

Evaluation of the Western Australian Police Force Naloxone Pilot: a summary of the main findings

Introduction

This bulletin summarises the main results of the *Evaluation of the Western Australian Police Force Naloxone Pilot*. The pilot involved training police in use of naloxone to assist in the management of opioid overdoses that they attend in the community. This was a joint initiative of the WA Police Force and the Mental Health Commission (MHC) of Western Australia, which commenced in July 2021.

Over the past decade, both in Australia and internationally, opioid overdose rates have been increasing steadily and remain a public health concern around the world. Fatalities due to opioid consumption in Australia rose from 2.1 fatalities per 100,000 individuals in 2006 to a peak of 5.7 fatalities per 100,000 individuals in 2017 (Chrzanowska et al., 2022). In 2020, the majority of unintentional drug-induced deaths in Australia and overseas were due to opioids (Penington Institute, 2022).

Naloxone is an opioid antagonist that is highly effective in reversing the effects of an opioid overdose with next to no adverse effects (e.g., Binswanger et al., 2022; Hill, Zagorski, & Loera, 2022). It has been described as 'safe, effective, and easy-to-administer' (Lurigio et al., 2018) and has been recommended by the World Health Organization to reduce opioid-related deaths (World Health Organization, 2014).

Since 2016, naloxone has been made available over-the-counter in Australia without prescription (Lenton, Dietze, & Jauncey, 2016). On the 1st of November 2019, it was added to the Pharmaceutical Benefits Scheme (PBS) (NPS Medicine Wise, 2022) and made available as an intranasal spray (Nyxoid®). While paramedics routinely administer naloxone to people who have experienced opioid overdose before they are admitted to hospital, police officers are often the first (Hillen et al., 2022), and sometimes the only (Davis et al., 2014), emergency responders on the scene of an opioid overdose (Winograd et al., 2020b; Lurigio et al., 2018; Purviance et al., 2017). Prior research suggests that enabling law enforcement officers to carry and administer naloxone to people who have overdosed on opioids has the potential to significantly reduce the risk of opioid overdose fatalities (Rando et al., 2015).

Furthermore, it has been shown that when police officers can carry and administer naloxone it builds positive interactions with community members (Wagner et al., 2016), by enhancing their public safety role (Davis et al., 2014). Police officers who have been trained in naloxone administration can also provide consumers with information about local drug treatment options (Winograd

KEY FINDINGS

- The naloxone training was effective in increasing police officers' knowledge associated with drug overdose and improving their capacity to recognise and manage opioid overdoses in a prompt and effective manner.
- There was an overall increase in police officers' knowledge immediately after the training in terms of recognising the signs of an opioid overdose, signs which increase the risk of opioid overdose, and the action that needs to be taken when witnessing an opioid overdose.
- The proportion of police officers who reported that they would administer naloxone increased from 66% before the training to 99% after the training.
- The proportion of police officers who identified they were 'confident' or 'very confident' to respond to an opioid overdose increased from 35% pre-training to 97% post-training.
- The proportion of police officers who identified they were 'confident' or 'very confident' to use naloxone increased from 28% pre-training to 98% post-training.
- The WA naloxone pilot demonstrates that carriage of naloxone by police officers in Australia is feasible, effective, may save lives and serves as an example for other jurisdictions to roll out similar programs.
- These findings support the continuation of the pilot and the continuous provision of naloxone to police officers in WA.

et al., 2020a) with one study in the United States reporting that some 20% of consumers who were administered naloxone by police officers sought treatment after a law enforcement officer referral (Dahlem et al., 2017).

It was anticipated that assessing the effectiveness of the WA Police Force Naloxone Pilot could help improve the quality of training; contribute to reducing opioid-related deaths and harms in the community; highlight benefits, barriers and/or concerns about the program; and, inform decisions about the pilot's potential continuation and expansion. If effective, it could also serve as an example for police departments in other Australian jurisdictions to roll out similar programs.

Method

The main aim of this quantitative and qualitative evaluation was to examine the effectiveness of the WA Police Force Naloxone Pilot to inform decisions regarding further rollout of naloxone within the WA Police Force.

