The BC Take Home Naloxone Program

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ABSTRACT

BACKGROUND: Naloxone saves lives by reversing opioid overdoses. This study evaluates the successes and challenges of the British Columbia Take Home Naloxone (BCTHN) program. We present results and recommendations for those considering implementing similar programs in Canada.

METHODS: We reviewed program records developed to evaluate the program indicators and generated descriptive statistics. Focus groups and face-to-face interviews were conducted with 40 clients; individual interviews were completed with eight service providers, two police officers and two parents of people who use opioids. Qualitative data were analyzed using content analysis and a qualitative descriptive approach.

RESULTS: As of December 10, 2013, the BCTHN program has trained 815 participants in overdose prevention, recognition and response, distributed 508 kits and received reports of 52 overdose reversals. Stakeholders were supportive of the program and clients reported greater confidence in overdose response. Service providers found the program training materials easy to use and that training improved client engagement and increased utilization of health care services. Challenges included difficulty identifying physician prescribers, recruiting some at-risk populations (e.g. long-term opioid users and chronic pain patients), and clients' reluctance to call 9-1-1. We also found that the police had misconceptions about take-home-naloxone.

INTERPRETATION: The BCTHN program is reducing harms and deaths from overdose, is easy to implement and empowers clients. We identified a need to encourage participation by physicians and some at-risk clients, address misconceptions, and make it conducive for clients to call 9-1-1. It is time to implement THN programs across Canada and save lives now.

Key Words

Drug use; naloxone; opioid overdose; overdose reversal; program evaluation; qualitative research

INTRODUCTION

Mortality and morbidity related to opioid overdose is a major public health issue worldwide.[1] Overdose is the most common cause of death among people who use illicit opioids, and a significant cause of mortality among people prescribed opioids for pain and those prescribed methadone for opioid addiction.[2-4] In 2011, provisional data from the British Columbia (BC) Coroners Service identified 275 drug overdose deaths and the BC Ambulance Service administered naloxone, an opioid antagonist that reverses opioid-related respiratory depression, 2,367 times.[5]

Take Home Naloxone (THN) programs have been implemented to address opioid overdose deaths. In the absence of opioids, naloxone has no pharmacological action or adverse effects and has no market value.[6-8] Naloxone is routinely carried by emergency medical services and has been used to reverse opioid overdose for more than 40 years in Canada.[5] In many countries, including Canada, naloxone is a prescription-only medication but not a controlled substance.[9]

THN programs usually combine overdose training with naloxone distribution. Hundreds of programs exist in Europe, Australia and the United States; the latter has reported over 10,000 overdose reversals since programs started in 1996.[10-13] In Canada, THN programs are relatively new; the first program started in Edmonton in 2005 followed by Toronto in 2011.[14] Both BC and Ontario introduced provincial programs in 2012.[5]

The BCTHN program, developed by the BC Centre for Disease Control (BCCDC) was implemented on August 31, 2012. To participate, sites must identify three key components: an educator, a prescriber, and dispenser and be approved by the regional health authority. Training, which includes overdose prevention, recognition and response, is provided to people who use opioids, their family and friends,

and service providers. However, only people who use opioids can receive a prescription for a naloxone kit.

THN programs that incorporate training with naloxone prescription are cost-effective and reduce overdose deaths.[13;15;16] Although evidence is available from THN programs throughout the world, Canada has unique healthcare and criminal justice settings. We found only one published evaluation of a Canadian THN program (Edmonton); the majority of participants (35 of 50) were lost to follow-up at one year and thus the interpretation of the results are limited.[14]

BC has the only Canadian provincial THN program in continuous operation for over 15 months. This paper describes successes, challenges, and recommendations from the evaluation of the BCTHN program using quantitative and qualitative methods. We present the perspectives of program stakeholders (clients, service providers, police and parents of people who use opioids) and explore concerns and misconceptions. Our results and recommendations are relevant for those considering participation in, and implementation of, THN programs in Canada.

METHODS

Ethics approval was obtained from the University of British Columbia and appropriate health authority Research Ethics Boards. A BCTHN community advisory board (CAB) including membership from THN site coordinators, police and people who use drugs was developed.

Quantitative Component - Review of Program Records:

Forms were developed to track program indicators, and site coordinators are requested to send these forms to BCCDC regularly. Information about persons trained and kits dispensed are sent at least

monthly, while naloxone administration forms are requested soon after the event. We entered data into MS Access 2007, and generated frequencies and means to describe categorical and continuous variables.

