

Evaluation of the Expansion of the Take-Home Naloxone Project

Final Report



National Drug
Research Institute,
Curtin University

April 2023



Preventing harmful drug use in Australia

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1 EXECUTIVE SUMMARY

1.1 THE EVALUATION OF THE EXPANSION OF TAKE-HOME NALOXONE PROJECT

This project is an evaluation of the Expansion of the Take-Home Naloxone (THN) Project conducted by the Mental Health Commission Western Australian Naloxone Program (WANP) which aims to reduce opioid overdose fatality among existing opioid users. The main aim of this project was to examine the effectiveness and appropriateness of THN programs in three emergency departments (Fiona Stanley Hospital (FSH), Joondalup Health Campus (JHC), and Royal Perth Hospital (RPH)) and a community setting (St Patrick's Crossroads Outreach Program (St Pat's)). The secondary aims were to:

1. Investigate whether naloxone was used appropriately by people in a non-medical setting and resulted in successful opioid reversals.
2. Investigate knowledge about naloxone and opioid overdoses following the THN program and the participants' experience of overdoses and naloxone administration in the period since participating in the THN program.
3. Highlight the positive and/or negative aspects of the program.

This study which employed a survey research design was undertaken from February 2020 to July 2022. Participants who received naloxone training in the form of either brief education (of less than 30 minutes) or group sessions (of approximately an hour) were recruited from the following sites: FHS, JHC, RPH, and St Pat's by direct invitation from the staff members who provided the naloxone training. The terminology 'training' will be used in a general sense throughout the document to refer to these 2 different types of naloxone education modalities.

Following these education sessions, staff members who were authorised to supply medication to their patients/clients, provided people identified as at-risk of an opioid overdose, or likely in a position to witness an overdose, with a supply of naloxone in the form of Prenoxad® (a pre-loaded syringe which contains up to 5 doses of naloxone) and/or Nyxoid® (a pre-loaded nasal spray, containing one dose of naloxone (2 devices per box)) at no financial cost.

To be recruited into this evaluation, participants needed to: i) be at least 18 years of age (due

to ethical requirements); ii) be at risk of opioid overdose, or likely to witness an opioid overdose; iii) have received naloxone brief education at either FSH, JHC, RPH or brief education/group sessions at St Pat's iii) be able to communicate in English.

Participants completed a face-to-face or phone researcher administered questionnaire 3 to 6 months after having received naloxone training. The mean time period between naloxone training and scheduled interview was 3.84 months (SD=1.1; median=3; range 3-6 months). Participants who had witnessed or personally experienced an opioid overdose since receiving naloxone training were also asked to complete additional questions, as well as a qualitative interview to provide some information about the overdose.

1.2 THE KEY FINDINGS AGAINST THE EVALUATION AIMS

Thirty-eight participants who received naloxone training completed the researcher administered questionnaire. The breakdown by sites was as follows: 16% (n = 6) were recruited from FSH, 3% (n = 1) from JHC, 3% (n = 1) from RPH, and 79% (n=30) from St Pat's. Due to the small numbers of participants from 2 of the emergency departments (EDs), results were not analysed or reported separately by site. Four of the 38 participants reported having witnessed an opioid overdose since receiving naloxone training, while one participant reported having experienced an opioid overdose since receiving naloxone training.

Nearly three quarters of the sample were male (74%; n=28), were born in Australia (76%; n=29), had a mean age of 48 years (SD=11; range 25-75 years), and a mean years of school education of 8 (SD=2; range 4-10 years).

Over half of the sample reported having ever used opioids in their lifetime (55%; n=21). The mean age of first opioid use was 19.1 years (SD=4.6; range 8–29). Seventeen participants reported never having used opioids but were in contact with opioid users. Almost all participants who reported having ever used any opioids also reported having injected it (86%; n=18). Among those who reported having ever used opioids (n=21), 48% of participants (n=10) reported having used at least one type of illegal/non-prescribed opioids in the last 28 days. Among the 21 participants who reported lifetime use of opioids, approximately one quarter (24%; n=5) reported currently using opioids daily or on alternate days.

1.2.1 Investigate whether naloxone was used appropriately by people in a non-medical setting and resulted in successful opioid reversals.

- Among the 5 reported overdoses, 4 reported overdoses were witnessed by the participants since receiving naloxone training, and one was experienced.
- Overall, the participants demonstrated appropriate responses to the opioid overdoses witnessed.
- Naloxone was reported to have been administered in all witnessed overdoses and was administered by the participants themselves in 75% of the witnessed overdoses, while it was administered by paramedics in one case.
- All respondents reported that the person who experienced the overdose had survived in all cases of witnessed overdose, with naloxone being perceived to have been the factor that saved the person's life each time.

1.2.2 Investigate knowledge about naloxone and opioid overdoses following the THN program and the participants' experience of overdoses and naloxone administration in the period since participating in the THN program.

- While the majority of participants demonstrated adequate knowledge about naloxone and opioid overdoses 3 to 6 months after having received naloxone training, quite a high number of participants chose incorrect answers while being questioned about the signs and symptoms of an opioid overdose, as well as the actions to be taken when it is happening, even though 8 out of 10 participants (80%) thought that they were confident in recognising an opioid overdose, and 75% that they knew how to manage an opioid overdose. Indeed, a high number of respondents reported incorrectly that 'fitting/convulsing/shaking' (89%; n=32), 'rapid heartbeat' (78%; n=28), 'agitated behaviour' (72%; n=26), and 'blood-shot eyes' (50%; n=18) were signs of an opioid overdose. Similarly, a high number of respondents reported inaccurately that they should 'walk the person around the room' (54%; n=20), and that they should 'shock the person with cold water' (21%; n=8) when witnessing an opioid overdose.
- However, 5 successful opioid reversals (4 witnessed and one experienced) had been reported as part of the training and showed that participants were successfully able to manage an opioid overdose, with naloxone being perceived to have been the factor that saved the person's life each time.

1.2.3 Highlight the positive and/or negative aspects of the program

- Participants were overall satisfied with the naloxone training provided and the devices that were received free of charge.
- Participants highlighted the fact that naloxone enables people to save lives.
- However, the majority of participants expressed the need to receive additional devices.
- Some participants also highlighted the fact that additional retraining should be provided on a regular basis, that the training was too short, and that it should be more focused on practice rather than on theory.

2 INTRODUCTION

This project is an evaluation of the Expansion of the THN project conducted by the Mental Health Commission. Consistent with the growing evidence on the efficacy of THN programs in peer-based settings in Western Australia (Nelson, Lenton, Dietze, Olsen, & Agramunt, 2016; Salom et al., 2022), other jurisdictions (e.g. Dietze et al., 2018; Lenton et al., 2015; Olsen, McDonald, Lenton, & Dietze, 2017; Salom et al., 2022), and internationally (Dietze, et al., 2022; Rochester, & Graboyes, 2022; Troberg, Isendahl, Blomé, Dahlman, & Håkansson, 2022), the Mental Health Commission had expanded THN to other settings including EDs, and in alcohol and other drugs (AOD) community outreach settings in Perth. Studies published in the time since the commencement of this project to expand naloxone distribution through EDs in WA suggest that EDs are a pivotal setting where naloxone could be made available with brief education to people who had a non-fatal unintentional opioid overdose and who were transported to EDs (e.g. Black, et al., 2022; Dora et al., 2022; Hughes, Sampson, Long, Buykx, & Snooks, 2022).

Naloxone is an opioid antagonist that is highly effective in reversing the effects of an opioid overdose with minimal adverse effects (e.g. Binswanger, et al., 2022; Hill, Zagorski, & Loera, 2022) and which has been recommended by the World Health Organization to reduce fatalities associated with opioid overdoses (World Health Organization, 2014). THN distribution and training programs have been running in Australia since 2012 in order to reduce overdose fatalities among current opioid users, by training prospect overdose witnesses to respond to overdose situations, and to distribute naloxone to individuals who might be at risk of having

an overdose (Dietze et al., 2018). Since 2016, naloxone has been made available over-the-counter in Australia without prescription (Lenton, Dietze, & Jauncey, 2016), and on November 1 2019, naloxone nasal spray (Nyxoid®) was listed on the Pharmaceutical Benefits Scheme (PBS) (NPS Medicine Wise, 2022). Following a Commonwealth-funded pilot study providing free naloxone in New South Wales, South Australia and Western Australia, which found that THN programs were effective and saved up to an estimated 3 lives per day (Salom, 2022), the THN program has been extended nationally since July 1 2022 for an initial funding period of 4 years, then with further funding ongoing from July 1 2026 (Australian Government, 2022).

Recent research conducted in Australia and internationally suggests that THN programs are effective in increasing knowledge associated with drug overdose and prevent people from dying from a drug overdose (e.g. Kirwan, Sidlow, Stewart, & Dietze, 2021; Salom et al., 2022; Walker et al., 2022). Opioid-related deaths among Australians have nearly trebled in the last 14 years, from 338 in 2006 to 882 in 2019 (Penington Institute, 2021). Opioids accounted for 54% of drug overdose deaths in Australia during 2019 (Penington Institute, 2021). It has been estimated that 1,073 deaths were due to opioids in Australia in 2020, which equates to 4.3 deaths per 100,000 people (Chrzanowska, Man, Sutherland, Degenhardt, & Peacock, 2022). Seventy-eight percent of these opioid-induced deaths were considered unintentional overdoses in 2020 (840 deaths) (Chrzanowska et al., 2022).

In 2019, the majority of opioid-related deaths in Australia involved heroin (47.8%), followed by codeine/morphine/oxycodone (35.5%), methadone (19.3%), and fentanyl/pethidine/tramadol (18.9%) (Penington Institute, 2021). Deaths involving codeine/morphine/oxycodone increased by 84% between 2006 and 2019 in Australia (Penington Institute, 2021). A fairly similar distribution was found in 2020, as heroin accounted for 43% of opioid-related deaths in Australia (461 deaths), while natural and semi-synthetic opioids (e.g., oxycodone, codeine, and morphine) accounted for 39% (415 deaths), followed by synthetic opioids with 20% (e.g., fentanyl, pethidine, tramadol; 215 deaths), and methadone with 18% (191 deaths) (Chrzanowska, et al., 2022).

Recent research found that there was a sex disparity between males and females in terms of opioid-induced deaths in Australia, with males being 3 times more likely than females to die

from an opioid overdose throughout the years (Chrzanowska, et al., 2022). In 2020, the majority of opioid-induced deaths among Australians occurred among males with 728 deaths (68%) (Chrzanowska, et al., 2022). In terms of age-related disparities, the majority of opioid-induced deaths (29%) occurred among Australians aged between 35 and 44 years, with 311 deaths in 2020, followed by those aged between 45 and 54, with 271 deaths (25%) (Chrzanowska, et al., 2022).

Against the background of the existing literature it was hoped that assessing the efficacy of THN programmes in EDs, as well as in AOD community outreach settings in Perth would assist in identifying the strengths and gaps in current local peer-naloxone education programs to improve the quality of services offered, better respond to the community needs and contribute to prevention of opioid overdose mortality and morbidity in WA.

3 METHOD

3.1 AIMS

The main aim of this project was to examine the effectiveness and appropriateness of THN programs in three EDs (FHS, JHC, and RPH) and a community centre, St Pat's.

The secondary aims based on previous research (e.g. Nelson et al., 2016; Olsen, et al., 2015) were to:

1. Investigate whether naloxone was used appropriately by people in a non-medical setting and resulted in successful opioid reversals.
2. Investigate knowledge about naloxone and opioid overdoses following the THN program and the participants' experience of overdoses and naloxone administration in the period since participating in the THN program.
3. Highlight the positive and/or negative aspects of the program.