The secondary aims were to:

- Investigate the immediate impact of the naloxone training by comparing the pre- and post-questionnaires;
- Experience of witnessing overdoses, administration of naloxone and opioid reversal outcomes;
- Investigate knowledge retention following naloxone training; and
- Highlight benefits, barriers or concerns about the pilot.

This evaluation, which consisted of a mixed-methods repeated-measures design, was undertaken from the 1st of July 2021 to the 30th of July 2022. While the pilot was publicly launched on the 1st of July 2021, police officers who had received naloxone training a few weeks earlier were also invited to take part in this evaluation. At the invitation of the MHC staff who provided the naloxone training, each police officer who received naloxone training between the 9th of June 2021 to the 21st of January 2022 completed a quantitative and qualitative paper-and-pencil survey immediately before (pre-training) and immediately after the training (post-training).

The pre- and post-questionnaires collected information about knowledge related to recognising and responding to opioid overdose and naloxone administration. A total of 272 police officers completed the pre-post training questionnaires.

Three to six months after having received naloxone training, participants were invited to complete a quantitative and qualitative online survey. The online survey collected information about the police officers' demographics, naloxone training, knowledge retention, access and availability of naloxone, sense of competency and readiness to intervene, and whether they had witnessed overdoses since the naloxone training.

Participants who had indicated they had witnessed an opioid overdose since receiving their training were then invited to complete an additional qualitative phone interview to provide further information about the most recent overdose they witnessed, and their experience as a police officer of administering naloxone to consumers of opioids who had overdosed.

To be eligible, participants had to (i) work as police officers (e.g., other staff employed by WA Police, such as nurses, were excluded); (ii) have received the naloxone training conducted by the MHC; and (iii) have received at least one supply of naloxone in the form of Nyxoid® (nasal spray).

“It gave me confidence in...if what we were doing with it in administering the naloxone would actually save her life [...] and that's exactly what happened.”

Results

A total of 272 police officers completed the pre-post training questionnaires, while 117 participants completed the online survey. Among these online respondents, 23 reported having witnessed an opioid overdose since receiving their training; naloxone was administered by the police officers themselves on 16 occasions. Eight participants who witnessed an opioid overdose agreed to complete an additional qualitative phone interview.

Approximately three quarters of the participants who completed the online survey were male (76%; n=86); respondents had a mean age of 38 years (SD: 11 years), and a mean length of service of 134.2 months (SD=114.1 months). An overview of the main results obtained by the pre- and post-questionnaires are illustrated in Table 1.

Table 1: Main results obtained by the pre- and post-training questionnaires (n=272)

	PRE-TEST	POST-TEST	
	% Respondents	% Respondents	<i>p</i>
Signs of an opioid overdose (correct responses) (n=272)			
Slow, shallow breathing	91	100	<0.001***
Blue lips	89	99	<0.001***
Snoring, gurgling sound	69	100	<0.001***
Slumped posture	88	99	<0.001***
Being on the nod	83	99	<0.001***
Loss of consciousness or won't wake up	97	99	0.289
Clammy skin	79	80	0.798
Signs which increase the risk of an opioid overdose (correct responses) (n=272)			
Using too much heroin/opioids	96	99	0.039*
Change in purity	92	98	<0.001***
Using heroin/ opioids with other drugs (e.g., alcohol, benzodiazepines)	92	97	0.002**
Using heroin/opioids alone	67	87	<0.001***
Change in tolerance (e.g., haven't used in a while, after detox, prison)	92	98	<0.001***
Using in unfamiliar places, with unfamiliar people	45	72	<0.001***
Action taken in the event of an overdose (correct responses) (n=272)			
Advise the Police Operations Centre radio operator that an ambulance is required or dial 000 to directly call for an ambulance	99	100	NA ^a
Stay with the person until they come around	83	96	<0.001***
Perform mouth-to-mouth resuscitation	14	48	<0.001***
Give naloxone (Prenoxad®, Narcan® or Nyxoid®)	82	99	<0.001***
Stay with the person until the ambulance arrives	95	97	0.481
Heard of naloxone (n=272)			
Yes	75	97	<0.001***
Would administer naloxone? (n=272)			
Yes	66	99	<0.001***
How confident are you to respond to an opioid overdose? (n=272)			
Not at all or slightly	26	2	<0.001***
Not sure	40	2	
Confident	31	66	
Very confident	4	31	
How confident are you to use naloxone in the event of an opioid overdose? (n=272)			
Not at all or slightly	27	1	<0.001***
Not sure	45	1	
Confident	24	56	
Very confident	4	42	
Importance of carrying naloxone (n=272)			
Not at all	2	0	<0.001***
Important	36	25	
Not sure	24	3	
Very important	22	39	
Essential	16	33	

