On the successes of the BC opioid substitution treatment system, and how we can build upon them

Overwhelming evidence supports treating opioid use disorder to reduce HIV risk behaviors, engage individuals in HIV testing, and improve adherence to antiretroviral therapy by HIV-positive drug users.

B. Nosyk, PhD, R.S. Joe, MD, M. Krajden, MD, K.W. Tupper, PhD, J.S.G. Montaner, MD, E. Wood, PhD

ABSTRACT: Many challenges to delivering health services to individuals with opioid dependence have been overcome in BC with the help of increased access to opioid substitution treatment. Evidence of success is seen in health system data that show increased uptake of opioid substitution treatment and marked improvements in rates of compliance to medication dosing guidelines from 1996 to 2007. Further evidence of success is seen in the fall in new HIV cases in illicit drug users from 352 in 1996 to 29 in 2012. While there are currently no approved forms of pharmacological treatment for stimulant dependence, development efforts to this end continue and may eventually permit successes similar to those seen with opioid substitution treatment. Guided by the successes and lessons learned from the province's management of opioid dependence, BC is poised to establish itself as a global leader in substance use disorder treatment.

This article has been peer reviewed.

The delivery of health services to individuals with opioid dependence has been fraught with challenges, many of which have been overcome in British Columbia over the past 18 years with the help of increased access to opioid substitution treatment (OST), including methadone, buprenorphine, and a buprenorphine and naloxone formulation (Suboxone). Following the transfer of authority for opioid substitution from Health Canada to the College of Physicians and Surgeons of BC, and facilitated in part by new office-based treatment, the number of OST clients has risen from 2800 in 1996 to almost 14 000 in 2012.[1] While waiting lists are said to exist outside the Lower Mainland,[2] at least one survey of inner-city drug users indicates that reports of difficulty accessing OST have fallen to nearly zero.[3] This is testament in part to the commitment of the BC Methadone Maintenance Program at the College of Physicians and Surgeons of BC, which regularly offers continuing medical education for physicians training to prescribe medications for opioid dependence. Continued monitoring of the number of OST-prescribing physicians, their geographic distribution, and their OST patient caseload will facilitate

Dr Nosyk is an associate professor and St. Paul's Hospital CANFAR chair in HIV/AIDS Research at the Faculty of Health Sciences at Simon Fraser University. He is also a research scientist at the BC Centre for Excellence in HIV/AIDS. Dr Joe is associate medical director Addiction Services, Vancouver Coastal Health. Dr Krajden is the medical head in Hepatitis and Clinical Prevention Services and associate medical director at the BC Centre for Disease Control and Prevention. Dr Tupper is the director of Problematic Substance Use Prevention at the British Columbia Ministry of Health and adjunct professor at the School of Population and Public Health at the University of British Columbia (UBC). Dr Montaner is director of the BC Centre for Excellence in HIV/AIDS and head of the Division of AIDS in the Faculty of Medicine, UBC. Dr Wood is a Canada research chair in Inner City Medicine and a professor of medicine in the Division of AIDS, Faculty of Medicine, UBC. He is also the director of the Urban Health Research Initiative at the BC Centre for Excellence in HIV/AIDS.

the province's continued success in improving access to these essential medications.[4]

Another exciting development is the recently established St. Paul's Hospital Goldcorp Fellowship in addiction medicine. This 1-year training program in addiction medicine has been accredited by the American Board of Addiction Medicine and involves the training of physicians with a background in family practice, internal medicine, and psychiatry.

Enhancing quality of care

Evidence of BC's successes is nowhere more apparent than in our assessments of the quality of care in OST. First undertaken in 2010, comprehensive analysis of BC health system data showed marked improvements from 1996 to 2007 in rates of compliance to medication dosing guidelines, including starting doses, titration, and methadone dose tapering.[5]

These initial observations were made possible by BC's unparalleled health administrative data infrastructure. The de-identified linked administrative datasets available in BC allow for individual-level linkage of a near-complete assessment of health service utilization for OST clients. The results from this important data analysis and qualitative research with key stakeholders in the methadone maintenance system[6] have prompted the provincial government to set goals for OST system improvements, and the provincial health officer to monitor and annually report on OST system performance indicators.[7,8]

While we've made important strides in improving treatment of opioid dependence, we are just beginning to realize the potential of databases such as PharmaNet. The previously developed quality-of-care indicators can potentially be implemented in near real-time to yield automated reports for clinical practices or even individual physicians where appropriate. These types of automated quality indicator reports can also inform dosing decisions and otherwise improve the continuity and comprehensiveness of care for OST clients. Given the relatively small and clearly defined patient population (within PharmaNet), we have a unique opportunity for innovation in patient care that may be transferable to other disease areas.