3.2 SIGNIFICANCE

The results of this evaluation will provide the Mental Health Commission with relevant information about the effectiveness and appropriateness of THN programs in three EDs (FHS, JHC, and RPH) and a community and outreach setting (St Pat's), in order to improve the quality of services offered and better respond to the community needs. Identifying the barriers and

facilitators to these THN programs could highlight the areas that require further improvement and determine whether these should continue in the long term.

3.3 RESEARCH DESIGN

3.3.1 Study design

This study which employed a survey research design was undertaken from February 2020 to July 2022. Each participant was assessed once, 3 to 6 months after having received naloxone training (in the form of brief education at either FSH, JHC, RPH or brief education/group sessions at St Pat's) and supplied take-home-naloxone at any of these sites by direct invitation from the staff members who provided the naloxone training. During this time period naloxone training and THN was supplied to 32 participants at FSH; 41 at JHC; 62 at RPH; and 259 at St Pat's (total participants=394).

3.3.2 Study Sample

The original plan was to recruit up to 30 participants from each of the EDs (FSH, JHC, and RPH) and St Pat's, making a total n of 120 participants. However, due to the impact of COVID the number of participants recruited to the study (n=38) fell well short of this. COVID impacts took 2 major forms. Firstly COVID-associated countermeasures such as lockdowns, social distancing requirements and a general downturn on the illicit opioid market associated with the impact of travel restrictions on international and interstate illicit drug supply, had an indirect impact on recruitment across the board. Secondly, COVID-related strategies taken by medical settings such as hospital EDs to limit non-core activities including activities such as distributing naloxone and recruitment of participants for research projects directly affected recruitment at the EDs. Although the project was extended in an effort to improve recruitment this could not be continued and made only modest improvement in the numbers recruited due to competing priorities in hospitals and staffing pressures post COVID.

With the support of the Mental Health Commission, FSH, JHC, and RPH had been delivering naloxone brief education to people who are brought to EDs and who experienced an overdose, are at risk of an opioid overdose, or who are likely to witness an opioid overdose. Similarly, with the support of the Mental Health Commission, St Pat's had been delivering naloxone training (both brief education or longer group sessions) to people who experienced an overdose,

are at risk of an opioid overdose, or who are likely to witness an opioid overdose. Training sessions at St Pat's started in 2018, while these started in 2019 at FSH, JHC, and RPH. Following these training sessions, staff members who are authorised to supply medication have been providing patients identified as at-risk of an opioid overdose with a supply of naloxone in the form of Prenoxad® (a pre-loaded syringe which contains up to 5 doses of naloxone) and/or Nyxoid® (a pre-loaded nasal spray which contains one dose of naloxone (2 devices per box)) at no financial cost. Eligible participants who received naloxone training were recruited from FHS, JHC, RPH and St Pat's outreach program. Participants needed to: i) be at least 18 years of age (due to ethical requirements); ii) be at risk of opioid overdose, or likely to witness an opioid overdose; iii) have received naloxone brief education at either FSH, JHC, RPH or brief education/group sessions at St Pat's iii) be able to communicate in English.

3.3.3 Recruitment of Sample

At the 3 participating hospitals, participants were recruited into the study by direct invitation by the staff members who provided naloxone training to them (Figure 1). After being invited to take part in the study, eligible participants were required to complete a contact information form (Appendix A) permitting the researcher to contact the participants at least 3 months after having received naloxone training to provide information about the study and to establish participant eligibility. Potential participants were also provided with a business card (Appendix B) containing the contact details of the researcher if they wanted to obtain more information about the study. Figure 1 illustrates the specific recruitment procedure in place at the participating hospitals. At the participating hospitals, patients were identified, and provided with a naloxone prescription. Clinical staff then accessed the naloxone kit, the 'Recognise & Respond wallet card' (Appendix C), a wallet card provided by the Mental Health Commission which provides information about first aid steps to manage opioid overdoses, and an envelope labelled 'The Naloxone Research Study' provided by the researchers which contained the consent to be contacted form and a business card. Naloxone brief education was then provided to the patients by staff of the relevant ED or community program, as well as the naloxone device(s) (either Prenoxad® and/or Nyxoid®) and the 'Recognise & Respond wallet card'. Brief education participants were then informed about the evaluation study and were asked to complete the contact information form (Appendix A) if they wished to obtain more information about the study and get contacted by the researcher, and with the researcher's contact details (Appendix B) if they wished to call the evaluation team directly. The forms were then placed

in a locked filing cabinet at the service and were subsequently collected by the researcher in person.

As part of the St Pat's outreach program, potential participants were either approached directly by the outreach team as part of their usual duties at St Pat's, or approached by staff members directly while they were facilitating an information stall at different community centres and venues (e.g. Salvation Army, Central 55, Palmerston Association). After receiving naloxone brief education training/group sessions, they were provided with naloxone and the 'Recognise & Respond wallet card' and invited to complete the contact information form (Appendix A) to obtain more information about the study or to speak directly with the researcher when the researcher was present. They were also provided with the researcher's contact details (Appendix B). The forms were then placed in a sealed envelope and either posted by the service to the researcher or collected by the researcher in person.

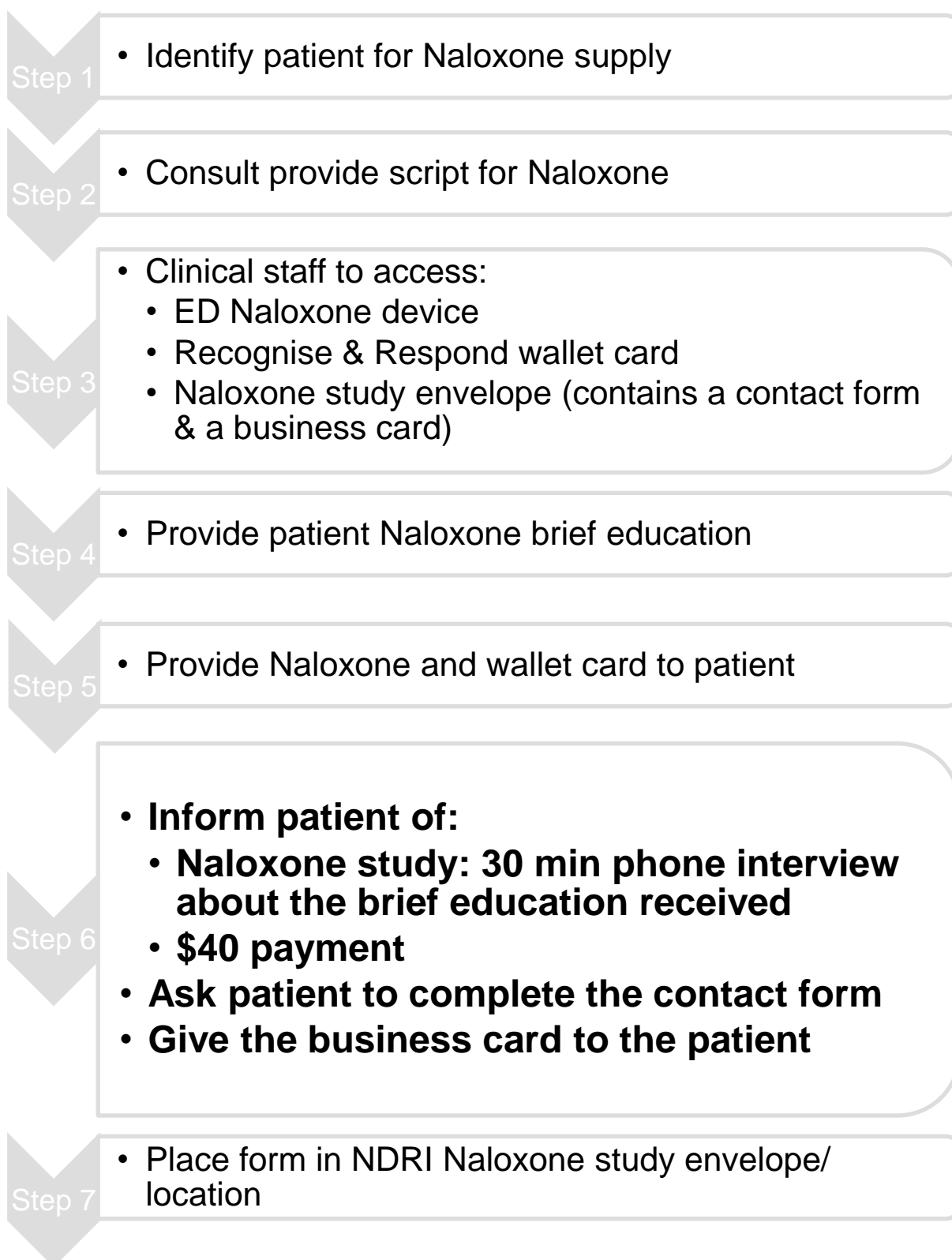


Figure 1: Flowchart of the recruitment procedure in place at the participating hospitals

The final sample consisted of 38 participants. The breakdown by sites was as follows: 16% (n = 6) were recruited from FSH, 3% (n = 1) from JHC, 3% (n = 1) from RPH, and 79% (n=30) from St Pat's. Due to the small numbers of participants from the EDs, results were not analysed or reported separately by site.

3.3.4 Data collection

This study was approved by the Curtin University Human Research Ethics Committee (HRE 2019-0584) and the three participating hospitals (approval number RGS0000003582 for RPH and FSH, and 1929 for JHC). In accordance with the Declaration of Helsinki, written informed consent or verbal consent (Appendix D) (for the participants who completed the interview over the phone) was obtained before data collection and a copy of the participant information sheet and consent form was provided to each participant. Participants were informed that participation in the evaluation was entirely voluntary, confidential and anonymous, and that they could withdraw at any time. Participants were able to use a pseudonym to give consent and were only identified by an ID number when completing the evaluation survey. Consent forms were stored separately from participant questionnaires and audio files, and there was no personal information recorded on data records.

Information was collected at least 3 months after having received naloxone training. This timeframe was based on previous research (Nelson, et al., 2016), as this interval allows to assess whether participants have used their naloxone device. Assessments were conducted either in person or over the phone and took approximately 30 minutes to complete. Participants who completed a face-to-face interview were reimbursed \$40 in cash for their time and costs associated with participating in the study (e.g. public transport, parking etc.), while participants who completed a phone interview received a \$40 gift voucher via either registered mail or email. Interviews were conducted over the phone rather than face-to-face for the following reasons: i) if the participant lived outside the metropolitan area; ii) or if for their convenience, a phone interview was more desirable; iii) since the COVID pandemic. All assessments were conducted by the same researcher. The mean duration between the naloxone training and assessment was 3.8 months (SD=1.1; median=3; range 3-6 months).

3.3.5 Study instruments

Participants were then requested to complete a researcher administrated quantitative and qualitative questionnaire, followed by a qualitative interview (Appendix E), only if participants indicated that they had experienced an opioid overdose or witnessed an opioid overdose since receiving naloxone training and consented to a qualitative interview. These qualitative interviews were audio-recorded with participant informed consent and were subsequently transcribed by the researcher. Quantitative data was analysed using SPSS for Windows Version 28, while qualitative data was analysed using Microsoft Excel version 2207. Participants who completed a qualitative interview did not receive further financial reimbursement so as not to be an inducement to falsely report an overdose reversal event in order to gain further reimbursement.

The quantitative and qualitative questionnaire (Appendix E) collecting information about participants' socio-demographic, current treatment program, recent and past drug use history, knowledge about naloxone and opioid overdoses following the naloxone training program, opinions and feedback about the naloxone training program, personal and witnessed opioid overdoses, as well as experience of giving naloxone was administered by the researcher. The Drug Abuse Screening Test (DAST-10) (Skinner, 1982), as well as a few questions based on the OOKS (Williams, Strang, & Marsden, 2013) were also administered to the participants. The questions used in this research study were based on the questionnaires used in a previous study conducted at the National Drug Research Institute which assessed the effectiveness a peer-based naloxone training distribution program delivered by the West Australian Substance Users Association (WASUA) (currently known as Peer Based Harm Reduction WA) (Nelson et al., 2016), and on the skills taught by the service staff to the participants during the brief intervention.

