Alberta’s provincial take-home naloxone program: A multi-sectoral and multi-jurisdictional response to overdose

Lisa K. Freeman, MD, FRCPC, Stacey Bourque, MEd, Nick Etches, MD, FRCPC, Karin Goodison, MD, FRCPC, Claire O’Gorman, BScN, MPH, Kay Rittenbach, PhD, Christopher A. Sikora, MD, FRCPC, Mark Yarema, MD, FRCPC

ABSTRACT

SETTING: Alberta is a prairie province located in western Canada, with a population of approximately 4.3 million. In 2016, 363 Albertans died from apparent drug overdoses related to fentanyl, an opioid 50–100 times more toxic than morphine. This surpassed the number of deaths from motor vehicle collisions and homicides combined.

INTERVENTION: Naloxone is a safe, effective, opioid antagonist that may quickly reverse an opioid overdose. In July 2015, a committee of community-based harm reduction programs in Alberta implemented a geographically restricted take-home naloxone (THN) program. The successes and limitations of this program demonstrated the need for an expanded, multi-sectoral, multi-jurisdictional response. The provincial health authority, Alberta Health Services (AHS), used previously established incident command system processes to coordinate implementation of a provincial THN program.

OUTCOMES: Alberta’s provincial THN program was implemented on December 23, 2015. This collaborative program resulted in a coordinated response across jurisdictional levels with wide geographical reach. Between December 2015 and December 2016, 953 locations, including many community pharmacies, registered to dispense THN kits, 9572 kits were distributed, and 472 reversals were reported. The provincial supply of THN kits more than tripled from 3000 to 10 000.

IMPLICATIONS: Alberta was uniquely poised to deliver a large, province-wide, multi-sectoral and multi-jurisdictional THN program as part of a comprehensive response to increasing opioid-related morbidity and mortality. The speed at which AHS was able to roll out the program was made possible by work done previously and the willingness of multiple jurisdictions to work together to build on and expand the program.

KEY WORDS: Fentanyl; take-home naloxone; harm reduction; opioid overdose

Morbidity and mortality related to opioid overdoses are increasing worldwide. Fentanyl is an opioid up to 100 times more toxic than morphine. It is used therapeutically for pain management and illicitly for its euphoric properties. Both pharmaceutical and non-pharmaceutical fentanyl are implicated in overdoses and deaths. Mortality from opioid overdose is usually related to respiratory depression, with death occurring due to cardiac arrest following hypoxia. Between 2009 and 2016, prescription and illicit fentanyl misuse increased in both Alberta and Canada, resulting in a substantial increase in fentanyl-related overdoses and deaths, mainly related to illicit fentanyl use.

Deaths from poisonings where fentanyl was detected and/or implicated began rising in Alberta in 2012 with 29 deaths seen that year compared to 6 in 2011. Deaths have increased exponentially, with over 100 deaths in 2014, 257 in 2015, and 363 in 2016. In both 2015 and 2016, more people in Alberta died from opioid overdose than from motor vehicle collisions and homicides combined, similar to findings in the United States, and thus indicating a crisis. In March 2015, the Blood Tribe (Kainai Nation), a First Nation community in southern Alberta near Lethbridge, declared a local state of emergency after a number of deaths raised concerns.

Naloxone is an antidote to opioid poisoning and overdose which can reverse these effects – including respiratory depression. It is a safe, effective, short-acting opioid antagonist that acts to...
displace opioids from mu receptors. Reversal of an overdose is possible within minutes, and multiple delivery methods, including intramuscular and intranasal administration, are available.

The World Health Organization (WHO) strongly recommends the use of naloxone by bystanders in overdoses that occur in the community. Take-home naloxone (THN), also called community naloxone and bystander naloxone, refers to the provision of naloxone to people in the community who are at risk of overdose or who may witness an overdose. A THN kit typically includes two doses of naloxone, a rescue breathing mask, gloves, and instructions on how to administer the medication, perform basic life support, and call for help from emergency services. Programs have been implemented in Europe, the US and Australia since the mid-1990s. The first Canadian THN community program was initiated in 2005 by Streetworks in Edmonton, Alberta and there are now programs in the majority of Canada’s provinces and territories. The implementation of such programs reduces mortality from opioid poisonings.

A province-wide THN program is a key aspect of Alberta’s response to the opioid crisis. Other aspects include surveillance of emerging substances (including for illicit drugs), drug use prevention and education programs, Indigenous-focused and rural opioid dependence treatment, enhanced access to opioid replacement therapies, and strengthened harm reduction policy. Alberta used a coordinated provincial approach that built on the ongoing work and expertise of a number of community organizations already providing harm reduction services. Alberta was uniquely positioned to respond as health care services are provided by a single, province-wide health authority, Alberta Health Services (AHS). Here we describe Alberta’s approach in responding to the fentanyl crisis with a focus on the key players, supportive actions, and the timeline of the roll-out of a large, province-wide, multi-sectoral and multi-jurisdictional THN program.