To this end, Vancouver Coastal Health Addiction Services has piloted a quality improvement initiative for OST. Using real-time data from PharmaNet and automated clinic-level dashboard software, the initiative monitors treatment adherence and compliance to dosing guidelines[9] alongside clinic follow-up assessments. The dashboard software also supports automated notification for clinic and outreach staff to contact nonadherent clients to optimize retention. The success of this pilot study has led Vancouver Coastal Health to implement the quality improvement initiative across all OST-prescribing community health centres.

Integrating care for other diseases

The successes of the BC opioid substitution treatment system have contributed to the fight against HIV in BC, where the number of new cases identified in illicit drug users fell from a high of 352 in 1996 to just 29 in 2012.[10,11] This was no doubt driven by improved access to highly active antiretroviral therapy (HAART) and its secondary prevention benefits,[12,13] but supported by other harm reduction programs (e.g., needle distribution programs and Vancouver's supervised injection services), which are both aided by OST.[14] Most recently, we've determined that retention of OST clients has led to a twofold increase in the odds of HAART adherence among HIV-positive injection drug users in BC.[15]

The evidence is overwhelming that treatment of opioid use disorder reduces HIV risk behaviors (i.e., drug injection and needle sharing),[16] helps engage individuals in HIV testing, and also promotes access[17-19] and improves adherence to antiretroviral therapy by individuals who are HIV-infected.[15,20] As a result, a province-wide intervention to focus on HIV care in OST clinical settings is currently being planned and an evaluation strategy is being developed. The proposed study will use a cluster-randomized quasi-experimental design, and will engage partners at the BC Ministry of Health, BC Centre for Excellence in HIV/AIDS, BC Centre for Disease Control, and each of the province's health authorities. The study aims to determine whether a more comprehensive approach to HIV care in OST clinical settings can be effective and provide good value for the scarce health care resources available.

This study may also serve as a basis for future initiatives in hepatitis C prevention and treatment, where increasing access to highly efficacious new treatment options[21] is currently being contemplated. A hepatitis C "treatment as prevention" initiative may soon become a possibility as a number of new, well-tolerated antivirals with cure rates of more than 90% become available within the next few years.

Extending OST successes to stimulant dependence

Stunted by the lack of effective pharmacological treatment options, the public health response to stimulant use disorders has lagged far behind the response to opioid use disorders, and stimulant dependence continues to undermine other domains of health service delivery to marginalized populations. Currently, the number of individuals in BC receiving some form of treatment for stimulant dependence (and subsequently BC's demand for stimulant dependence

Continued on page 512

Continued from page 511

treatment), BC's capacity for treatment, and treatment outcomes are not reported on any level. Epidemiological studies in the BC Lower Mainland suggest that rates of stimulant dependence (most commonly crack cocaine) are at least as high as for heroin.[3,22]

While there are currently no approved forms of pharmacological treatment for stimulant dependence, development efforts to this end continue[23,24] and will be a focal point for new research in BC. While psychosocial treatment and contingency management strategies have proven effective, and are used widely outside of Canada,[25-28] these approaches have not been widely or consistently implemented in BC. Expanding our clinical tools and our physical capacity to treat stimulant dependence can have a positive public health impact in substance abuse and all related comorbidities in BC. Doing this will require both clinical and implementation science research.

BC a potential global leader

Guided by the successes and lessons learned from the province's opioid substitution treatment system, and benefiting from the development of a new physician training program in addiction medicine and an unprecedented level of cooperation across provincial agencies engaged in research and care delivery, BC is poised to establish itself as a global leader in substance use disorder treatment, keeping pace with our standing in HIV/AIDS, cancer, cardiac surgery, and a number of other disease areas.

Competing interests

None declared.

