions, including the University of British Columbia, have already implemented or are planning make naloxone kits available.19,20 Naloxone training was viewed positively by participants of the Vancouver Inner City Youth program, suggesting that this could be beneficial elsewhere.21

The recent epidemic of drug overdose deaths has been attributed to the increased prevalence of illicit fentanyl, a potent opioid detected in 83% of overdose deaths in 2017 (January – September), up from 5% in 2012.1,2 The number of illicit drug overdose deaths not including fentanyl has remained relatively stable since 2011, at an average of 300 deaths per year.2 Of B.C. youth who died of overdose from 2009–2013, 23% had consumed a drug other than what they thought it was, or that had been adulterated with another substance (e.g. MDMA adulterated with fentanyl).5 Increasing the availability of drug–testing kits could reduce the number of these accidental deaths. Free, non–judgemental drug testing has been provided by ANKORS at festivals in British Columbia and can reduce the risk of drug use where it is already occurring.22,23 This is a critical opportunity for drug education in a trusting environment, the “hook” that engages users in conversations about harm reduction.22,23

Youth engagement in harm reduction approaches is essential in preventing opioid–related harm and overdoses.24 Peer–to–peer programs, involving peers with lived experience of drug use, are an effective method of engaging and empowering youth and have been effective in reducing mortality amongst Vancouver’s Downtown Eastside adult drug users.25–27 Preventative measures to minimize risk factors for addiction, like childhood trauma or mental illness, and to maximize protective developmental assets, including family, school, and community support systems, are another key aspect of reducing substance misuse.28–30

British Columbia has implemented many effective strategies for overdose prevention and harm reduction in youth, which could serve as an effective model for other regions as the opioid crisis spreads east.31,32 While increasing the availability of naloxone kits, encouraging bystanders to call 911, and minimizing risk factors for addiction are areas for further improvement in British Columbia, a bolder approach would be decriminalization of all illegal drugs, which would improve the safety of drug consumption and allow policing costs to be re–directed towards treatment and prevention programs. While a controversial strategy, it has been highly successful in Portugal, which, in the midst of a heroin epidemic, decriminalized drugs in 2001 and now has one of the lowest fatal overdose rates in the world.33 What is clear is that the opioid crisis is a complex issue that will require a multi–pronged approach to overcome.

WORD COUNT: 998

**Table 1. Overdose deaths in Canada and British Columbia, 2016–2017**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | Deaths | | Deaths per 100,000 population | |
| 2016  (year-end) | 2017  (to Sep 30) | 2016  (year-end) | 2017  (to Sep 30) |
| Opioid-related deaths in Canada34 | All | 2,458 |  | 8.8 |  |
| Illicit drug overdose deaths in  British Columbia2 | All | 981 | 1,103 | 20.6 | 30.6 |
| Youth  (age 10-18) | 12 | 16 | 2.7 | 4.8 |
| Young adults (age 19-29) | 206 | 205 | 29.2 | 38.7 |

**REFERENCES:**

1. British Columbia Centre for Disease Control. Public health emergency in BC [Internet]. 2016 [cited 2017 Oct 14]. Available from: http://www.bccdc.ca/about/news-stories/stories/public-health-emergency-in-bc

2. Coroners Service of British Columbia. Illicit drug overdose deaths in BC (January 1, 2007 - September 30, 2017) [Internet]. 2017 [cited 2017 Nov 26]. 20 pages. Available from: https://www2.gov.bc.ca/assets/gov/public-safety-and-emergency-services/death-investigation/statistical/illicit-drug.pdf

3. Canadian Institute for Health Information. Opioid-related harms in Canada [Internet]. 2017 [cited 2017 Nov 26]. 42 pages. Available from: https://www.cihi.ca/sites/default/files/document/opioid-harms-chart-book-en.pdf

4. Ubelacker S. Rising hospitalizations due to opioid crisis puts a burden on Canada’s health system: report. The Toronto Star [Internet]. 2017 Sep 14 [cited 2017 Nov 26] . Available from: https://www.thestar.com/news/canada/2017/09/14/rising-hospitalizations-due-to-opioid-crisis-puts-a-burden-on-canadas-health-system-report.html

5. Coroners Service of British Columbia Child Death Review Panel. Preventing death after overdose: a review of overdose deaths in youth and young adults 2009-2013 [Internet]. 2016 [cited 2017 Nov 26]. 34 pages. Available from: https://www2.gov.bc.ca/assets/gov/public-safety-and-emergency-services/death-investigation/child-death-review-unit/reports-publications/overdose-death-youth-young-adult.pdf