Qualitative study design, participant recruitment and analysis:

Following a literature review and input from CAB members, we developed semi-structured interview guides for different stakeholder groups: clients (people who use opioids and have received a kit), service providers, police and parents of people who use opioids. Questions explored perceptions about the program training, resource materials and implementation, and probed concerns identified in the literature, such as the ability of people who use opioids to manage overdose situations and seek medical follow-up after naloxone administration (i.e. call 9-1-1), and the potential for THN to increase risk-taking behaviours.[17]

Focus group and key informant interview participants were recruited from a rural and urban region with active THN sites; Interior Health and Vancouver Coastal Health (VCH) respectively. Clients aged 19 years and older, who used opioids and had received training at BCTHN sites in VCH were invited to participate in either a focus group or an individual face-to-face interview. Clients were offered $10 honorarium for their participation. Two investigators conducted each focus group (one moderated the other took field notes). Service providers at BCTHN sites including nurses, coordinators, and physicians, were invited to participate through e-mail. The Vancouver Police Department member on the CAB identified front line officers to interview. Parents of people who use opioids were recruited through parent support groups. Interviews were conducted over the phone or in person.

Data was collected from November 2012 to June 2013. All focus groups and interviews were audio-recorded and transcribed verbatim, cleaned of identifying data and organized using QSR NVivo (version 8) software. DA, OB and JB independently analyzed the data using content analysis and a qualitative descriptive approach which is a low-inference analytic approach.[18] Qualitative description obtains '*straight and largely unadorned*' answers relevant to, and appreciated by, practitioners and policy makers. [16]

Initial coding was informed by the interview guides but constantly refined as simultaneous collection and analysis provided new insights that prompted changes in interview guides and analysis. Codes were grouped into similar descriptive categories which captured variability within and between different stakeholders. The final themes were agreed upon by the analysis team through consensus. Data collection from clients and service providers ended when saturation was achieved. The quantitative and qualitative results were shared with the CAB to validate the findings.

RESULTS

As of December 10, 2013, the program has been implemented in 32 sites in BC, including one hospital emergency department. Table 1 summarizes the participants trained and kits dispensed. A total of 52 overdose reversals have been reported, although we have only received program records for 45. Table 2 describes data from 43 overdose reversals. Two events were excluded from the analysis as paramedics arrived before naloxone was administered.

Details of the 52 participants in the qualitative interviews are shown in Table 3. Client feedback was gathered from 4 focus groups and 20 face-to-face interviews; demographic information of the 40 predominantly male clients are shown in Table 4.

We describe successes, challenges, recommendations, concerns and misconceptions that emerged from the qualitative analysis under the following headings: Program resources, training sessions, client recruitment, THN administration, site implementation challenges, overall perception of the program, and concerns regarding seeking emergency medical assistance.

Program Resources

Service providers found the program website and training materials comprehensive and easy to use. They reported being able to adapt the training guide to suit client needs and the resources available at their respective sites.

> *"www.towardtheheart.com is an incredible website. And it's quite easy to implement the program."* – Coordinator

> *"I typically go based on their [the client] knowledge and so sometimes, I don't follow exactly what's in there and we'll have a discussion."* – Nurse

Clients and service providers reported that the posters and video ensured clients, especially those with low literacy levels, understood the overdose prevention, recognition and response information.

Training Sessions

Clients and service providers considered the program to be beneficial. Training delivery varied within and between sites: training was individual or group, brief or comprehensive. Most service providers considered individual training as an engagement tool for building relationships and providing other health-related support and individualized information:

> *"Groups work fine really. It can go either way but individual I suppose is better. People feel more willing to ask questions."* – Nurse

> "*There's a lot of things that come out in the training ... one fellow revealed that he hadn't had a physical exam for 6 years so there are other things, other opportunities to talk about health issues. "*– Nurse

Service providers reported that clients were often confused about the signs of opioid and stimulant overdoses, which reinforces the need to educate clients about overdose recognition and response. Challenges reported by clients during training included fear of needles and lack of familiarity with the VanishPoint® syringes. Some clients reported feeling empowered and less anxious about overdose situations after receiving training and naloxone kits.

Client Recruitment

Clients reported telling their friends about the program. Service providers reported the most common method of recruitment was word of mouth; some found posters in high traffic areas and "tip cards" helped recruitment. Chronic pain patients and people who have used opioids for a long time were hard to recruit:

> *"The challenging ones for me hasn't been stigma but it's been ... veteran users that are sure that they are not going to overdose."* – Nurse

Suggestions for promoting community awareness and increasing reach of the BCTHN program included involvement of parole officers and methadone prescribers, and increased outreach through harm reduction facilities, "addiction workers" and support groups. One parent suggested receiving program information from other parents would encourage parents of people who use opioids to attend training:

> *"I think being well informed and hearing from a parent who took the training would be really helpful."* – Parent

THN Administration

Clients that have administered naloxone felt it was easy to use and were glad they had naloxone available. Two clients told their experience of administering naloxone to a peer who had overdosed:

> *"the guy was almost gone … the ambulance guy said that if we didn't do what we've done [administer naloxone], he wouldn't have made it."* – Clients