References

1. Office of the Provincial Health Officer. BC methadone maintenance system: Performance measures, 2011/2012. Victoria, BC: Office of the Provincial Health Officer. Accessed 9 October 2014. www.health.gov.bc.ca/pho/pdf/methadone-2011-12.pdf.
2. Luce J, Strike C. A cross-Canada scan of methadone maintenance treatment policy developments. A report prepared for the Canadian Executive Council on Addictions. Accessed 9 October 2014. www.ankors.bc.ca/ccc/CECA%20MMT%20Policy%20Scan%20January%202011.pdf.
3. Urban Health Research Initiative of the BC Centre for Excellence in HIV/AIDS. Drug situation in Vancouver. October 2009. Accessed 9 October 2014. http://uhri.cfenet.ubc.ca/images/Documents/dsiv2009.pdf.
4. Herget G. Methadone and buprenorphine added to the WHO list of essential medicines. HIV AIDS Policy Law Rev 2005;10:23-24.
5. Nosyk B, Marsh DC, Sun H, et al. Trends in methadone maintenance treatment participation, retention, and compliance to dosing guidelines in British Columbia, Canada: 1996-2006. J Subst Abuse Treat 2010;39:22-31.
6. Parkes T, Reist D. British Columbia methadone maintenance treatment program: A qualitative systems review – summary report. Victoria, BC: Centre for Addictions Research BC; 2010. Accessed 9 October 2014. www.carbc.ca/Portals/0/propertyagent/558/files/391/mmtsummaryapr2010.pdf.
7. Response from the BC Government regarding methadone maintenance treatment in British Columbia, 1996-2008: Analysis and recommendations. Accessed 9 October 2014. www.health.gov.bc.ca/library/publications/year/2010/Methadone_maintenance_treatment_review_government_response.pdf.
8. Healthy minds, healthy people: A ten-year plan to address mental health and substance abuse in British Columbia. Victoria, BC: Ministry of Health Services and Ministry of Children and Family Development; 2010. Accessed 9 October 2014. www.health.gov.bc.ca/library/publications/year/2010/healthy_minds_healthy_people.pdf.
9. College of Physicians and Surgeons of British Columbia. Methadone maintenance program: Clinical practice guideline. Accessed 9 October 2014. www.cpsbc.ca/files/pdf/MMP-Clinical-Practice-Guideline.pdf.
10. O'Shaughnessy MV, Hogg RS, Strathdee SA, et al. Deadly public policy: What the future could hold for the HIV epidemic among injection drug users in Vancouver. Curr HIV/AIDS Rep 2012;9:394-400.
11. Montaner JS, Lima VD, Harrigan PR, et al. Expansion of HAART coverage is associated with sustained decreases in HIV/AIDS morbidity, mortality and HIV transmission: The "HIV Treatment as Prevention" experience in a Canadian setting. PLoS One 2014;9:e87872.
12. Wood E, Kerr T, Marshall BD, et al. Longitudinal community plasma HIV-1 RNA concentrations and incidence of HIV-1 among injecting drug users: Prospective cohort study. BMJ 2009;338:b1649.
13. Montaner JS, Lima VD, Barrios R, et al. Association of highly active antiretroviral therapy coverage, population viral load, and yearly new HIV diagnoses in British Columbia, Canada: A population-based study. Lancet 2010;376(9740):532-539.
14. Gilbert M, Buxton J, Tupper K. Decreasing HIV infections among people who use drugs by injection in British Columbia. Victoria, BC: Office of the Provincial Health Officer of British Columbia. Accessed 9 October 2014. www.health.gov.bc.ca/library/publications/year/2011/decreasing-HIV-in-IDU-population.pdf.
15. Nosyk B, Min J, Colley G, et al. The impact of opioid substitution treatment on highly active antiretroviral treatment adherence. Presented at the 2014 Conference on Retroviruses and Opportunistic Infections, Boston, MA, 4 March 2014.
16. Volkow ND, Montaner J. The urgency of providing comprehensive and integrated treatment for substance abusers with HIV. Health Aff 2011;30:1411-1419.
17. Milloy MJ, Kerr T, Zhang R, et al. Inability to access addiction treatment and risk of HIV infection among injection drug users recruited from a supervised injection facility. J Pub Health (Oxf) 2010;32:342-349.
18. Uhlmann S, Milloy MJ, Kerr T, et al. Meth-