6. Kerr T, Small W, Moore D, Wood E. A micro-environmental intervention to reduce the harms associated with drug-related overdose : evidence from the evaluation of Vancouver’s safer injection facility. Int J Drug Policy [Internet]. 2007;18:37–45. Available from: https://www.ncbi.nlm.nih.gov/pubmed/17689342

7. British Columbia Centre on Substance Abuse. BC Centre on Substance Use releases new provincial guidelines for operating supervised consumption services [Internet]. 2017 [cited 2017 Nov 26]. Available from: https://www.bccsu.ca/news-release/bc-centre-on-substance-use-releases-new-provincial-guidelines-for-operating-supervised-consumption-services/

8. MacLean A. “People are afraid”: why some Canadians don’t call 911 during an overdose. Global News [Internet]. 2017 May 9 [cited 2017 Nov 26]. Available from: https://globalnews.ca/news/3438774/people-are-afraid-why-some-canadians-dont-call-911-during-an-overdose/

9. Banjo O, Tzemis D, Al-Qutub D, Amlani A, Kesselring S, Buxton JA. A quantitative and qualitative evaluation of the British Columbia Take Home Naloxone program. CMAJ [Internet]. 2014;2(3):153–61. Available from: https://www.ncbi.nlm.nih.gov/pubmed/?term=10.9778%2Fcmajo.20140008

10. Government of Canada. Good Samaritan Drug Overdose Act [Internet]. Canada; 2017 [cited 2017 Oct 14]. Available from: https://www.canada.ca/en/health-canada/services/substance-abuse/prescription-drug-abuse/opioids/about-good-samaritan-drug-overdose-act.html

11. Moms Stop the Harm. Moms Stop the Harm [Internet]. 2017 [cited 2017 Oct 14]. Available from: http://www.momsstoptheharm.com/

12. Binswanger IA, Glanz JM. Pharmaceutical opioids in the home and youth: implications for adult medical practice. Subst Abus [Internet]. 2015;36(2):141–3. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4470841/

13. Toward the Heart. Toward the Heart [Internet]. 2017 [cited 2017 Nov 26]. Available from: http://towardtheheart.com/

14. Green TC, Heimer R, Grau LE. Distinguishing signs of opioid overdose and indication for naloxone : an evaluation of six overdose training and naloxone distribution programs in the United States. Addiction [Internet]. 2008;103(6):979–89. Available from: https://www.ncbi.nlm.nih.gov/pubmed/?term=10.1111%2Fj.1360-0443.2008.02182.x

15. Williams A V, Marsden J, Strang J. Training family members to manage heroin overdose and administer naloxone : randomized trial of effects on knowledge and attitudes. Addiction [Internet]. 2013;109:250–9. Available from: https://www.ncbi.nlm.nih.gov/pubmed/?term=Training+family+members+to+manage+heroin+overdose+and+administer+naloxone%3A+randomized+trial+of+effects+on+knowledge+and+attitudes.

16. McDonald R, Strang J. Are take-home naloxone programmes effective ? Systematic review utilizing application of the Bradford Hill criteria. Addiction [Internet]. 2016;111:1177–87. Available from: https://www.ncbi.nlm.nih.gov/pubmed/?term=10.1111%2Fadd.13326

17. McDonald R, Campbell ND, Strang J. Twenty years of take-home naloxone for the prevention of overdose deaths from heroin and other opioids — conception and maturation. Drug Alcohol Depend [Internet]. 2017;178(March):176–87. Available from: http://dx.doi.org/10.1016/j.drugalcdep.2017.05.001

18. Giglio RE, Li G, Dimaggio CJ. Effectiveness of bystander naloxone administration and overdose education programs: a meta-analysis. Inj Epidemiol [Internet]. 2015;2(10):1–9. Available from: https://www.ncbi.nlm.nih.gov/pubmed/?term=Effectiveness+of+bystander+naloxone+administration+and+overdose+education+programs%3A+a+meta-analysis

19. Wells N. B.C. school trustee pushes for province-wide naloxone kits. CTV News [Internet]. 2017 Sep 26 [cited 2017 Oct 14]. Available from: http://www.ctvnews.ca/health/b-c-school-trustee-pushes-for-province-wide-naloxone-kits-1.3606173

20. The Canadian Press. Canadian universities stock up on naloxone kits to treat opioid overdoses. The Toronto Star [Internet]. 2017 Sep 6 [cited 2017 Oct 14]. Available from: https://www.thestar.com/news/canada/2017/09/06/canadian-universities-stock-up-on-naloxone-kits-to-treat-opioid-overdoses.html