Clients who have not used the kit were confident that they could administer naloxone if the situation arose. Most clients stated they would be unable to use the naloxone on themselves in an emergency and so, told their friends and family where the kit was kept if needed. Clients reported that the instructional steps in the kit helped to reduce anxiety and reminded them of what to do in overdose situations. One client said:

> *"You're worried about dealing with the overdose, right, so-- it was useful to get the instructions on the kits themselves."* – Client

Site Implementation Challenges

Two service providers reported experiencing time limitations and having to adjust other programs to accommodate the BCTHN program:

> *"I think it's more to do with [BCTHN] being an emerging practice … whenever we're adding a special program, that means that we have to balance out some time with all the existing programs that we're doing."* – Physician

Fiscal constraints were also mentioned as challenges to effective implementation of the BCTHN program. One physician noted that private clinics would need additional financial resources to set up the program and conduct trainings.

Some clinics and agencies interested in implementing THN reported difficulties identifying physicians willing to be prescribers. There was also concern about program sustainability, particularly if a

prescribing physician withdrew their service:

"If we lose one of those guys, then we're starting from square one again ..." – Nurse

Overall Perceptions of the Program

Clients, service providers and parents were pleased that the BCTHN program was implemented. One client said:

"I think it's a really great idea, yeah. Because I could have used it a couple times, you know … It just feels like forever when they are coming, when you do phone 9-1-1…" - Client

One of the parents also believed making naloxone readily available will not increase risk-taking behavior:

"I don't see [naloxone] as at all being enabling; I see it as a factor that prevents death or serious brain damage and other harms." – Parent

Police were less accepting of the program stating that the program may be beneficial, but not in the environment they work in:

"I see the benefits. I definitely see that but for functional addicts not the ones we see." – Police

The police officers were concerned that naloxone may have a market value and thus promote illegal activities. However, clients reported that naloxone has no market value since it takes away their "high." Some naloxone kits were reported lost during transient housing and others confiscated by the police.

"… a lot of addicts get picked up by the police and these Narcan® [naloxone] kits are just being taken from them." – Client

Concerns regarding seeking emergency medical assistance

Although clients said they were confident about calling 9-1-1 when responding to an overdose, only about half of those who used the kits reported calling. The main reasons identified for not calling 9-1-1 were the belief that the person who overdosed would fully recover after naloxone administration and fear of police involvement:

> *"She [person who administered naloxone] wanted to call 9-1-1, she said and then, everybody who was there was afraid of a drug bust so they didn't."*
>
> – Nurse

The police were also concerned that clients may become overconfident and fail to get medical attention following an overdose.

> *"Follow-up is the biggest [concern] … I wouldn't count on them [people who use drugs] to call 9-1-1."* – Police

When findings were shared with the CAB, members confirmed police had confiscated some kits. To address this issue, the BCCDC produced a one-page illustrated information sheet to inform police about the program.[19] At a subsequent CAB meeting in November 2013, members shared hearing no recent reports of kit confiscation.

INTERPRETATION

Stakeholders interviewed were generally supportive of the BCTHN program. People who use drugs were successfully trained in the BCTHN, which is consistent with most other THN evaluations in the literature.[16;17;20;21] As in studies elsewhere, clients reported feeling empowered, having more confidence in responding to overdose events and no increase in drug use or risk-taking behaviors.[6;13;16;21-24] Symptoms of withdrawal or aggression after naloxone administration was uncommon, although more than 40% of individuals received two or more ampoules of naloxone. This

helps address concerns that naloxone administration in community settings will trigger withdrawal and aggression.

Service providers interviewed reported training increased client engagement and utilization of health care services. This was found in other studies; a Chicago study reported THN program participants increased their use of health services leading to improved personal care and safer practices.[13] BCTHN service providers found the program easy to implement but experienced time and fiscal constraints. However, despite these constraints, the program was identified as a priority which should expand throughout BC and to various high-risk groups.[25]

Service providers described difficulties engaging people with long-term opioid use, as they may underestimate their personal risk and believe they have adopted sufficient harm reduction strategies to prevent overdose. As illicit drugs are unregulated, unknown potency and constituents contribute to the risk of overdose. For example in BC, an increase in overdose deaths was associated with more potent heroin in 2011 , and in May 2013 powdered fentanyl was reportedly being sold as heroin.[26;27]

Service providers noted that patients prescribed opioids for chronic pain were also reluctant to receive naloxone as they did not perceive themselves at risk of overdose (because the opioid was physician-prescribed) and were concerned with being labeled a 'drug user'. However those prescribed opioids may be at increased overdose risk due to respiratory, renal or liver disease and may be prescribed other depressant drugs.[25;28-30] Education about overdose risks may reduce stigma about drug use and encourage chronic pain patients to accept naloxone kits.