METHODS

Context
Alberta is a land-locked prairie province located in western Canada, with a population of approximately 4.3 million. The population in Alberta is centred in two major urban areas around the cities of Edmonton and Calgary, with over 80% of the population living inside a census metropolitan area. Six percent of people living in Alberta identify as Indigenous. About 53% of those identifying as Indigenous in Alberta identify as First Nations, with the remaining people identifying as Métis, Inuit, or multiple ethnicities. Though most Indigenous people in Alberta live in urban areas, a higher percentage of Alberta’s rural northern population identifies as Indigenous.

Key players
At the provincial level, the Ministry of Health (Alberta Health (AH)) is responsible for determining Alberta’s health and health care priorities and policies. AH is also responsible for funding a number of health service delivery agencies, the largest of which is Alberta Health Services (AHS). AHS is Canada’s first, and largest, single, provincial health authority. AHS provides health services to all people living in Alberta, as well as some areas of Saskatchewan, British Columbia, and the Northwest Territories. AH provides partial funding to a coalition of seven harm reduction organizations that are members of the Alberta Community Council of HIV (ACCH). These community-based groups have delivered harm reduction services throughout the province for years, and have unique relationships with the people and communities they work with.

Working closely with AH and AHS are a variety of colleges and regulatory bodies, including the College and Association of Registered Nurses of Alberta (CARNA), the College of Registered Psychiatric Nurses of Alberta (CRPNA), the Alberta College of Paramedics, the Alberta College of Pharmacists (ACP), and the College of Physicians and Surgeons of Alberta (CPSA). Indigenous partners include the Alberta Region of the First Nations and Inuit Health Branch (FNHIHB) of Health Canada and the Chiefs and Councils of many Nations throughout the province.

Multiple partners beyond health, including those in academia, education, municipalities, and law enforcement also play pivotal roles in supporting the health of Albertans. This includes the Office of the Chief Medical Examiner (OCME). The OCME investigates and documents all drugs attributed to a person’s death on his or her death certificate. Furthermore, OCME anticipates novel toxins that may be responsible for deaths in order to create testing platforms to identify new substances. OCME works closely with the Office of the Chief Medical Officer of Health (OCMOH) at AH to collect data around opioid-related deaths in the province.

The surveillance team within AHS collaborates with OCME and OCMOH.

Process and timeline
A number of groups began working both together and in parallel in response to increasing deaths from fentanyl overdoses first noticed in 2012. Facilitation of the THN Program included not only the coordination and cooperation of players involved, but also policy changes around prescribing, dispensing, administering and scheduling to support enhanced access to naloxone.

In July 2014, an increase in apparent overdoses from fentanyl occurred on the Blood Tribe Reserve, a community of approximately 12 000 people living within about 1400 km² located in southern Alberta. In December 2014, the Blood Tribe Chief and Council issued a Community Alert outlining the dangers of Oxy80, an illicit preparation containing variable amounts of fentanyl, which was implicated in many of the overdoses. In response to increasing overdoses, the Chief and Council also took a number of other steps in early 2015, including organizing a core team to raise awareness and distribute naloxone.

A state of emergency was declared on the Blood Tribe Reserve in March 2015 and 47 THN kits were procured. Immediate actions included an emergency hotline, a door-to-door campaign including awareness and support, and ongoing advocacy for increased support. In response AH, AHS and FNHIHB became involved. The Alberta Region of FNHIHB worked with Streetworks, a community-based harm reduction agency in Edmonton, to provide additional kits, and to offer additional support and resources. The participation of ARCHES, a community harm reduction organization located in Lethbridge, was sought to provide on-site training and support. FNHIHB later facilitated provision of additional THN kits, and further training, support and resources.

Over the summer of 2014, at the same time that increasing overdoses were noted by the Blood Tribe, a THN Committee was
struck in Calgary in response to misuse of fentanyl and increasing deaths due to overdoses within the city. Safeworks, the only AHS-run harm reduction agency in Alberta, initiated the committee with the intent of enhancing harm reduction services. Given the acuity of the fentanyl crisis, THN became the committee’s focus. The committee quickly expanded to include Streetworks in Edmonton and the Blood Tribe.

In January 2015, the provincial Chief Medical Officer of Health announced the intent to assess the existing community THN program at Streetworks in Edmonton in consideration of a province-wide THN program.

A Fentanyl Action Committee with representation from AH, AHS and ACCH was formed to address the crisis. This group later became the Fentanyl Response Team, and then the Opioid Response Team, and included partners from health, law enforcement, Indigenous representatives, and various municipalities.