21. Mitchell K, Durante SE, Pellatt K, Richardson CG, Mathias S, Buxton JA. Naloxone and the Inner City Youth Experience (NICYE): a community-based participatory research study examining young people’s perceptions of the BC take home naloxone program. Harm Reduct J [Internet]. 2017;14(34):1–8. Available from: https://www.ncbi.nlm.nih.gov/pubmed/?term=10.1186%2Fs12954-017-0160-3

22. Sage C. ANKORS: Drug testing at Shambhala Music Festival: 15 years and counting. [Internet]. 2016 [cited 2017 Oct 14]. 26 pages. Available from: http://www.ankorsvolunteer.com/uploads/4/6/9/3/46939087/clubhealthpp.pdf

23. Munn MB, Lund A, Golby R, Turris SA. Observed benefits to on-site medical services during an annual 5-day electronic dance music event with harm reduction services. Prehosp Disaster Med [Internet]. 2016;31(2):228–34. Available from: https://www.ncbi.nlm.nih.gov/pubmed/?term=Observed+Benefits+to+On-site+Medical+Services+during+an+Annual+5-day+Electronic+Dance+Music+Event+with+Harm+Reduction+Services.

24. Paterson BL, Panessa C. Engagement as an ethical imperative in harm reduction involving at-risk youth. Int J Drug Policy [Internet]. 2008;19:24–32. Available from: http://www.sciencedirect.com/science/article/pii/S0955395907002460

25. United Nations Office on Drugs and Crime. Peer to peer: using peer to peer strategies in drug abuse prevention [Internet]. 2003 [cited 2017 Nov 26]. 56 pages. Available from: https://www.unodc.org/pdf/youthnet/handbook\_peer\_english.pdf

26. Thomson E, Lampkin H, Maynard R, Karamouzian M, Jozaghi E. The lessons learned from the fentanyl overdose crises in British Columbia, Canada. Addiction [Internet]. 2017;112:2068–70. Available from: https://www.ncbi.nlm.nih.gov/pubmed/?term=10.1111%2Fadd.13961

27. Jozaghi E, Lampkin H, Andresen MA. Peer-engagement and its role in reducing the risky behavior among crack and methamphetamine smokers of the Downtown Eastside community of Vancouver, Canada. Harm Reduct J [Internet]. 2016;13(19):1–9. Available from: http://dx.doi.org/10.1186/s12954-016-0108-z

28. Canadian Centre on Substance Abuse. Stronger together: Canadian standards for community-based youth substance abuse prevention [Internet]. 2010 [cited 2017 Nov 26]. 160 pages. Available from: http://www.ccsa.ca/Resource Library/2010\_CCSA\_Community-based\_Standards\_en.pdf

29. West Virginia Department of Health and Human Resources Adolescent Health Initiative. 40 developmental assets [Internet]. 2002 [cited 2017 Nov 26]. 3 pages. Available from: https://www.wvdhhr.org/ahi/assets.pdf

30. Search Institute. 40 developmental assets for adolescents [Internet]. 2017 [cited 2017 Nov 26]. Available from: http://www.search-institute.org/content/40-developmental-assets-adolescents-ages-12-18

31. The Canadian Press. Fentanyl crisis moving east and leaders in Toronto hope to stop the epidemic’s spread. National Post [Internet]. 2017 Jan 8 [cited 2017 Oct 14]. Available from: nationalpost.com/news/toronto/fentanyl-crisis-moving-east-and-leaders-in-toronto-hope-to-stop-the-epidemics-spread

32. Howlett K, Robertson G. Health Canada to explore national plan to deal with opioid abuse. The Globe and Mail [Internet]. 2016 Apr 18 [cited 2017 Oct 14]. Available from: https://www.theglobeandmail.com/news/national/health-canada-to-explore-national-plan-to-deal-with-opioid-abuse/article29672196/

33. McElroy J. How decriminalizing drugs helped Portugal solve its overdose crisis. CBC News [Internet]. 2017 Feb 3 [cited 2017 Nov 26]. Available from: http://www.cbc.ca/news/canada/british-columbia/portugal-drug-crisis-british-columbia-1.3962714

34. Government of Canada. National report: apparent opioid related deaths (2016) [Internet]. 2016 [cited 2017 Oct 14]. Available from: https://www.canada.ca/en/health-canada/services/substance-abuse/prescription-drug-abuse/opioids/national-report-apparent-opioid-related-deaths.html