The Drug Abuse Screening Test (DAST-10)

The DAST-10 (Skinner, 1982) is a brief screening tool which contains 10 'Yes' or 'No' questions which assess drug use in the last year. One point is added for each question answered 'Yes', except for one reversed question for which one pointed is added for questions answered 'No'. An overall drug abuse score is calculated for each participant by summing all items. The total score ranges from 0 to 10, with higher scores indicating greater opioid dependence, with a cut off score of 3 (Skinner, 1982). The DAST-10 is a valid test which possesses moderate to

high-levels of internal consistency (0.86 to 0.94), test-retest reliability (0.71), sensitivity (ranging from 95% to 41%), and specificity (ranging from 68% to 99%) (Yudko, Lozhkina, & Fouts, 2007).

The Opioid Overdose Knowledge Scale (OOKS)

The OOKS (Williams, et al., 2013) is a 45-items scale which measures knowledge of opioid overdose across 4 subscales: overdose risk factors, overdose signs, overdose actions, and naloxone use. It has been widely used in AOD research studies to measure naloxone training outcomes (Williams et al., 2013). The OOKS is a valid scale which possesses robust internal consistency (Cronbach's alpha = 0.83), and excellent test-retest reliability (Intraclass correlation coefficient (ICC) = 0.90 (Williams et al., 2013)). Due to time constraints, it was not possible to administer the full OOKS to participants. Rather three questions, from each of the three OOKS subscales specified below, which were relevant to the skills provided during the naloxone training and which were based on some of the items included in the OOKS, were administered to the participants. Due to the minority of questions extracted from the OOKS, scores on each question extracted from this test were calculated separately, and no overall OOKS score was computed.

Modified version of the OOKS overdose signs subscale

A modified version of the OOKS overdose signs subscale was presented to the participants. Participants were asked to indicate which signs presented an opioid overdose. The modified list comprised 7 correct items ('slow/shallow breathing', 'turning blue (e.g. blue lips...)', 'loss of consciousness / unrousable', 'deep snoring', 'pinned pupils', 'clammy skin', and 'nodding in and out of conversation') and 4 incorrect items ('bloodshot eyes', 'rapid heartbeat', 'fitting/convulsing/ shaking', and 'agitated behaviour'). Multiple answers were allowed for this question.

Modified version of the OOKS overdose actions subscale

A modified version of the OOKS overdose action subscale was presented to the participants. Participants were asked to indicate what should be done when managing an opioid overdose. The modified list comprised 8 correct items ('call an ambulance', 'stay with the person until they come round', 'place the person in the recovery position (on their side with mouth clear)', 'stay with the person until the ambulance arrives', 'check for blocked airway (nose and mouth)', 'perform mouth to mouth resuscitation', 'give Prenoxad/Nyxoid/Naloxone', and

‘check for breathing’) and 6 incorrect items ‘inject saline (salt) solution/ milk’, ‘put the person in a bath’, ‘give stimulants (e.g. black coffee, cocaine etc.)’, ‘shock the person with cold water’, ‘put the person to bed to sleep it off’, and ‘walk the person around the room’. Multiple answers were allowed for this question.

Question extracted from the OOKS naloxone use subscale

One question among the 10 items on the naloxone use subscale of the OOKS was asked of the participants: ‘What is Prenoxad/Nyxoid/Naloxone used for?’ Participants were requested to choose one answer only. Similar to the original OOKS question, responses included one correct answer (‘to reverse the effects of an opioid overdose (e.g heroin, methadone)’) and 3 incorrect responses (‘to reverse the effects of an amphetamine overdose’, ‘to reverse the effects of a cocaine overdose’, and ‘to reverse the effects of any overdose’). Only one answer was allowed.

3.4 ANALYSIS

3.4.1 Descriptive statistics

Descriptive statistics were used to summarise the socio-demographic characteristics of the cohort, current treatment program, recent and past drug use history, knowledge retained from the naloxone training program, opinions and feedback about the naloxone training program, personal and witnessed opioid overdoses, the answers obtained by the DAST-10 (Skinner, 1984), as well as the items based on the OOKS (Williams et al., 2013). All single-items analyses were undertaken with missing data excluded from the analysis on a question-wise, rather than case-wise basis. As per the process used in Nelson et al. (2016), responses were presented as both a percentage of respondents (i.e. a percentage of the number of participants who answered the question), and a percentage of responses (i.e. a percentage of the total number of answers provided by all participants) when multiple responses were allowed. Furthermore, numbers were rounded to the first digit. Consequently, some response percentages might be greater than 100%.

3.4.2 Qualitative data

Qualitative responses were separated into main themes and examples of qualitative responses were reported. In order to protect the confidentiality of the participants, no information was provided about the training location of the participants in all qualitative answers, and an age bracket rather than the specific age of the respondents was provided.

4 RESULTS

Thirty-eight participants completed the evaluation questionnaire. Four of these participants reported having witnessed an opioid overdose since receiving naloxone training, while one participant reported having experienced an opioid overdose since receiving naloxone training. Naloxone training started in 2018 at St Pat's, while it started in 2019 at FSH, JHC and RPH. Scheduled interviews were conducted between February 2020 and July 2022. The mean time period between naloxone training and scheduled interview was 3.84 months (SD=1.1; median=3; range 3-6 months).

4.1 DESCRIPTIVE STATISTICS

4.1.1 Sample characteristics

Table 1 illustrates the socio-demographic characteristics of the cohort. Approximately three quarters of the sample were male (74%; n=28), were born in Australia (76%; n=29), had a mean age of 48 years (SD= 11; range 25-75 years), and a mean years of school education of 8 (SD=2; range 4-10 years). Just under half of the sample were single (45%; n=17), unemployed (45%; n=17), over half lived in a rental accommodation (53%; n=20), on their own (53%; n=20). The majority of participants were non-indigenous (84%; n=32). Almost all reported currently receiving a government pension, allowance or benefit in the past month (90%; n=34), with the majority of them being on jobseeker (47%, n=18), or on a disability pension (29%; n=11).

Table 1: Socio-demographic characteristics of the cohort (n=38)

Variable	n (%)
Age: mean (SD)	47.6 (11.3)
Age group (years)	
18-35	5 (13%)
36-55	24 (63%)
56+	9 (24%)
Country of birth	
Australia	29 (76%)
Not Australia	9 (24%)
Aboriginal and/or Torres Strait Islander	
Yes	6 (16%)
No	32 (84%)
Gender	
Female	10 (26%)
Male	28 (74%)
Marital status	
Single	17 (45%)
De facto/married/ in a relationship	10 (26%)
Separated/divorced/widowed	11 (29%)
Current accommodation	
Own home/apartment	6 (16%)
Rental accommodation	20 (53%)
Someone else's home (family, friends...)	4 (11%)
Institution	6 (16%)
No fixed address	1 (3%)
Other	1 (3%)
Living arrangements	
Alone	20 (53%)
With opioid users	3 (8%)
With non-opioid users	15 (40%)
Employment status:	
Working full-time/ part-time/ casual	4 (11%)
Looking for work, unemployed	17 (45%)
Retired	3 (8%)
Disabled, permanently or temporarily	10 (26%)
Studying	2 (5%)
Other	2 (5%)
Current benefits	
Yes	34 (90%)
No	4 (11%)
Level of education (years): mean (SD)	7.9 (1.8)

4.1.2 Drug use history and current treatment program

Participants who had used opioids in their lifetime were asked whether they were in a current treatment program (Table 2). The largest proportion (82%, n=31) reported they were not in a current treatment program, while 11% (n=4) were currently seeing a psychologist or an AOD counsellor. The remaining participants (8%; n=3) were on a maintenance program (Methadone, Subutex, or Suboxone). The reasons reported for not being in current treatment included ‘not being an user’ (74%; n=23), ‘having no need to’ (19%; n=6), ‘being not ready to give it up yet’ (3%; n=1), and ‘being unable to seek treatment due to a 6 minutes late arrival at an appointment at [name of an AOD centre removed]’ (3%; n=1). The mean treatment length of the current participants treatment episode was 17.3 months (SD=21.6) (i.e. approximately 1 year and 5 months).

Table 2: Current drug treatment (n=38)

Drug	n	% respondents
Not in current treatment program	31	82
Seeing a psychologist/AOD counsellor	4	11
Opioid maintenance (Methadone/Suboxone/ Subutex)	3	8
Total	38	101

4.1.3 Age of first opioid use and injecting drug use

Seventeen participants reported never having used opioids but were in contact with opioid users. Among the participants who reported having ever used opioids in their lifetime (55%; n=21), the mean age of first opioid use was 19.1 years (SD=4.6; range 8–29). Almost all participants who reported having ever used any opioids also reported having injected it (86%; n=18). Only 3 participants who reported lifetime use of any opioids (14%) had never injected it. The mean age of first injecting drug use was 22.1 years (SD=7.7; range 14–41).

4.1.4 Non-medical prescription opioid use (NMPOU)

Among the 21 participants who reported lifetime use of opioids, approximately 7 out of 10 (67%; n=14) were on prescribed medication, with an average of 2.3 types of medication per person (SD=1.4; range 1-5). Only one participant (7%) among the 14 on prescribed medication reported taking NMPOU (Tapentadol).

4.1.5 Use and injection of opioids in last 28 days

Among those who reported having ever used opioids (n=21), 48% (n=10) reported having used at least one type of illegal/non-prescribed opioids in the last 28 days (Table 3). Among participants reporting opioid use in the last 28 days (n=10), 50% (n=5) had also injected opioids during the same period of time.

Table 3: Opioids used in the last 28 days (n=10)

Drug	n	% respondents	% responses
Heroin	5	50	50
Methadone	1	10	10
Codeine	1	10	10
Morphine	1	10	10
Subutex	1	10	10
Tapentadol	1	10	10
Total responses	10	100	-

4.1.6 Opioids currently used daily or alternate days

Among the 21 participants who reported lifetime use of opioids, approximately one quarter (24%; n=5) reported currently using opioids daily or on alternate days. Table 4 illustrates the type of opioids participants reported currently using daily or on alternate days.

Table 4: Opioids currently used daily or near daily (n=5)

Drug	n	% respondents	% responses
Heroin	3	14	60
Morphine	1	5	20
Codeine	1	5	20
Total responses	5	-	-

4.1.7 Other substances currently using daily on alternate days

Among the participants who reported lifetime use of opioids (n=21), the majority of the sample (81%; n=17) reported currently using other non-opioid substances either daily or on alternate days (Table 5). The main common substances that participants reported using daily or near daily were tobacco (71%; n=12), followed by both alcohol and cannabis (53%; n=9).

Table 5: Non-opioids used daily or on alternate days (n=17)

Drug	n	% respondents	% responses
Tobacco	12	71	29
Alcohol	9	53	21
Cannabis	9	53	21
Amphetamine type stimulants	4	24	10
Benzodiazepines	4	24	10
Cocaine	1	6	2
E-cigarettes	1	6	2
Anti-psychotic (e.g. Seroquel...)	1	6	2
Anti-epileptic (e.g. Lyrica...)	1	6	2
Total responses	42	-	-

4.1.8 Occurrences of three or more days without opioid use

Participants who reported having ever used opioids (n=21) were asked to indicate how many times they had not used opioids whether prescribed or not prescribed for 3 or more days in the last 12 months. The majority of the sample (76%; n=16) reported that this occurred ‘many times’ in the last 12 months (Table 6).

