Intranasal Naloxone Pilot Project Evaluation Report

PolicyWise for Children & Families

Acknowledgments

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PROJECT SPONSORS

The George Spady Society

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Executive Summary

Background

Alberta has one of the highest rates of opioid-related deaths and poisonings in the country. Naloxone is an antidote to opioid poisoning. It can reverse the impacts of an opioid poisoning and save lives.

Currently in Alberta, naloxone is widely available in an injectable form. Intranasal naloxone has been available in limited circumstances and at significant cost. In 2021 Alberta Health provided funding to Alberta Addiction Service Providers Association for a pilot project, led by the George Spady Society, to understand the impact of providing funded intranasal naloxone kits to community agencies and individuals. PolicyWise for Children & Families was subcontracted to lead the evaluation of the pilot project.

Naloxone Formulations: Quick Facts

	Intranasal	Injectable
Single dose strength[1]	4mg naloxone	0.4mg naloxone
Cost per kit (2 doses)	$120-200	$30-55
Assembly required?	No	Yes
Has needle?	No	Yes

The purpose of this evaluation was to:

1. Understand the benefits of funded intranasal naloxone spray kits for people at risk of drug poisoning and their allies.
2. Describe pilot project team and community partner staff experiences of implementation.
3. Identify facilitators, barriers, and contextual factors that may influence future scale and spread of, and investment in, intranasal naloxone.

While we learned of the importance of intranasal naloxone in practice to reverse opioid poisonings, we were unable to describe the efficacy of intranasal naloxone because: a) intranasal naloxone and injectable naloxone were often used together to reverse opioid poisonings, and b) we heard of a changing drug supply during the pilot project period including an increase of benzodiazepines which are not affected by naloxone. The efficacy of both intranasal and injectable naloxone in reversing opioid poisonings has previously been established.[1] Economic analysis was outside the scope of this study. In our literature review we found there is limited economic analysis grounded in ways that naloxone is used in practice. This is an opportunity for future research.

In this report, we summarize the findings from the evaluation of the intranasal naloxone pilot in Edmonton. As this was a single site pilot project, we are limited to understanding the impact of funded intranasal naloxone for people in the pilot zone (inner city Edmonton). Caution should be exercised when generalizing these findings to other areas of the province, especially areas that have vastly different contexts (e.g., rural and remote settings).

Strengths of Intranasal Naloxone Compared to Injectable Naloxone

In the pilot project, intranasal naloxone was beneficial for the following populations and situations:

[1] Intranasal naloxone at higher concentrations has been found similarly effective to lower dosage injectable ('intramuscular'/'IM') naloxone (e.g., Chou et al., 2017, Ryan & Dunne, 2018). Intranasal naloxone is an approved formulation for use by Alberta Health Services: see Intramuscular and Intranasal Naloxone Administration: Suspected Opioid Poisoning (Overdose) Decision Support Tool

Organizations with policies that do not allow needle carriage by staff and people unable or uncomfortable to use needles.

Intranasal Naloxone in Practice

"…And before we were partnered with the George Spady, we would have nothing to do for that overdose, instead of just wait for EMS to arrive, and then help them out. But with like the naloxone being available, available to us, and such as easy capacity to use, we're actually able to have like more of a chance of actually helping that person before EMS arrives."

– Pilot Partner Agency Staff

Intranasal naloxone ***reduced needle-related barriers to carrying and administering naloxone***, which led to people using naloxone who would not if only the injectable form was available. Although naloxone is an unscheduled drug in Alberta, there are still barriers to using injectable naloxone in workplaces due to occupational health and safety legislation. Access to intranasal naloxone also made it possible for staff at organizations whose policies did not allow them to carry or use needles to have access to naloxone (e.g., security agencies, some shelters). Intranasal naloxone reduced needle-related barriers such as phobia for using needles, fear of needle-stick injuries and related liability, and stigma associated with carrying needles. Many participants reported that intranasal naloxone was easier to prepare compared with injectable naloxone. It was also easier and faster to administer, particularly for community and allied responders.

We also heard that people with ***physical disability and/or limited dexterity*** may experience difficulty in preparing and using needles. This is especially the case for people missing fingers, which can occur due to frostbite among precariously housed people in Alberta. As such, the pilot provided access to a more inclusive form of naloxone with the funded intranasal naloxone kits.

The pilot provided a way for more community allies, including businesses or agencies, to carry and use naloxone, and increased awareness of intranasal naloxone through education and outreach activities. We heard that the high cost of intranasal naloxone may be prohibitive to non-profit agencies and there is uncertainty from agencies on how to access or purchase intranasal naloxone outside of the pilot.