Note. ^aMcNemar test unable to be computed as some cells have a value of 0; ^btotals may be >100% due to rounding.

An overview of the main results obtained by the online survey are illustrated in Table 2.

Table 2: Main results obtained by the online survey (n=117)

Quality of the training (n=117)	% Respondents
Excellent	33
Good	61
Fair	6
Most valuable aspects of the training (n=117)	% Respondents
Learning about opioids	31
Learning about naloxone	32
Learning how to use naloxone	34
Other	3
Police officers should have access to naloxone (n=113)	% Respondents^a
Completely agree	88
Agree	10
Unsure	3
Signs of an opioid overdose (correct responses) (n=117)	% Respondents
Slow/shallow breathing	98
Turning blue (e.g., blue lips...)	90
Loss of consciousness/unrousable	98
Deep snoring	72
Pinned pupils	48
Clammy skin	74
Nodding in and out of conversation	88
Having naloxone available while undertaking drug seizures or policing work is reassuring, knowing that naloxone can be used in the event of accidental intoxication/overdose of an officer (n=112)	% Respondents^a
Completely agree	87
Agree	10
Unsure	4
Having received the training, do you feel that your competence to administer naloxone has been (n=114)	% Respondents^a
The same/unchanged	11
Increased	90
I would be able to administer naloxone in the case of an overdose (n=114)	% Respondents
Completely agree	71
Agree	29
Everyone at risk of witnessing an overdose should be given a naloxone supply (n=112)	% Respondents
Completely agree	61
Agree	31
Other	8

Note. ^aTotals may be >100% due to rounding.

Table 3 illustrates the accounts of witnessed overdoses.

Table 3: Accounts of witnessed overdoses (n=117)

Have you witnessed an opioid overdose since receiving your training? (n=114)	% Respondents
Yes	20
How many times have you resuscitated someone using naloxone since receiving your training? (n=23)	% Respondents
0	30
1	44
2	17
3	9

Qualitative accounts of witnessed overdoses

Three main themes were highlighted when participants were asked how did the naloxone training assist/influence their response to the overdose: the absence of adverse effects, an opportunity to do more while witnessing an opioid overdose, and the usefulness of the training received.

Two main themes were highlighted when participants were asked whether they would like to make any additional comments about the training or the naloxone device they received: the need to roll out naloxone agency wide and their satisfaction with the training received.

Excerpts from some of their accounts are presented below:

*"[...] I think **they should roll it out agency wide and...I can only see a benefit for it and I'm really grateful that myself and my team...were invited to be part of the pilot, because I know it's really been very...very positive so for my staff when you can actually go somewhere and do something good, because a lot of policing these days is...is quite negative and we...we don't get that good feeling sometimes after being in a job."***

*"I think I was **quite lucky to get the training. I'm quite happy I was able to administer it. I think it's something that should be rolling in and should be rolled out across the agency and...and yeah, just I think everyone in the Police Force should...should have access to it."***

*"[...] Like it's...**it's a good...it's a good initiative to have police officers carry this drug. It saves lives and I found it handy. I know other officers have found it handy, especially like in the situations that we go to and that being the first people on the scene then we probably should [...] get more people trained in it."***

*"**It gave me confidence in...if what we were doing with it in administering the naloxone would actually save her life [...] and that's exactly what happened."***

Discussion

The key findings against the evaluation aims:

1) Investigate the immediate impact of the naloxone training by comparing the pre- and post-questionnaires.