Table 6: Occasions without prescribed and non-prescribed opioid use for three or more days (n=21)

Drug	n	% respondents
Never	1	5
Once or twice	2	10
Several times	2	10
Many times	16	76
Total	21	101

4.1.9 Current treatment

Drug Abuse Screening Test

Participants were asked whether they had used any non-prescribed drugs in the last 12 months. Slightly less than half of the sample (42%; n=16) reported having used non-prescribed drugs. Among the 16 participants who reported having used non-prescribed medication, more than half of them (56%; n=9) reported ‘using more than one drug at a time’, half of them (50%; n=8) reported ‘not always being able to stop when wanting to’, and ‘having had blackouts or flashbacks as a result of drug use’. The majority of the sample (69%; n=11) reported ‘feeling bad or guilty about drug use’, ‘having partners or parents complaining about their drug use’, ‘having engaged in illegal activities because of their drug use’, and/or ‘having had medical problems as a result of drug use’. Approximately 6 out of 10 participants (63%; n=10) reported ‘having neglected their family because of their drug use’, while almost all participants (94%; n=15) reported ‘having ever experienced withdrawal symptoms’. The total mean score on the DAST-10 for the 16 participants who reported lifetime use of any-non prescribed drugs was 6.9 (SD=2.7; range 2-10) which indicates an overall ‘substantial level of problems related to drug abuse’ among the sample, according to Skinner (1982).

4.2 NALOXONE TRAINING

4.2.1 Training location, attendance, and type

Training location

More than three quarters of the sample (79%, n=30) reported receiving training from St Pat's (including at various locations/events such as at the St Pat's (n=18), Homeless Connect (n=2), Foundation Housing (n=1), Palmerston (n=4), and the Salvation Army (n=5)). The remaining participants reported having received training from FSH (16%; n=6), JHC (3%; n=1), and RPH (3%; n=1).

Training attendance

Respondents were asked who had attended the training with them. The majority of participants (92%, n=35) reported they had attended the training on their own, while a minority reported that they had attended the training with at least one family member or friend who does not use opioids (5%; n=2) or who does use opioids (3%; n=1).

Training type

Participants were asked what type of training they had attended. More than three quarters of respondents (76%; n=29) reported that they had attended brief education of less than 30 minutes, while 24% (n=9) received group sessions that lasted more than 1 hour. Table 7 illustrates which devices participants were trained in using. More specifically, all participants reported that had received Nyxoid training (100%; n=38), while 2 participants received both Nyxoid and Prenoxad training (5%; n=2). Only one participant (3%) reported that he had been trained in using Nyxoid, Prenoxad, and the ampoules (small vials containing naloxone designed for injection). All participants were provided with Nyxoid during the training, while the 3 participants who had received Prenoxad training were also provided with Prenoxad. No participant was provided with the ampoules during the training.

Table 7: Devices participants were trained in using (n=38)

Devices	Number of participants trained (n=38)		
	n	% respondents	% responses
Nyxoid	38	100	90
Prenoxad	3	8	7
Ampoules	1	3	2
Total responses	42	-	-

4.2.2 Recall of the training

Participants were asked how well they recalled the training received. More than 6 out of 10 (66%; n=24) respondents reported that they recalled it ‘a lot’, followed by ‘some’ (34%; n=13), and only a minority responded ‘only a little’ (3%; n=1), as illustrated in Table 8.

Table 8: Training recall (n=38)

Recall of the training	% Respondents	
	n	
A lot	24	63
Some	13	34
Only a little	1	3
Total responses	38	-

4.2.3 Quality of the training (n=38)

Participants were asked how they would rate the quality of the training received. More than half of the participants (53%; n=20) reported that the training was ‘excellent’, followed by ‘good’ (37%; n=14), and only a minority responded that it was ‘fair’ (8%; n=3) or ‘poor’ (3%; n=1) (Table 9).

Table 9: Quality of the training (n=38)

Training quality	%	
	n	Respondents
Excellent	20	53
Good	14	37
Fair	3	8
Poor	1	3
Total responses	38	-

Participants were also asked whether they would recommend the training to others. More than half of the sample (53%; n=20) reported that they would ‘extremely’ recommend the training to others, while 40% (n=15) would ‘most likely’ recommend it. Only a minority responded that they would ‘somewhat’ (5%; n=2) or ‘unlikely’ (3%; n=1) recommend it to others. (Table 10).

Table 10: Recommendation to others (n=38)

Recommendation to others	%	
	n	Respondents
Excellent	20	53
Good	15	40
Fair	2	5
Poor	1	3
Total responses	38	-

4.2.4 Training other people

Participants were asked whether they had trained anyone else in the use of naloxone since they were trained. Approximately 4 out of 10 participants (41%; n=15) reported that had trained others since they had received naloxone training themselves (Table 11).

Table 11: Training others in the use of naloxone (n=37)

Training others	%	
	n	Respondents
Yes	15	41
No	22	59
Total responses	37	-

Table 12 illustrates who was trained by the 15 participants who reported that they had trained others in the use of naloxone. The majority of people trained were friends (67%; n=10), followed by partners/husbands/wives (27%; n=4).

Table 12: People trained in the use of naloxone (n=15)

People trained	n	% respondents	% responses
Friend	10	67	38
Partner/husband/wife	4	27	15
Housemate	3	20	12
Acquaintances	3	20	12
Parent	2	13	8
Strangers	2	13	8
Sibling	1	7	4
Other family member	1	7	4
Total responses	26	-	-

4.2.5 What happened with the naloxone device received

Participants were asked what happened to the naloxone device that they were given (Table 13). While the majority of participants reported that they ‘still had it’ (70%; n=26), 11% of participants (n=4) reported that they gave it away or that they gave one device away and kept the other one (Table 13).

Table 13: What happened to your naloxone kit? (n=37)

What happened to naloxone	n	% respondents
Still have it (full)	26	70
Still have it (not full)	1	3
Used it on someone else	2	5
Gave it away	4	11
Gave one device away and kept the other one	4	11
Total	37	100

4.2.6 Problems with the naloxone device

Participants were asked whether there had been any problems with the naloxone device they received at the training. The answers of those that responded were written down by the interviewer. Four main themes were recurrent when analysing the responses provided by the participants: the fact that there were no issues with the devices, the number of devices received, the lack of information, and the quality of the devices received.

Fifty-five percent of participants (n=21) reported that there were no issues with the devices received.

Forty-seven percent of participants (n=18) also commented that participants should be offered additional devices. Some examples are illustrated below:

‘They should give more than one device. Three devices should be given per person, as I’m constantly on the street, to help homeless people.’

(ID 3, Male, aged 35-39)

‘It would be great if we could get 3 boxes so that I could give some to my friends.’

(ID 5, Male, aged 35-39)

'I'd prefer to get more boxes just in case we gave it to a friend like they should give 3 boxes per participant so that I can keep one, use one, and give another one to a friend.'

(ID 12, Male, aged 40-44)

'They should give 4 boxes as there are only 2 sprays in a box.'

(ID 20 Male, aged 35-39]

'I would like to get more boxes if I see someone on the train for example. Three boxes per person would be great.'

(ID 24, Female, aged 50-54)

'We should get more than one box, as people need to practice before helping someone in trouble to save a life. We should get at least 2 boxes.'

(ID 25, Male, aged 75-79)

'Everything was good, but I would have loved it if they could have given us 2 more boxes. It's nice to have the choice to get more boxes for everyone. They should give 2 boxes per person.'

(ID 33, Female, aged 65-69)

However, some participants (n=14) thought that receiving one box per participant was enough:

'One box is enough for me, as I haven't used it yet.'

(ID 38, Male, aged 25-28)

'One box is enough, as there are 2 nasal sprays inside.'

(ID 27, Male, aged 60-64)

'Getting one box during the training is enough, as we can get more boxes at the pharmacy for free.'

(ID 18, Male, aged 40-44)

'Getting one box is enough, because we can go to the chemist to get it for free.'

(ID 17, Male, aged 50-54)

Some participants (n=3) made a comment about the lack of information received during the training or the lack of instructions provided inside the box:

'I'm not sure where to get another one if I use mine or if it's not working.'

(ID 11, Male, aged 50-54)

'They should give us more instructions about how to press it [the naloxone device]. There was no information provided about whether we need to touch the back of the nose or whether to go deep inside.'

(ID 3, Male, aged 35-39)

'Getting some written instructions about how to administer it would be good, as people forget about it and leave stuff behind.'

(ID 4, Male, aged 45-49)

A minority of participants (n=3) also made a few comments about the quality of the devices received:

'The device is pretty good.'

(ID 38, Male, aged 25-29)

'It's very easy to use the nasal spray. It's way easier to use than the syringe and you still get the same effect with the nasal spray.'

(ID 5, Male, aged 35-39)

'The device is awkward. You just give one push and that's it.'

(ID 3, Male, aged 35-39)

4.2.7 Knowledge about opioid overdoses

Participants were asked to indicate which signs indicate an opioid overdose (Table 14). All participants (100%; n=36) endorsed the correct item 'turning blue', while almost all participants endorsed 'slow/shallow breathing' (97%; n=35), and 'loss of consciousness/unroutable' (97%; n=35), 'pinned pupils' (86%; n=31), and 'nodding in and out of conversation' (86%; n=31). 'Clammy skin' as well as 'deep snoring' were endorsed each by three quarters of participants (75%; n=27).

In terms of incorrect responses, approximately 9 out of 10 participants (89%; n=32) endorsed the response 'fitting/ convulsing/shaking', followed by 'rapid heartbeat' (78%; n=28), 'agitated behaviour' (72%; n=26), and 'blood-shot eyes' (50%; n=18).

Table 14: Overdose signs (n=36)

Overdose signs	n	% respondents	% responses
Blood-shot eyes (incorrect response)	18	50	5
Slow/shallow breathing	35	97	11
Turning blue (e.g blue lips...)	36	100	11
Loss of consciousness/unrousable	35	97	11
Rapid heartbeat (incorrect response)	28	78	9
Fitting/ convulsing/shaking (incorrect response)	32	89	10
Deep snoring	27	75	8
Pinned pupils	31	86	10
Agitated behaviour (incorrect response)	26	72	8
Clammy skin	27	75	8
Nodding in and out of conversation	31	86	10
Total responses	326	-	-

4.2.8 Action taken during the opioid overdose

Participants were asked to indicate which actions should be taken during an opioid overdose (Table 15). All participants (100%; n=37) endorsed the correct item ‘stay with the person until they come round’, ‘stay with the person until the ambulance arrives’, ‘check for breathing’, while almost all participants endorsed ‘call an ambulance’ (97%; n=36), ‘place the person in the recovery position’ (97%; n=36), ‘check for blocked airway (nose and mouth)’ (97%; n=36), ‘give naloxone’ (97%; n=36). ‘Perform mouth to mouth resuscitation’ was endorsed by more than half of the sample (59%; n=22).

In terms of incorrect responses, more than half of the sample (54%; n=20) endorsed the response ‘walk the person around the room’, followed by ‘shock the person with cold water’ (21%; n=8). A minority of participants endorsed ‘put the person in a bath’ (5%; n=2), ‘give stimulants (e.g. black coffee, cocaine...)’ (3%; n=1), ‘inject saline (salt) solution/milk’ (3%; n=1), and ‘put the person to bed to sleep it off’ (3%; n=1).