adone maintenance therapy promotes initiation of antiretroviral therapy among injection drug users. Addiction 2010; 105:907-913.
19. Wood E, Hogg RS, Kerr T, et al. Impact of accessing methadone on the time to initiating HIV treatment among antiretroviral-naïve HIV-infected injection drug users. AIDS 2005;19:837-839.
20. Palepu A, Tyndall MW, Joy R, et al. Antiretroviral adherence and HIV treatment outcomes among HIV/HCV co-infected injection drug users: The role of methadone maintenance therapy. Drug Alcohol Depend 2006;84:188-194.
21. Alter HJ, Liang TJ. Hepatitis C: The end of the beginning and possibly the beginning of the end. Ann Intern Med 2012;156: 317-318.
22. Canadian Centre on Substance Abuse. 2010 Site report summaries: Vancouver/ Victoria. Accessed 14 March 2012. www .ccsa.ca/Eng/Priorities/Research/CCENDU/pages/2010-report-summaries .aspx#vancouver.
23. Karila L, Reynaud M, Aubin HJ, et al. Pharmacological treatments for cocaine dependence: Is there something new? Curr Pharm Design 2011;17:1359-1368.
24. Colfax GN, Santos GM, Das M, et al. Mirtazapine to reduce methamphetamine use: A randomized controlled trial. Arch Gen Psychiatry 2011;68:1168-1175.
25. Roll JM. Contingency management: An evidence-based component of methamphetamine use disorder treatments. Addiction 2007;102(suppl 1):114-120.
26. Lee NK, Rawson RA. A systematic review of cognitive and behavioural therapies for methamphetamine dependence. Drug Alcohol Rev 2008;27:309-317.
27. Vocci FJ, Montoya ID. Psychological treatments for stimulant misuse, comparing and contrasting those for amphetamine dependence and those for cocaine dependence. Curr Opin Psychiatry 2009;22: 263-268.
28. Substance Abuse and Mental Health Services Administration, US Department of Health and Human Services. Drug and Alcohol Services Information System. Accessed 9 October 2014. wwwdasis .samhsa.gov.

Doctors of BC Board officers & delegates 2014–15

doctors of bc

President	William Cavers	wcavers@doctorsofbc.ca
Past President	William Cunningham	wjcunningham60@gmail.com
President-Elect	Charles Webb	charleswebb@telus.net
Chair of the General Assembly	Lloyd Oppel	lloyd_oppel@telus.net
Honorary Secretary Treasurer	Jaspinder Ghuman	jghuman999#hotmail.com
Interim Chair of the Board	Mark Corbett	markcorbett@telus.net
District #1	Robin Saunders	rd.saunders@shaw.ca
District #1	Gerald Tevaarwerk	tevaar@telus.net
District #1	vacant	vacant
District #2	Robin Routledge	routledge@shaw.ca
District #2	vacant	vacant
District #3	Joanne Young	jmyoung@telus.net
District #3	Bakul Dalal	bakuldalal@gmail.com
District #3	Alex She	alexshe@gmail.com
District #3	Eric Cadesky	drcadesky@gmail.com
District #3	David Kendler	davidkendler@gmail.com
District #3	David Wilton	davidwwilton@yahoo.com
District #3	Susan Burgess	burgnesb@mail.ubc.ca
District #4	Kevin McLeod	kevin_mcleod@mac.com
District #4	Michael Marshall	mtmarshall@shaw.ca
District #5	Jean-Noel Mahy	jnmmahy@gmail.com
District #6	Kimberly Shaw	shaw3shaw@icloud.com
District #7	Ralph Jones	jonesrs@shaw.ca
District #7	Peter Barnsdale	peter@barnsdale.net
District #8	Barry Koehler	bekrheum@telus.net
District #9	James Chrones	jchrones@qcislands.net
District #10	Shirley Sze	brightsky@telus.net
District #11	Dan Horvat	horvat@unbc.ca
District #12	Charl Badenhorst	charl.badenhorst@northernhealth.ca
District #13	Alan Ruddiman	awruddiman@gmail.com
District #13	Mark Corbett	markcorbett@telus.net
District #14	vacant	vacant
District #15	W. Fraser Bowden	dr.fraserbowden@gmail.com
District #16	Luay Dindo	ldindo@telus.net
District #16	Sanjay Khandelwal	sanjaykhandelwal@hotmail.com