In situations where injectable naloxone poses increased risk to safety

Community members and partner agency staff (e.g., outreach teams and security staff) often responded to opioid overdoses in environments that posed a safety risk to respondents and the person experiencing the poisoning. In ***dark areas*** (e.g., for unhoused individuals in encampments) and in ***tight spaces*** (e.g., in bus shelters or stairwells), respondents are more at risk of a needle poke or other injuries while preparing and administering injectable naloxone. Intranasal naloxone was found to be a safer alternative to avoid injuries in an already high-risk environment.

Furthermore, in ***cold weather*** we heard of barriers to using injectable naloxone including that: injectable naloxone gelatinizes (therefore becoming unusable), clothing layers impeded the ability to access an injection site, and responders experience decreased hand dexterity. We learned of partner agency staff and community allies pre-loading injectable naloxone syringes and holding them against their skin to prevent them from gelatinizing by keeping them warm, creating a needle stick injury potential. Intranasal naloxone was the most

feasible form of naloxone to use in response to opioid poisonings during cold weather as it has an easier access point for delivery, does not require assembly, and is safer to keep close to the body to prevent gelatinization.

When a faster response is needed

Intranasal Naloxone in Practice

"It allows me to pivot in the moment of really stressful, dark, traumatic situations… I had one guy who was stuck under a stairwell. So he was pushed back. Or there was another girl who was under [the bench in a bus shelter]. For me to like pull an IM (injectable naloxone) and get it in there and make sure I'm getting it somewhere was impossible. … **It was a situation that I don't think IM would have brought her out of**."

– Pilot Partner Agency Staff

"……**they went to go to draw up the IM (injectable naloxone), [and] it was congealed.** And so like we're talking April, our climate it is different than others, **Edmonton is pretty North** if you look at it. […] They didn't have intranasal [naloxone], but a nearby security guard, which I would imagine would be one of the security guards that we equipped, had intranasal [naloxone] on him and they were able to reverse the poisoning as a result. **Should they not have had that [intranasal naloxone]**, that could have been a very different situation."

– Pilot Team Member

Intranasal naloxone was found to be beneficial as its administration is faster than injectable naloxone, particularly in cases of severe overdose or when supporting those who cannot receive rescue breathing. Responders used intranasal naloxone when faster responses were needed to enable follow-up emergency care or provide time to prepare a subsequent dose of injectable naloxone.

Summary of Opportunities to Consider

It is important to interpret the opportunities within the limitations of the evaluation, namely that it was a short-term single site pilot study. Therefore, there may be other priority groups for intranasal naloxone or ways to incorporate it into the broader provincial opioid response that are not identified.

Intranasal naloxone opportunities

We learned of opportunities where intranasal naloxone could be spread to further equip the opioid response in Alberta and priority groups could benefit from having access to intranasal naloxone. Identified priority groups from our evaluation include:

- People who are precariously housed and outreach workers due to cold weather and responding to overdoses in dark and tight spaces
- Businesses and agencies who have policies that prevent staff from carrying and using injectable naloxone and who frequently encounter people experiencing opioid poisonings
- Situations where there is limited opportunity to provide education on naloxone use since intranasal training tends to be faster and easier

General naloxone opportunities

We also learned of opportunities to support general naloxone awareness and access. These opportunities are to:

Expand outreach and education about opioid poisonings and naloxone. Increase awareness and reduce stigma to improve carriage and use of naloxone.

Provide education on intranasal naloxone, its effectiveness, and accessibility. There is an opportunity to increase education for agencies or individuals on how to access or purchase intranasal naloxone (e.g., how the Non-Insured Health Benefits (NIHB) program works and can be utilized by First Nations and Inuit individuals, as well as list of community pharmacies where intranasal naloxone is available for purchase by the general population etc.).

Decrease barriers to naloxone access. Consider factors that could impact equitable access to naloxone for various populations. Examples include lack of transportation, or the need to talk to a health care provider (e.g., pharmacist, doctor). Explore where naloxone could be distributed outside of health care and social serving settings.

Strengthen linkages in the system of care for recovery. This pilot project was limited to inner-city Edmonton and primarily within the social serving sector. However, we are aware that other sectors are also involved in the opioid response. Mapping out roles and responsibilities for naloxone distribution across sectors (e.g., social serving sector, first responders, health care providers) in urban, rural, and remote settings could help guide how to strengthen naloxone distribution provincially