Table 15: Action that should be taken during an opioid overdose (n=37)

Overdose action	Pre-training		
	n	% respondents	% responses
Call an ambulance	36	97	12
Stay with the person until they come round	37	100	12
Inject saline (salt) solution/milk (incorrect response)	1	3	<1
Place the person in the recovery position	36	97	12
Stay with the person until the ambulance arrives	37	100	12
Check for blocked airway (nose and mouth)	36	97	12
Put the person in a bath (incorrect response)	2	5	1
Give stimulants (e.g. black coffee, cocaine...) (incorrect response)	1	3	<1

Overdose action	n	Pre-training	
		% respondents	% responses
Shock the person with cold water (incorrect response)	8	21	3
Perform mouth to mouth resuscitation	22	59	7
Give naloxone	36	97	12
Check for breathing	37	100	12
Put the person to bed to sleep it off (incorrect response)	1	3	<1
Walk the person around the room (incorrect response)	20	54	6
Total responses	310	-	-

4.2.9 Use of naloxone

Participant were asked ‘What is naloxone used for?’. More than three quarters of the sample (76%; n= 29) endorsed the item ‘reversal of opioid overdose (e.g. heroin, methadone...)’, while approximately a quarter of the sample (24%; n=9) endorsed the incorrect item ‘reversal of any overdose’ (Table 16).

Table 16: Naloxone purpose (n=38)

Naloxone purpose	n	% respondents
Reversal of opioid overdose (e.g. heroin, methadone,...)	29	76
Reversal of any overdose	9	24
Total responses	38	-

4.2.10 Confidence in recognising an opioid overdose

Participants were asked whether they felt confident about recognising an opioid overdose. Eight out of 10 (80%; n=30) responded ‘Yes’, while a minority of the sample responded ‘Maybe’ (14%; n=5) or ‘No’ (5%; n=2) (Table 17).

Table 17: Confidence in recognising an opioid overdose naloxone (n=37)

Confidence	(n=37)	
	n	% respondents
Yes	30	81
No	2	5
Maybe	5	14
Total	37	100

4.2.11 Managing an opioid overdose

Participants were asked whether they knew how to manage an opioid overdose. Three quarters of participants (75%; n= 29) responded ‘yes’, while a minority of the sample responded ‘maybe’ (21%; n=8) or ‘no’ (3%; n=1) (Table 18).

Table 18: Ability to manage an opioid overdose naloxone (n=38)

Ability to manage an opioid overdose	(n=38)	
	n	% respondents
Yes	29	76
No	1	3
Maybe	8	21
Total	38	100

4.2.12 Calling an ambulance

Participants were asked whether they would call an ambulance in an opioid overdose situation. All participants (100%; n= 38) responded ‘Yes’ to this question (Table 19).

Table 19: Calling an ambulance in an opioid overdose situation (n=38)

Calling an ambulance	(n=38)	
	n	% respondents
Yes	38	100
Total	38	100

4.2.13 Managing an opioid overdose

Participants responses to the question ‘Would you be able to check the person’s airway and breathing?’ are presented in Table 20. Almost all participants responded ‘Yes’ to this question (97%; n= 36), while one participant responded ‘Maybe’ (3%; n=1).

Table 20: Ability to check the person’s airway and breathing (n=37)

Ability to check the person’s airway and breathing	(n=37)	
	n	% respondents
Yes	36	97
Maybe	1	3
Total	37	100

When asking whether the participants would actually check the person’s airway and breathing, almost all of the sample responded ‘Yes’ (92%; n=35), while a minority responded ‘Maybe’ (5%; n=2) or ‘Under specific circumstances’ (3%; n=1). The participant who responded that

he would do it under specific circumstances responded that ‘it would depend if the person is being violent or not’.

4.2.14 Ability to give mouth-to-mouth resuscitation

Participants responses to the question ‘Would you be able to give mouth-to-mouth resuscitation if necessary?’ are presented in Table 21. Over three quarters of participants (76%; n= 29) responded ‘Yes’ to this question (97%; n= 36), while 21% (n=8) responded ‘No’ and one participant (3%) answered ‘Maybe’.

Table 21: Ability to give mouth-to-mouth resuscitation (n=38)

Ability to give mouth-to-mouth resuscitation	(n=38)	
	n	% respondents
Yes	29	76
No	8	21
Maybe	1	3
Total	38	100

When asking whether the participants would actually give mouth-to-mouth resuscitation, almost three quarters (73%; n= 27) responded ‘Yes’, while a minority responded ‘No’ (11%; n=4), ‘Maybe’ (3%; n=1), or ‘Under specific circumstances’ (14%; n=5). The specific circumstances reported by the participants were related to the possible risk of infection and are reported below:

a) *‘Only to people I know well such as family members, or any close person to avoid any risks of getting Hepatitis C for example.’*

(ID 1, Male, aged 55-59)

b) *‘If I know that the person has no infection.’*

(ID 16, Male, aged 55-59)

c) *‘If the person has no infection or if I have a protection mask.’*

(ID 17, Male, aged 50-54)

d) *‘With a mouth-guard.’*

(ID 26, Female, aged 40-44)

e) *‘Only if I know the person or if I put a shirt/ a plastic bag on the person’s mouth to protect my mouth especially from COVID.’*

(ID 36, Female, aged 35-59)

4.2.15 Ability to put the person in the recovery position

Participants responses to the question ‘Would you be able to put a person in the recovery position?’ are presented in Table 22. Almost all participants (95%; n= 36) responded ‘Yes’ to this question, while one participant responded ‘No’ (3%), and another one responded ‘Maybe’ (3%).

Table 22: Ability to put the person in the recovery position (n=38)

Ability to put the person in the recovery position	(n=38)	
	n	% respondents
Yes	36	95
No	1	3
Maybe	1	3
Total	38	100

Respondents were asked to describe what the recovery position is to the researcher. The majority of participants described the recovery position properly (79%; n=30), while a minority

of participants described it partially correctly (18%; n=7). Indeed, the majority of participants who described it partially correctly had not mentioned that the head should be tilted back to open up the airways. Only one participant described it incorrectly (3%).

4.2.16 Ability to administer naloxone

Participants were asked whether they would be able to administer naloxone (Table 23).

Approximately 9 out of 10 participants (89%; n=33) responded ‘Yes’, while a minority of participants responded either ‘No’ (5%; n=2) or ‘Maybe’ (5%; n=2).

Table 23: Ability to administer naloxone (n=37)

Ability to administer naloxone	(n=37)	
	n	% respondents
Yes	33	89
No	2	5
Maybe	2	5
Total	37	99

When asking whether the participants would actually administer naloxone to someone who had an opioid overdose, almost all participants (89%; n= 33) responded ‘Yes’, while 3 participants responded ‘under specific circumstances’ (8%), and only one participant responded ‘Maybe’ (3%). The specific circumstances reported by the participants were related to the possible risk of infection and are reported below:

a) *‘If there is no danger of myself doing it.’*

(ID 17, Male, aged 50-54)

b) *'If I have it on me and if someone tells me that a person has an overdose, as I wouldn't recognise if the person has an overdose or is drunk.'*

(ID 18, Male, aged 40-44)

c) *'It depends if another person advises me to do it.'*

(ID 27, Male, aged, 60-64)

4.2.17 Most valuable aspects of the training

Participants were asked 'What aspects of the workshop were the most valuable for you? And why?'. The answers of those that responded were written down by the interviewer.

Four main themes were recurrent when analysing the responses provided by the participants: receiving new valuable information, saving a life, getting the device for free, the quality of the trainers.

The majority of participants reported that the training provided them with valuable new pieces of information and knowledge about naloxone. For example:

'It is very informative and simple to understand.'

(ID 31, Male, aged 40-44)

'I wasn't aware about what to do when a person overdoses; I didn't know that there was a spray that you can use when someone has an opioid overdose. That was good for me to understand.'

(ID 34, Female, aged 30-34)

'Gaining some knowledge about opioid overdoses that I wasn't aware before. For example, if someone goes on a nod, this can stop your brain from breathing.'

(ID 35, Male, aged 55-59)

'The way the training was delivered was great. It was informative regardless of the cognitive ability of every participant. Everyone was able to follow the training from the residents to the staff members.'

(ID 9, Female, aged 45-49)

'Learning the purpose, how to use it, as I've never heard about it before. I didn't know we could do something else for someone who has an overdose. I completed my first aid course, but I didn't know there as a product to reverse the effects of an opioid overdose and that anyone could use it. It's a great thing to learn.'

(ID 22, Male, aged 45-49)

'Learning what you have to do when an opioid overdose occurs, like the fact that you can carry around a nasal spray; it's convenient.'

(ID 24, Female, aged 50-54)

'Getting some new information about naloxone. For example, I didn't know that we can't use it when someone overdoses on meth.'

(ID 20, Male, aged 35-39)

'Learning that there were no side effects when using it. The way it was hold. I didn't know anything about it before, as I don't use any drugs, but I really want to help people around me who might use opioids.'

(ID 18, Male, aged 40-44)

'I didn't know anything about naloxone, so getting to know about it and getting naloxone was the most valuable for me.'

(ID 14, Male, aged 45-49)

The majority of respondents also commented that being able to save a life was the most valuable aspect of the training. For instance:

'Being able to intervene in a possible overdose that could lead to death. Being able to help people is very rewarding.'

(ID 1, Male, aged 55-59)

'Being able to save someone's life, especially friends. Getting naloxone and keeping it at home just in case my friends are in an overdose situation. I now know what I'm doing so it's always handy to have it.'

(ID 8, Male, aged 35-39)

'Getting someone back from an overdose.'

(ID 10, Male, aged 45-49)

'Being able to help people if they have an overdose; that's the most important thing. If there is an overdose and there is nobody around they can die, so it's great to be able to save a life.'

(ID 15, Male, aged 70-74)

'Having now the ability to save someone's life.'

(ID 16, Male, aged 55-59)

'Getting the ability to save a life and give people some support and pass on my experience and the information I received to others.'

(ID 25, Male, aged 75-79)

'It's good because you can bring people back and help them.'

(ID 30, Male, aged 45-49)

Some respondents also highlighted that getting the device was the most valuable aspect of the training for them:

'Getting naloxone for free to help anyone if needed.'

(ID 29, Male, aged 25-29)

'That it's free.'

(ID 12, Male, aged 40-44)

'Getting naloxone and keeping it at home just in case my friends are in an overdose situation.'

(ID 8, Male, aged 35-39)

'Getting the device to help people.'

(ID 19, Male, aged 35-39)

'To get naloxone for free.'

(ID 28, Male, aged 45-49)

'Getting the naloxone was very useful, because I'm an opioid user and my girlfriend as well, and I'm worried that my girlfriend might take more opioids and have an overdose. Naloxone could help her and anyone else who use opioids.'

(ID 5, Male, aged 35-39)

Many participants also made a few comments about the quality of the training or the trainers. For example:

'I found out new things: the community worker corrected me when I had a wrong answer; he made sure that I knew everything.'

(ID 5, Male, aged 35-39)

'The quality of the education program; it was very helpful to receive new information and learn stuff that I didn't know about naloxone.'

(ID 13, Female, aged 45-49)

'The person who gave me the training was very clear.'

(ID 21, Male, aged 50-54)

'They took time to show us how to do it and explain it properly. They took time to repeat things and showed us a dummy device.'

(ID 23, Female, aged 50-54)

'It was full on, but straightforward. The way that the lady taught me was extremely good.'

(ID 27, Male, aged 60-64)

'The fact that they didn't judge me; they were good and they gave me the nasal spray.'

(ID 32, Male, aged 50-54)

'Nothing; the health worker was extremely judgmental; he didn't take the time to discuss. He handed it to me like a junkie and just gave it to me with no explanations.'

(ID 36, Female, aged 35-39)

4.2.18 How training could be improved

Respondents were asked what they would improve about the training. The answers of those that responded were written down by the interviewer. When analysing the responses provided by the participants there were 5 main themes that were recurrent: training satisfaction; the need for further training; number of naloxone devices received; changes to the format or material provided during the training; and the awareness and availability of naloxone.

The vast majority of participants reported that there was no further improvement required. For instance:

'Everything is fine. Nothing was not raised or wasn't clear.'

(ID 6, Female, aged 35-39)

'The training was very good; it cared for everything so there is no need to improve it.'

(ID 13, Female, aged 45-49)

'Nothing could be improved; it was very informative and very good.'