In June 2015, ACCH secured a $300,000 one-year grant from AH, and in July 2015, a THN program was rolled out. This grant was renewed for a second year in 2016, and an additional $3,000,000 was earmarked for AHS to increase access to treatment spaces and counselling for those with opioid use disorders.24

The AH grant enabled ACCH to coordinate the preparation of THN kits at Streetworks in Edmonton by volunteers from Alberta Addicts who Educate and Advocate Responsibly (AAWEAR), and distribute kits to seven agencies at eight sites: Turning Point Society of Central Alberta, previously Central Alberta AIDS Network Society (Red Deer), HIV Community Link (Medicine Hat), HIV North Society (Grand Prairie and Fort McMurray), HIV West Yellowhead (Jasper), ARCHES (Lethbridge), Safeworks (Calgary), and Streetworks (Edmonton).

There were challenges to the program rolled out by ACCH, including limited staffing capacity (staff were taking on the THN program on top of existing duties) and a vast geography that could not easily be covered by so few people. This demonstrated the need for an expanded, multi-sectoral and multi-jurisdictional response across the province.

AHS launched a provincial Emergency Command Centre in October 2015 and subsequent Zone Emergency Operations Centres in November 2015. Incident Command Systems, a well-known method for organizing responses to crises and emergencies in the province, allowed for a coordinated response across the province with rapid mobilization of resources and staff. The structure ensured broad representation, including those from ACCH, AH, AHS Addiction and Mental Health, AHS Health Professions, Strategy, and Practice, and AHS Population, Public, and Indigenous Health.

In order to facilitate provision of naloxone to all people at risk of opioid overdose across the province, and to support training of those providing kits, the AHS THN program was officially implemented in Alberta on December 23, 2015. The implementation included the community harm reduction organizations that had run the initial program since July 2015, emergency departments (EDs), walk-in clinics, community pharmacies, and provincial correction facilities.

**Supportive actions**

A number of supportive actions were needed to facilitate the THN Program. For example, AH worked closely with AHS and ACCH to ensure access to THN through a series of policy changes, including Ministerial Orders. Prior to enacting these orders, dispensing naloxone required a prescription. This was a significant barrier to naloxone access as it necessitated physician, pharmacist, or nurse practitioner (NP) involvement. Ministerial orders written in December 2015 and renewed in 2016 allowed both Registered Nurses (RNs)25 and Registered Psychiatric Nurses (RPNs) to prescribe and dispense naloxone and allowed emergency medical technicians (EMTs) and emergency medical responders (EMRs) to administer, dispense and distribute naloxone. This facilitated the ability of ACCH community harm-reduction sites to provide naloxone without an NP or physician prescriber, an important initial step as many harm reduction sites are staffed with RNs.

Further easing access to naloxone was the removal of naloxone from the Prescription Drug List on March 22, 2016 by Health Canada.26 This allowed naloxone to be used without a prescription when administered for emergency use for opioid overdose outside of hospitals. The Government of Alberta was then able to list naloxone as a Schedule 2 drug, which allowed Albertans access to naloxone from a pharmacist without a prescription on May 13, 2016.27 A vital piece of this shift was engagement with community pharmacists and ACP to support training for pharmacists agreeing to dispense naloxone.

Broadening the scope of practice of RNs, RPNs, EMTs and EMRs to support enhanced access to naloxone required appropriate training for these professions as well. AHS worked closely with CARNA and other regulatory bodies to ensure legal issues were addressed and training was appropriate. Detailed, comprehensive, on-line educational material was prepared and made available. A series of live teleconference and videoconference sessions were held in December 2015 and January 2016 to provide information and answer questions from RNs and others who would be prescribing and/or providing naloxone as part of the THN program. Access to this material was provided on the AHS website, the stopsods.ca website, as well as the websites of the regulatory Colleges. Those working within ACCH organizations continued to provide the majority of the in-person and on-site training.

**RESULTS**

From December 23, 2015 to December 31, 2016, 9572 THN kits were dispensed to Albertans through 953 registered sites, 759 of them community pharmacies. The remaining sites included the seven harm reduction agencies initially involved, provincial correctional facilities, post-secondary institutions, opioid dependency treatment facilities, community health centres, inner city agencies, AHS pharmacies, First Nations communities with a FNIHB nurse, and urgent care centres. From July 2015 to July 31, 2016, ACCH dispensed 2910 kits and reported 472 reversals, and since the December 2015 roll-out of the province-wide THN program, the provincial supply of THN kits more than tripled from 3000 to 10000.

Key stakeholders in all these sites were brought together to determine the best way to support provision of THN kits at each site. Some EDs, for example, often continued with physician prescribing, rather than RN prescribing, to maximize efficiency. As educational material developed by ACCH and provided by AHS needed to be applicable to all potential naloxone prescribers and...
dispensers in the province, some material was adapted by local groups to better fit their unique context.