The results showed an overall increase in knowledge immediately after the training in terms of recognising the signs of an opioid overdose, signs which increase the risk of opioid overdose, and the action that needs to be taken when witnessing an opioid overdose. The benefits of having received the training was clearly demonstrated by the increased proportion of participants who reported that they would administer naloxone, from 66% before the training to 99% after the training. Additionally, the proportion of respondents who identified they were 'confident' or 'very confident' to respond to an opioid overdose increased from 35% pre-training to 97% post-training. Similarly, the proportion of respondents who identified they were 'confident' or 'very confident' to use naloxone increased from 28% pre-training to 98% post-training.

2) Experience of witnessing overdoses, administration of naloxone and opioid reversal outcomes

Naloxone was successfully used on 16 occasions among our sample to reverse the effects of an opioid overdose. The necessity to provide naloxone training to police officers as part of their duties, was also reflected by the fact that one in five participants (20%) reported having witnessed an opioid overdose since receiving naloxone training. Ten police officers (44%) who completed the online survey reported that they had administered naloxone on one occasion, four (17%) on two occasions, and two (9%) on three occasions. The benefits of the training were also reflected by the willingness of police officers to administer naloxone when witnessing an opioid overdose. Indeed, there was a significant increase in the frequency of participants who reported that they would administer naloxone, from 66% before the training to 99% after the training.

Several police officers interviewed reported that naloxone provided them with another way to successfully

respond to an opioid overdose and provided them with the opportunity to do something valuable and with a sense of confidence. Several participants also wished the pilot was rolled out on a larger scale.

3) Investigate knowledge retention following the naloxone training

Police officers' knowledge retention and naloxone administration following the naloxone training was assessed. The majority of respondents were overall still able to identify the major signs of an opioid overdose during the follow-up online survey. Additionally, the majority of participants reported that their competency to administer naloxone increased after the training, while only a minority of respondents responded that it remained the same or unchanged. All respondents reported they would be able to administer naloxone in the case of an opioid overdose, clearly demonstrating their ability to successfully respond to an opioid overdose from a practical point of view.

4) Highlight the benefits, barriers and/or concerns about the pilot

Overall, the evaluation found that the majority of participants (94%) were highly satisfied with the quality of the training and reported that it was either 'good' (61%) or 'excellent' (33%). 'Learning how to use naloxone' (34%), followed by 'learning about naloxone' (32%), and 'learning about opioids' (31%) were the most valuable aspects of the training reported by the participants. The majority of participants (92%) also either 'completely agreed' (61%) or 'agreed' (31%) that everyone at risk of witnessing an overdose should be given a naloxone supply, which demonstrates the need for police officers

to be able to administer naloxone to people who have experienced opioid overdose in their daily practice. Various participants highlighted the fact that naloxone provided them with another way to successfully respond to an opioid overdose, save lives and resources, and provided them with the opportunity to provide early intervention by 'buying time' while waiting for an ambulance. It also provided them with a sense of self-confidence and increased positive feelings, while being able to do something positive for the community. Several participants suggested that it should be rolled out agency wide.

Conclusion

Overall, our findings suggest that the training was very well received by police officers. It seems to be effective in increasing police officers' knowledge associated with drug overdose and improve their capacity to recognise and manage opioid overdoses in a prompt and effective manner. These findings support the continuation of the pilot and the continuous provision of naloxone among police officers in WA and suggest that carriage of naloxone by police officers in Australia is feasible, effective and may save lives. The naloxone pilot with the WA Police Force should serve as an example for other jurisdictions to roll out similar programs.

Suggested citation

Agramunt, S. & Lenton, S. (2023). *Evaluation of the Western Australian Police Force Naloxone Pilot: a summary of the main findings*. National Drug Research Institute and enAble Institute, Curtin University, Perth, Western Australia.

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