(ID 14, Male, aged 45-49)

'Everything was perfect; there is nothing to improve.'

(ID 16, Male, aged 55-59)

'The training was good.'

(ID 18, Male, aged 40-44)

'Nothing could be improved; it was good as it was.'

(ID 19, Male, aged 35-39)

'They did a great job; everything was good.'

(ID 23, Female, aged 50-54)

'It was pretty perfect; it was very good.'

(ID 27, Male, aged 60-64)

'Everything is pretty good. All has been covered. It is not hard to understand. It is very useful, and very easy to understand. Without naloxone, people would be deceased so that's a good tool to have.'

(ID 30, Male, aged 45-49)

'All good; everything was perfect.'

(ID 32, Male, aged 50-54)

'Everything was good.'

(ID 34, Female, aged 30-34)

'Nothing. They've covered all the basics.'

(ID 35, Male, aged 55-59)

'Nothing; the group training was very good. Three other people were supposed to attend the training with us, but only one other person showed up.'

(ID 17, Male, aged 50-54)

'Everything was good and the spray is very easy to use.'

(ID 9, Female, aged 45-49)

Several participants reported on the need for further training:

'I believe that I am now more able to give naloxone if necessary, but it would be able to have a follow-up course 3 to 6 months after the initial course.'

(ID 1, Male, aged 55-59)

'They should do it on a regular basis like once a fortnight and offer retraining sessions because people often forget about it; they should do it more often.'

(ID 2, Male, aged 60-64)

'Once a month, the community workers should come out in the street and do the training. They should deliver the training more often at [name]. They should give regular updates and provide retraining sessions as well. Doing it more often could help to save more lives.'

(ID 3, Male, aged 35-39)

'The trainers could come back and provide us with a refresher course or they could provide us with a regular training on site and we could just drop in whenever we want.'

(ID 4, Male, aged 45-49)

'They should give a couple more lessons. It was too short. On the moment it's fine, but then you forget about it. I didn't stay overnight there. The ambulance took me and brought me to ED. They talked to me and made sure that I was fine and then I left. It was my choice, but this course is not enough, I need to see a counsellor. It's not a quick fix. I'm unlikely to recommend the training to a friend, because it's not enough to let you understand why you're taking drugs. You need to know and understand why you're doing it. It's not a quick fix.'

(ID 38, Male, aged 25-29)

Various respondents reported that the training should be more focused on practice rather than on theory:

'Having a dummy so they could show us what to do with it.'

(ID 5, Male, aged 35-39)

'There should be a heads up before showing the videos, because three of the videos that we saw were very triggering. Not showing any videos would be better. Maybe one person should just demonstrate it without seeing it happening in real life.'

(ID 7, Female, aged 55-59)

'It's pretty good. There should be more hands-on in training, like people could know how to do CPR. There should be more practice on resuscitation, and what we need to do, like how many heart compressions. They just showed us what to do but we didn't practice it.'

(ID 10, Male, aged 45-49)

'It would be a good idea to do like they do at St John ambulance where you get into a group and they show you some pictures and how you do first aid. It would be better to have a practical course rather than receiving a theoretical course. This would be more useful and people could stay; it's better to do practical things rather than have a theoretical course as it is so hard to recall the information. The questions asked on this form are deeper than what they taught us during the training and what is written on the zip-card.'

(ID 25, Male, aged 75-79)

The majority of respondents made comments on the number of naloxone devices that should be given to the trainees:

'We should also receive more devices like 3 devices per people so that I can keep one device for myself and offer 2 devices to other people.'

(ID 1, Male, aged 55-59)

'Receiving 3 or 4 devices would be good, so I could give some to my friends too.'

(ID 5, Male, aged 35-39)

'They should give 4 boxes as there are only 2 sprays in a box.'

(ID 20, Male, aged 35-39)

'They didn't give me enough boxes; getting 3 boxes would be better.'

(ID 28, Male, aged 45-49)

'Getting one box is enough.'

(ID 32, Male, aged 50-54)

'Depending in which suburbs you live, people should get more boxes. For example, people who live in Fremantle should get 3 to 4 boxes instead of one.'

(ID 34, Female, aged 30-34)

'One extra box per person would be great [...].'

(ID 37, Male, aged 40-44)

Some participants suggested to make some modifications to the format of the training provided:

'One-on-one sessions behind closed doors would be better, so there should be more privacy.'

(ID 12, Male, aged 40-44)

'The training is good, but it would be nice if more people would come and there would be like group sessions. Everybody could sit around while the community workers are in a room. They should do something similar to Alcoholics Anonymous where everyone could talk and share their stories.'

(ID 15, Male, aged 70-74)

'It should be added to senior first aid.'

(ID 22, Male, aged 45-49)

Some participants also suggested to make some changes to the content of the training or the material provided to the participants during the training:

'Information is power; I don't want anyone to die. They didn't tell me where I could get another box if I use mine. They should give us some information about the treatment programs available in Perth and how to refer people into a treatment program.'

(ID 11, Male, aged 50-54)

'They should reinforce it a bit more, for example doing a quiz and learning through it. They asked me to do a quick quiz and to pick the answers, but they didn't go through the final answers.'

(ID 24, Female, aged 50-54)

'There is nothing in particular [that could be improved], but maybe a bit of knowledge around in which situations you should use naloxone. For example, if you reverse an overdose and the person is not going to be happy, should you still do it, or also questions about personal safety and what to do if someone becomes aggressive.'

(ID 26, Female, aged 40-44)

'It would be great to see a slideshow or to give a hand-out to the people who attend the training.'

(ID 31, Male, aged 40-44)

'The health worker should have spoken to me like a human. He should have taken the time to explain it to me, rather than assuming that I knew. He should have explained the effects of naloxone and when it can be needed. For example, they could have told me about the signs of an opioid overdose and given me the box. Basically, he just gave me the box and treated me like a junkie, even though I just went there for a shoulder problem and not for a drug overdose.'

(ID 36, Female, aged 35-39)

'[...] it would be better if they could give a handout or a piece of paper about how to use it as well. Maybe someone who is around like an OD worker could explain it to us and go through the signs of an opioid overdose. They didn't go through the signs and symptoms of opioid overdoses. They just told me how to use the spray and gave me the box.'

(ID 37, Male, aged 40-44)

'There should also be giving out pamphlets with the naloxone boxes [...].'

(ID 12, Male, aged 40-44)

'Getting a fridge magnet with the instructions would be good. Getting a laminated information sheet would be handy as well. [...] They should also give us some guidelines about how to use it, and a summary of what to do if there is an overdose, as I may forget it. A fridge magnet with some guidelines written on it would be good.'

(ID 4, Male, aged 45-49)

Some participants also made some comments about the awareness of naloxone and its availability in the community:

'Something should be done about the availability of naloxone: they should hand out pamphlets so that people can know where to get it and that it is free.'

(ID 1, Male, aged 55-59)

'It should be out more; people should be more aware about it.'

(ID 3, Male, aged 35-39)

'There are many users at [name of a Housing Community Centre] so handing out some pamphlets about it there would be great as well.'

(ID 4, Male, aged 45-49)

'[...] [They should give] a bit more heads up before the training so that we can let other people know and spread the message about the training so they can attend it as well.'

(ID 12, Male, aged 40-44)

'There should be more AOD facilities around so that we shouldn't have to wait to get the product, as there are lots of drug overdoses in Rockingham.'

(ID 21, Male, aged 50-54)

'They should let the public know that people could do it, for example, they could announce it through the local council, carer WA, reach out to different mental agencies, employment agencies, schools. There could be some workshops for parents, teachers, carers.'

(ID 22, Male, aged 45-49)

'They should give it to more people including at schools.'

(ID 33, Female, aged 65-69)

'[...] maybe if they could offer it automatically to anyone, because they didn't offer it to me the first time I went in, when I took a mixture of codeine and paracetamol, so I found it a bit surprising.'

(ID 29, Male, aged 25-29)

4.2.19 Use of skills covered in the workshop

Respondents were asked whether they had used any of the skills covered in the workshop. They were prompted about the skills they had used; whether there had been any changes in their drug use; and whether they had advised others about the use of naloxone or about the training they had received. The answers of those that responded were written down by the interviewer.

The majority of participants (n=28) reported that they had not used any of the skills covered in the workshop yet. However, a large proportion of participants reported that they had advised others about the training or the use of naloxone, and some of them even offered them a device:

'I advised other people how to use it (e.g. the other co-tenants at [name of place]).'

(ID 4, Male, aged 45-49)

'I've advised at least 50 people about the training and told them that Narcan is not injected in the heart.'

(ID 5, Male, aged 35-39)

'I have advised my friends and other people in the street about it and asked them if they have thought about keeping naloxone. They said 'yes, so I told them to go the chemist to get it for free.'

(ID 8, Male, aged 35-39)

'I shared it with one or 2 people and gave a spare kit to someone.'

(ID 10, Male, aged 45-49)

'I talked to my mate about it and told him where my kit was as he uses heroin.'

(ID 11, Male, aged 50-55)

'[...], but I advised a couple of friends about it.'

(ID 13, Female, aged 45-49)

'I advised my friends about it.'

(ID 16, Male, aged 55-59)

'I've advised elderly people on prescribed medication, as well as family and friends about it.'

(ID 17, Male, aged 50-55)

'[...], but I have advised others at [name] or people who use and are quiet about the naloxone program.'

(ID 25, Male, aged 75-79)

'[...], but I've advised other people to attend the training, such as acquaintances who might benefit from it.'

(ID 26, Female, aged 41-45)

'I advised others about it and I've recommended other people to do the training.'

(ID 31, Male, aged 41-45)

'I advised my daughter to do the training.'

(ID 32, Male, aged 51-55)

'I've advised my grand-children about it; I gave it to one of my grand-kids and I went through it with them, because I have 3 grand-kids who are aged between 16 and 23 and they might have to use it one day.'

(ID 33, Female, aged 65-69)

'I talked to a friend about it and gave her one spray.'

(ID 34, Female, aged 31-35)

'I've advised others about naloxone and naloxone training, how to use it. I've advised anybody that uses opioids to check it out.'

(ID 35, Male, aged 55-59)

'I've advised a couple of friends about the training; I gave one nasal spray to a friend and advised them to get theirs.'

(ID 37, Male, aged 41-45)

Some participants used some of the skills covered in the workshop, including administering naloxone and/or performing CPR:

'I used naloxone on someone else and injected them with it. Usually, it's me who is on the other side, and it's good that now I can help them; it has opened my eyes.'

(ID 30, Male, aged 45-49)

'I gave CPR to someone.'

(ID 1, Male, aged 55-59)

'I used it on my brother; I did CPR on my brother; I trained my dad.'

(ID 3, Male, aged 35-39)

'I called an ambulance when a guy collapsed and used naloxone on him while waiting for the ambulance.'

(ID 15, Male, aged 70-75)

Two participants made changes to their drug use after receiving the training:

‘I’ve made some changes to my drug use: I don’t take drugs as often since I was admitted to hospital, like for example I don’t take multiple tablets a day like I used to do. I just take one tablet a day.’

(ID 36, Female, aged 35-39)

‘I’m trying to cut down my drug use.’

(ID 5, Male, aged 35-39)

4.2.20 Where naloxone is kept

Participants were asked where they kept their naloxone. Table 24 shows a summarised quantitative breakdown of these responses.

Table 24: Where naloxone is kept (n=38)

Location	n	% respondents	% responses
Home	21	55	50
With me/in my bag/ in my pocket	11	29	26
Not applicable’ no longer have naloxone	7	18	17
Work	1	3	2
Car	1	3	2
Unsure	1	3	2
Total responses	42*	-	-

**Note: The total number of answers (n=42) exceeds the total number of participants (n=38) as some people (n=4) kept their naloxone devices in 2 different places.*

Participants were also asked whether other people know where they keep their naloxone when they are at home/the place where they live. Four out of 10 participants (41%; n=13) reported that others know where they keep their naloxone at home (Table 25).