Police officers had reservations and misconceptions about the BCTHN program and several clients reported police confiscating kits. We found, similar to other regions, that clients were concerned about police involvement after calling 9-1-1.[16;22] Therefore, it is important that local police are engaged to address concerns and make it more conducive for people to call emergency health services in overdose events without fear of prosecution.[10;12;22;31;32;33]. Canada could consider implementing a Good Samaritan law similar to that in 10 US states, which protects the bystander and the overdose victim from prosecution for drug possession.[31] The BCTHN training continues to reinforce the importance of calling 9-1-1 because naloxone has a shorter half-life than many opioids and the overdose may recur.

Limitations

We present a range of participants' opinions; however our subjective experiences may play a role in the quotes chosen and ideas presented. Opinions expressed by study participants may differ from those of the general community as they were a convenience sample selected from those currently enrolled in the BCTHN program and may have been most supportive of the BCTHN program.

CONCLUSION

The BCTHN program is reducing harms and deaths from overdose, is easy to implement and empowers clients. However there are time and fiscal constraints and the program is reliant on engaging and retaining prescribers. Stakeholder concerns and misconceptions should be addressed, and people who use opioids encouraged to contact emergency health services during overdose events. THN programs are acceptable and effective in Canadian settings; it is time to implement THN programs across Canada and save lives now.

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Table 1. Description of participants trained to prevent, recognize & respond to opioid overdose, and THN kits dispensed.

	Count	Percent
Participants Trained	815	100
Type of trainee:		
People who use opioids	508	62.3
Staff & Volunteers	235	28.8
Friends and family	72	8.8
Kits Dispensed	583	100
1st time	498	85.4
Replacements	76	13.0
Unspecified	9	1.5
Reason for Replacement:		
Used	33	43.4
Lost	12	15.8
Stolen	11	14.5
Confiscated	4	5.3
Expired	2	2.6
Unspecified	14	18.4

Table 2. THN administration information from program records

		Count (n = 43)	Percent
Administered			
	to 3rd party by person who was prescribed kit	28	65.1%
	to self by person who was prescribed kit	2	4.7%
	to person who was prescribed kit by 3rd party	2	4.7%
	Unknown	11	25.6%
Location of OD			
	Private residence	28	65.1%
	On the street	7	16.3%
	Supportive housing	3	7.0%
	Hotel	2	4.7%
	Other	2	4.7%
	Shelter	0	0.0%
	Not answered	1	2.3%
Drugs involved			
	Heroin	41	95.3%
	Fentanyl	7	16.3%
	Methamphetamine	4	9.3%
	Methadone	4	9.3%
	Cocaine/crack	3	7.0%
	Benzodiazepines	3	7.0%

	Morphine	2	4.7%
	Alcohol	2	4.7%
	Codeine	1	2.3%
	Oxycodone	1	2.3%
	Other	4	9.3%
	Not answered	0	0.0%
Symptoms of withdrawal			
	None	23	53.5%
	Mild	9	20.9%
	Severe	4	9.3%
	Not answered	7	16.3%
Display aggression			
	Yes	6	14.0%
	No	26	60.5%
	Not answered	11	25.6%
Ampoules administered (0.4mg/ml each)			
	1	18	41.9%
	2	18	41.9%
	3	1	2.3%
	Not answered	6	14.0%
911 called			
	Yes	19	44.2%
	No	24	55.8%

	Not answered	0	0.0%
If not called, why (n=24)			
	Worried about police involvement	6	25.0%
	Thought person would recover on own	9	37.5%
	Not answered	9	37.5%
If called, did police attend? (n=19)			
	Yes	9	47.4%
	No	7	36.8%
	Not answered	3	15.8%

Table 3. Demographic characteristics of all Interviewees

	N	Sex			Health Region	
		Female	Male	Unknown	Vancouver Coastal	Interior
Clients*	**40**	11	24	5	40	0
Service providers						
Physician	**2**	1	1	-	1	1
Coordinator	**2**	1	1	-	1	1
Educator (registered nurse)	**4**	4	-	-	3	1
Police	**2**	1	1	-	2	0
Parent	**2**	2	0	-	2	0
Total	**52**	20	27	5	49	3

*Clients are people who use opioids and received a kit and participated in focus group and individual interviews

Table 4. Demographic characteristics of Clients*

Variable	Totals (%) N=35*
Sex	
Female	11 (31)
Male	24 (69)
Age *years*	
Mean (range)	45 (24 - 61)
Female: mean (range)	47 (33 – 61)
Male: mean (range)	45 (24 – 61)
Highest Education Level	
No Schooling	1 (3)
Primary	2 (6)
Secondary	19 (54)
Post-secondary	13 (37)
Duration of Drug Use *years*	
Mean (range)	19 (0.33 - 45)
* Five (5) participants had missing data	

* Clients are people who use opioids and received a kit and participated in focus group and individual interviews