The Addiction and Mental Health Strategic Clinical Network within AHS was tasked to evaluate the provincial program and is working with all stakeholders to create measurements that are meaningful and useful for program improvement. In addition, Streetworks worked with clients to evaluate their experience at pharmacies and ability to access a kit. Initial feedback demonstrated variations in accessing a THN kit: some pharmacies were unaware that people could access the kits without providing their provincial health care number, and some people were asked to come back to the pharmacy multiple times before being able to access a kit. To support assessment of the program, people who use a THN kit are asked to call the province’s toll-free nursing line (Health Link Alberta) to report use of the kits and the outcome. Tracking both use and reversal is also performed when people who have used a kit return to a site to obtain a second kit.

DISCUSSION

Though THN programs exist in many other jurisdictions, including other provinces in Canada, Alberta’s THN program stands out due to its comprehensive, provincial scope and rapid scale-up. Alberta was uniquely poised to deliver a large, province-wide, multi-sectoral and multi-jurisdictional THN program as part of a comprehensive response to increasing opioid and fentanyl-related morbidity and mortality, due to the province-wide nature of AHS and the existing response structures available. The speed at which AHS was able to roll out the program in December 2015, just a few months after the initial AH and ACCH program in July 2015, was made possible by the work done previously by those agencies, and by the willingness of multiple sectors, including various community agencies, AHS departments, regulatory Colleges, and AH to work together across jurisdictions to build on and expand the program.

The success of having 10,000 kits available at over 900 sites was not without challenges. Most challenges resulted from different perspectives on the problem and possible solutions, as there were multiple partners with different levels of experience with harm reduction. Enhanced communication and even earlier collaboration may have smoothed out some issues within the roll-out, such as the burden on ACCH to provide so much on-site, in-person training, and the lack of a consistent patient-centred approach appropriate to all clients in some training methods (for example, using extensive on-line training with patients in more vulnerable positions due to current substance use).

As a formal evaluation has not yet been completed, the full impact of the THN program in Alberta is not yet known. The 472 reported reversals is likely an underestimate of the true number of reversals and lives saved because of underreporting of THN kits used. Further, the dispensing of a kit provides an opportunity for a more comprehensive and less-stigmatized response, including overdose prevention education and awareness. Other programs will need to determine the best ways to continue to make kits available, and how to respond to new challenges arising from the use of analogues of fentanyl, such as carfentanil. Enhanced, coordinated, harm reduction approaches must also continue to be addressed and improved.

REFERENCES


LIEU : L’Alberta, une province des Prairies de l’Ouest canadien, a une population d’environ 4,3 millions d’habitants. En 2016, 363 Albertains sont décédés de surdoses apparentes de fentanyl, un opioïde 50 à 100 fois plus toxique que la morphine. Ce chiffre a dépassé le nombre de décès par collision entre véhicules automobiles et de décès par homicide combinés.

INTERVENTION : La naloxone est un antagoniste opioïde sûr et efficace qui peut rapidement neutraliser une surdose d’opioïdes. En juillet 2015, un comité d’intervenants de programmes communautaires de réduction des méfaits de l’Alberta a mis en œuvre dans une zone géographiquement restreinte un programme de « trousse maison de naloxone » (TMN). Les réussites et les contraintes de ce programme ont démontré le besoin d’une intervention élargie, multisectorielle et intergouvernementale. L’autorité sanitaire provinciale, Alberta Health Services (AHS), s’est servie des processus établis du système de commandement en cas d’incident pour coordonner la mise en œuvre d’un programme de TMN provincial.

RÉSULTATS : Le programme de TMN provincial de l’Alberta a été mis en œuvre le 23 décembre 2015. Ce programme concerté a coordonné une intervention intergouvernementale de grande portée géographique. Entre décembre 2015 et décembre 2016, 953 établissements, dont de nombreuses pharmacies communautaires, se sont inscrits au registre pour pouvoir dispenser des TMN, 9 572 troupes ont été distribuées, et 472 surdoses neutralisées ont été déclarées. Les approvisionnements provinciaux en TMN ont plus que triplé, passant de 3 000 à 10 000.

CONSEQUENCES : L’Alberta était singulièrement bien placée pour offrir un vaste programme de TMN multisectoriel et intergouvernemental à l’échelle de la province dans le cadre d’une intervention globale face aux hausses de la morbidité et de la mortalité liées aux opioïdes. La vitesse à laquelle AHS a pu déployer le programme s’explique par le travail effectué antérieurement et par la volonté de plusieurs sphères de compétence de travailler ensemble pour renforcer et développer le programme.

MOTS CLÉS : fentanyl; trousse maison de naloxone; réduction des dommages; surdose d’opioïdes