Table 25: Others knowing where naloxone is kept (n=32)

Other knowing where naloxone is kept	n	% respondents
Yes	13	41
No	19	59
Total responses	32	-

4.2.21 Carrying naloxone

Participants were asked whether they had carried their naloxone when they went out and about in the 3 days prior to the interview (Table 26). Approximately 4 out of 10 participants (38%; n=14) had carried naloxone when they went out and about in the 3 days before the interview.

Table 26: Carrying naloxone in the last 3 days (n=38)

Carrying naloxone in the last 3 days	n	% respondents
Yes	14	38
No	23	62
Total responses	38	-

Participants who had carried naloxone in the last 3 days were also asked how often they did it. (Table 27). Over 6 out of 10 participants (64%; n=9) reported that they had carry it ‘all of the time’.

Table 27: Carrying naloxone in the last 3 days (n=14)

How often did participants carry naloxone in the last 3 days	n	% respondents
All of the time	9	64
Most of the time	2	14
Some of the time	1	7
Rarely	2	14
Total responses	14	-

4.3 OVERDOSES

Respondents were asked about overdoses that they had either personally experienced or witnessed since receiving naloxone training (Figure 2). A total of 5 last overdoses were reported by the participants (4 witnessed overdoses and 1 personal overdose).

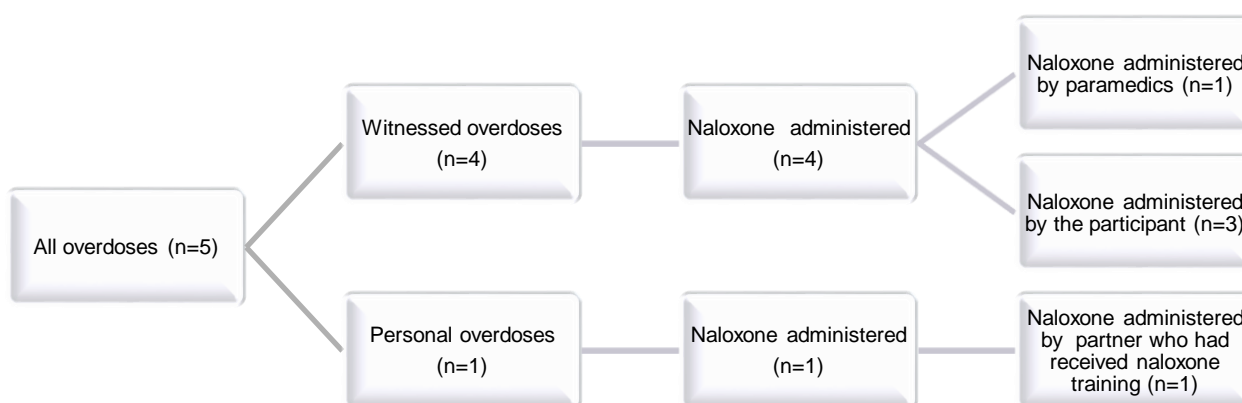


Figure 2: Last overdoses described by the participants

4.3.1 Witnessed overdoses

More than half of the participants (55%; n=21) reported having ever witnessed an opioid overdose. These participants had witnessed a mean of 15 overdoses in their lifetime (SD=25; median=4, range 1-100), and approximately 2 out of 10 (19%; n=4) reported having witnessed an overdose since receiving naloxone training. These participants had witnessed a mean of 2 overdoses since receiving naloxone (SD=1; median=2, range 1-2).

Respondents who had witnessed an opioid overdose since receiving naloxone training were asked to describe the last overdose they witnessed. Four participants reported having witnessed an opioid overdose since receiving their training.

The 4 participants who had witnessed an opioid overdose since receiving naloxone training were asked additional questions in order to indicate:

- a) how many overdoses they had witnessed since receiving naloxone training
- b) when they had witnessed last opioid overdose
- c) how did they recognise that the person had experienced an overdose
- d) why do they think the person had experienced an overdose (e.g. reduced tolerance to opioids, change in purity...)
- e) the actions that were taken during the overdose
- f) whether the person survived the overdose
- g) whether the police attended the scene
- h) what type of device was used to revive the person who had overdosed (e.g. Prenoxad/Nyxoid/ampoules)
- i) to whom the naloxone device belonged and was prescribed
- j) whether an ambulance was called and if so, whether the ambulance personal were notified that naloxone had been used?
- k) who administered the naloxone given
- l) where on the body was the naloxone administered
- m) how many naloxone doses was the person given during the overdose
- n) how long approximately did it take the person to regain consciousness following the naloxone administration
- o) whether the person experienced any complications or problems from naloxone
- p) whether they think that naloxone prevented the person from dying from an overdose
- q) whether the naloxone device used had been replaced

Participants who had witnessed an opioid overdose since receiving training were asked to indicate how long ago they witnessed their last overdose. There was a mean of 2 months (SD=1; median=2, range 1-3 months) since participants last witnessed an opioid overdose. Naloxone was reported to have been administered in all witnessed overdoses (100%; n=4). Naloxone was administered by the participants themselves in 75% of the witnessed overdoses (n=3), while it was administered by paramedics in one case (25%). The naloxone devices administered by the participants belonged to them, and paramedics were notified each time that naloxone had been administered when an ambulance was called. The ambulance was called 3 times (75%; n=3). All respondents reported that the person who experienced an overdose had survived in all cases of witnessed overdose (100%; n=4). Naloxone was administered into the nose on 2 occasions, while it was administered into the thigh on one occasion, and into the upper arm on another occasion. A mean of 2 naloxone doses were used while attending an opioid overdose (SD=1; median=2, range 1-2). It took a mean of 1 minute and 53 seconds (SD=1 minute and 19 seconds; median=2 minutes; range 30 seconds-3 minutes) for the person experiencing the overdose to regain consciousness.

Following the administration of naloxone, half of the participants who witnessed an opioid overdose (50%; n=2) reported that they did experience some adverse events. One participant reported that the person he had revived '*became aggressive; he became very angry, was shouting, and didn't know what was going on; he tried to punch me*'. The other participant reported that the person who had overdosed felt '*disoriented*'.

Police were reported to have attended only one witnessed opioid overdose (25%). All participants who witnessed an opioid overdose (100%; n=4) believed that naloxone prevented the person dying from an overdose. When asked 'whether the naloxone device used had been replaced?', only one participant (25%) reported that it had been replaced over the counter in a pharmacy without a prescription, while the others reported either that they were 'unsure' (25%; n=1), 'it belonged to the paramedics' (25%; n=1), or that they 'didn't have time' (25%; n=1).

Signs of last opioid overdose witnessed by the participants

Participants who had witnessed an overdose since receiving their naloxone (n=4) were asked to indicate the signs of the last overdose they witnessed. Table 28 illustrates the signs of the last overdose they witnessed.

Table 28: Signs of overdose at last witnessed overdose (n=4)

Sign	All witnessed overdoses (n=4)		
	n	% respondents	% responses
Unconscious	4	100	27
Pale or blue lips	3	75	20
Shallow breathing	3	75	20
Unresponsive to mild pain	2	50	13
Pinpoint pupils	2	50	13
Fitting/convulsing/ shaking (incorrect item)	1	25	7
Total responses	15	-	-

Reasons for the last witnessed overdose

The 4 participants who had witnessed an overdose since receiving naloxone training were asked to indicate why they thought the person had overdose. Table 29 illustrates the possible reason for the last witnessed overdose.

Table 29: Reasons for the last witnessed overdose (n=4)

Reason	All witnessed overdoses (n=4)		
	n	% respondents	% responses
Change in purity	2	50	40
Mixing drugs (heroin+alcohol)	1	25	20
Came out of jail	1	25	20
Unsure	1	25	20
Total responses	5	-	-

Actions taken during overdose

The 4 participants who had witnessed an overdose since receiving naloxone training were asked to indicate what actions were taken during the witnessed overdose (Table 30).

Table 30: Actions taken during a witnessed overdose after receiving naloxone (n=4)

Action	All witnessed overdoses (n=4)		
	n	% respondents	% responses
Stayed with the person until they came around	4	100	14
Checked pulse	4	100	14
Checked breathing	3	75	10
Checked airways for obstruction	3	75	10
Called an ambulance	3	75	10
Stayed with the person until the ambulance arrived	3	75	10

Action	All witnessed overdoses (n=4)		
	n	% respondents	% responses
Given naloxone	3	75	10
Placed the person in the recovery position	2	50	7
Slapped or shook the person (incorrect item)	2	50	7
Performed mouth to mouth resuscitation	1	25	3
Admitted to hospital	1	25	3
Shocked the person with cold water (incorrect item)	1	25	3
Total responses	29	-	-

Overdose and naloxone training outcomes

The 3 participants who had witnessed and administered naloxone were asked how confident they felt giving naloxone and how easy it was to administer it. All participants (100%; n=3) responded that they felt ‘very confident’ in administering naloxone and that it was ‘very easy’ to administer it. All of them also thought that the training they received was useful when witnessing an opioid overdose, and 2 out of 3 (67%) responded that they required additional training or re-training on naloxone use.

Qualitative accounts of witnessed overdoses

As part of the qualitative interviews, participants who witnessed an opioid overdose were asked to give accounts of the last overdose they witnessed since completing the naloxone training. These give a better understanding of the overdose situations and responses provided by the participants who were trained. Phone/face-to-face qualitative interviews were conducted with the 4 respondents who reported having witnessed an opioid overdose since receiving naloxone. Six main themes were highlighted when analysing the last overdose reported by the respondents: being contacted by another person to respond to the overdose; use of skills taught during the training; the benefits of being trained; the need for further training; the barriers to opioid overdose intervention; and the reasons explaining the opioid overdose. Excerpts from some of their accounts are presented below.

There were several instances where the person with the naloxone was contacted by others to attend an overdose situation.

'So, I witnessed a family member. He's had a shot of heroin. He was falling off to sleep. My father came in, told me he's gone purple. I had the "naltrexone" [naloxone, ed.] in my pocket. [....]. Yes...yeah...yeah, so my father, was there; he's the one who warned me.'

(ID 3, Male, aged 35-39)

'I was standing down in Fremantle. I saw a young person come down the road, staring and waving their arms around and I looked and there was an alcoholic and say something else [a person who took alcohol and other drugs at the same time, ed.]. I followed them across the road and they collapsed. They got up again and walked into a brick wall and fell down again. They didn't move, so I turned them on their side, gave them a spray and called an ambulance straight away!.'

(ID 15, Male, aged 70-74)

'A friend came over in a car and the passenger was overdosed and was unconscious for like 10... 2-10 minutes...'

(ID 28, Male, aged 45-49)

Many of the scenarios demonstrated the respondents' use of the skills that they had acquired during the training:

'[...]I tried to slap him out of it, to see if he'd wake up. I took the needle away of his arm and then I forced the "naltrexone" [naloxone, ed.] up his nose and pressed one spray and held it there to make sure it was all in, then he turned aggro towards me, very hostile; I had to grab him, calm him down, make sure he was alright. I'd say it only... just...calmed him down...just saying 'it's only gonna last for few minutes; you'll be all right, and your stone will return'[...]Yeah, I just reassured him 'You gonna be all right', and after 5-10 minutes he came with, and he sort of realised. [...] So what I did is I...I got my old man to just tilt...tilt his head back, and I just fully shoved it up his nose. [...]so I jammed it right up the nose and then gave the full spray and held it out there for about 30 seconds, just to make sure it all went through and then he sat down pretty quick so... [...] Yeah, so what we did just before, we just put him in the recovery position... [...] Yeah, we checked his airways. He wasn't breathing. He still had a

heartbeat, like we just got him just on time I think, you know. This was just one close...close call.'

(ID 3, Male, aged 35-39)

'He was on his side, collapsed. I gave him the spray in his nose. He was lying there. I got the ambulance and I let them take control of that. That's all I could do.'

(ID 15, Male, aged 70-74)

'I was in our unit, and I just looked over on the couch; I was talking to her and she just stopped talking and then she'd just gone blue...and...and then, yeah, I end up getting her off the couch, laid her on the ground, made sure her airways were clear and everything and then had to administer CPR and then I was trying to remember where the naloxone kit was and then I remembered so after she like started breathing herself. I got... I got her back from being blue. She wasn't blue anymore from giving her CPR and then, but she still wasn't breaking herself, so then I had to quickly run to...to where the naloxone kit was and it was still there luckily and then I got it out and then administered it directly in her thigh as well and yeah, basically it took what...it took like probably around a minute for her to come around, and then when she came around, I...I told her what had happened, that she'd gotten over and everything and uh, yeah, I was...I was crying. I was pretty much hysterical, you know...really, really upset, you know. [...] We've got a set of drawers in the laundry room. There's one draw that's got all the stuff for using and that and I opened it up and sure enough it was still there, you know. So yeah, I haven't gotten out of there and I was just lucky that it was still there. I didn't know whether it would be there or not, and it was just a gamble that I took, you know. I had to stop giving CPR to her and she still wasn't breathing, and I had to take that risk you know of, yeah of...getting up to the drawers and...and getting it out like finding it getting it out and then basically injected it straight into her thigh. [...] Yeah, yes, straight through her clothes; straight to her jeans, yeah.'

(ID 30, Male aged 45-49)

'I called an ambulance and splashed some water on him, put him in the recovery position, so he didn't choke, and then waited for the ambulance to come while I was checking his breathing at all time [...]. When the ambulance arrived, they gave the person an injection of naloxone, and they were gonna take him to hospital but when he

came to, he was alright, so he didn't have to go to hospital, but he sat there for a while, until he got his thoughts together.'

(ID 28, Male, aged 45-49)

The majority of participants reported on the direct benefits of being trained and having received a naloxone device:

'Uh, well, if I wasn't... if I didn't have it, I wouldn't have known what actually do you know so other than being stuck sitting there, and then giving her CPR and then all of that to ring the ambulance and then it would have ended up more... [...] I was absolutely over the moon that it was there, you know, so that she's gonna be OK. You know what I mean. Yeah, and yeah, I've actually seen someone else administered to her before, so I knew I was confident; it was gonna work, you know, yeah.[...] Yeah, no just that it was very...very good to actually have the training and know what to do when...when my partner actually had gone over otherwise you know I could have lost their, you know, she might...she might have passed away and that would have been bloody awful, you know. Yeah, that wouldn't have been nice at all. I would have been on my own and very upset, you know. It wouldn't have been good at all, yeah.'

(ID 30, Male, aged 45-49)

'I think his stone was still there, but the thing didn't overtake him, so which I was happy, you know. It worked!' [...] 'Well, I felt really good that it actually worked, you know, so it was a positive thing, you know, like it's really good. It actually worked so I was quite surprised, yeah, very surprised, yeah. [...]. It does work, so it was quite good.'

(ID 3, Male, aged 35-39)

'Well, I felt good because the person is still alive. You know, you can't do much more. It's pretty hard when you're by yourself. [...] [The training was] very helpful, because I knew roughly what to do. If I hadn't had any training involved, I probably wouldn't have even gone to that person, you know; it's only certain amount of things you can do to bring back that condition.'

(ID 15, Male, aged 70-74)

Some participants reported on the need for further training and more awareness about naloxone training programs:

'I'd like to see more...I'd like to see more training on it and more people being aware on it, you know, so it's just...even a shopkeeper, you know, if someone is at the shops and someone overdoses, in front of the shop or something, just something as simple like that, you can just go out there, give them a spray up the nose, [...] and reassure them and call the ambulance you know. So you know, most people just turn around and go to the shops, so it would be good just to somehow train more people around shops and stuff like that, you know, especially where it's bad, you know, in the city or in the town here, you know, just a bit more recognition on it; it's my opinion really. [...] I want to say give it out more, you know, even, I'd like to see them in the shops, you know, shops can do like a 45-minute training on it. Half an hour training on it and it'll be good for them, you know. Just stuff like that would make me sort of happy, I guess.'

(ID 3, Male, aged 35-39)

'No, if they have more group training, I'll definitely go to the more...more training where I can learn...the more I can learn the better. [...] Well, we're helping different situations and they can explain a lot more about probably what they're on and look for needle marks and you know, probably things like that, but like I said, we don't know what substance they're on you know. We're not medical practitioners. [...] I'd like more training on better ways to handle the situation, a bit more training on like the resuscitation, like I've never done the heart thing or things like that, you know, more training would be good for a lot of people, yeah. [...] Like what to do? What not to do, you know? You don't want to make a mistake, doing stuff wrong that's going to harm more than the condition they're in, you know.'

(ID 15, Male, aged 70-74)

There were a number of participants who reported on the barriers that could prevent people to respond appropriately to an opioid overdose:

'[...] There wasn't a clear instruction on the box. [...] Like it says 'go up the nose', but I don't know how far up the nose, you know, so I jammed it right up the nose and then

gave the full spray and held it out there for about 30 seconds, just to make sure it all went through and then he sat down pretty quick so.'

(ID 3, Male, aged 35-39)

'Oh, it's like everything. Nobody...nobody wants to get involved. [...] Yeah, people know that...because of the crime and a lot going on people just walk away; they're not interested you know. It's a random situation, but you know, some of these people that use meth and all that, you don't know if they're carrying a knife and they get right off. It's a very tricky situation to be in. You've gotta be very careful yourself.'

(ID 15, Male, aged 70-74)

'We didn't...I didn't ring an ambulance or anything. She seemed to be OK. She was actually walking around after that and was OK so yeah, I basically didn't ring the ambulance you know, because it would cost \$1000 to ring the ambulance and yeah, we don't have that sort of money so yeah, and she was OK, you know.'

(ID 30, Male, aged 45-49)

Several participants reported on the possible causes of the opioid overdose:

'He could...he could have been drinking, but I think the potency of the heroin at that time was pretty strong; there was very strong stuff going around. [...] Yeah, he just came out of prison. So he is in and out of prison quite a lot. His kids got taken away from DCP, like they're in the system, so that's why I think he's using more drugs.'

(ID 3, Male, aged 35-39)

'They just had too much, and it was a hot day, and they had a couple of drinks.'

(ID 28, Male, aged 45-49)

'It was obviously stronger than the last time she had some of it and yeah [...].'

(ID 30, Male, aged 45-49)

4.3.2 Personal overdoses

Approximately 4 out of 10 participants (39%; n=14) reported ever having had an opioid overdose. These participants had a mean of 10 overdoses in their lifetime (SD=25; median=1, range 1-100), and one participant (3%) reported they had experienced one overdose since receiving naloxone training.

The participant who experienced an opioid overdose since receiving his training was asked additional questions in order to indicate:

- a) how many overdoses they had since receiving his training
- b) when they had their last opioid overdose
- c) what type of device was used to revive them (e.g. Prenoxad/Nyxoid/ampoules)
- d) to whom the naloxone device belonged and was prescribed
- e) the reasons for their last overdose since receiving naloxone (e.g. reduced tolerance to opioids, change in purity...)
- f) what happened after the overdose
- g) who administered the naloxone given
- h) where on the body was the naloxone administered
- i) how many naloxone doses were they given during the overdose
- j) how long approximately did it take the person to regain consciousness following the naloxone administration
- k) whether the person experienced any complications or problems from naloxone
- l) whether they think that naloxone prevented them from dying from an overdose
- m) whether the naloxone device used had been replaced

The additional information related to the participant who had an opioid overdose will be provided below. Due to the small sample size (n=1) we caution against generalising from this case.

The participant reported having had an opioid overdose 2 months after having received naloxone training. Prenoxad, administered into the thigh, was used to revive the participant. The administered naloxone was reported to have belonged to the participant's partner who witnessed the overdose. One dose was administered, and it took the participant one minute to regain consciousness. Following the administration of naloxone, the participant reported that they didn't experience any adverse events. When asked 'why do you think you had an

overdose?', the participant reported that they had mixed heroin, with Temazepam, Valium, and other benzodiazepines. When asked 'what happened after the overdose?', the participant reported that an ambulance was called, and they were admitted to the hospital. The participant reported that naloxone prevented them from dying. When asked 'whether the naloxone device used had been replaced?', the participant reported that it had been replaced over the counter in a pharmacy without a prescription.

As part of the qualitative interviews, the participant was asked to give accounts of the last personal overdose they had since completing the naloxone training. These give a better understanding of the overdose situations and responses provided to the participant. A phone qualitative interview was conducted with the only respondent who reported having had an opioid overdose since receiving naloxone. It is to be noted that the person who responded to the opioid overdose had received prior naloxone training as well. Four main themes were highlighted when analysing the last personal overdose reported by the respondent: use of skills taught to the person who responded to the opioid overdose; the reasons explaining the opioid overdose; self-reflection and learnings from the opioid overdose; and the benefits of having being administered with naloxone.

The following scenario demonstrated the use of the skills that the person who had witnessed an opioid overdose acquired during the training:

'Oh basically I...I had some benzos as in Valium, and I think I had Temazepam as well and then I went and scored some heroin with my partner, and then I actually injected it and basically I don't remember a thing after that, you know. I...I actually...I actually went over and stop breathing, yeah, and she had to inject me with the...with the naloxone to bring me back, yeah. She admin....she had to administer...administer CPR as well at first, yeah. At first she administered CPR to see, you know, whether I'd just start breathing on my own, but I didn't start breathing on my own, so then she gave me the naloxone. [...] Oh, well, basically I just... after being injected with it, it took a little bit. But then I slowly came back around and then she told me that you know what had happened, that I had stopped breathing and she had given me mouth-to-mouth and yeah, and then gave me the naloxone to bring me back [...]My partner rang the ambulance and I had a seizure afterwards as well and yeah my partner rang the ambulance and I just remember a little bit when the ambulance arrived and then I actually loss consciousness again, and I don't remember

anything until I was in [hospital name] and woke up in a hospital bed, yeah.'

(Information hidden to protect the anonymity of the participant)

The respondent also reported on the potential reasons behind their last opioid overdose:

'Basically, it was just because I had the benzos actually increase your chance of you going over you know, like yeah, because I...I...I self-medicated basically before I had....before I injected so that was why.[...] Yeah, like I actually had about 5 Valium and it would have been 5 Temazepam as well, and yeah, it was too much, you know. I was already...I was already wasted on that, and then yeah, had the injection of heroin that we scored, and yeah, that was too much. That's too much, yeah.'

(Information hidden to protect the anonymity of the participant)

The respondent also self-reflected on their last opioid overdose and shared how this episode made them feel and what they learned about it:

'[...] yeah, so yeah, it was a bit a scary ordeal, but yeah, now it's good that she was trained and...and yeah, and could actually save me, you know, and I've actually learned a good lesson from it, you know, like yeah, just not having the benzos in that, you know, because you can't judge. You can't judge how much, how much you can, actually handle if you had the benzos before you inject. It's the same as with alcohol, you know. I don't drink alcohol, so that's not an issue, but yeah, alcohol can actually increase it as well.'

(Information hidden to protect the anonymity of the participant)

'Uh, basically I came around. She just told me what had happened and I just felt really remorseful, and yeah, I felt...I felt bloody horrible, you know, that I actually put her through that, you know. I scared the absolute crap out of ...[her]. So it's not a very nice thing to do to especially to the one person yes you love and care about, you know. Yeah, it's not very nice at all [...] Yeah, she told me that I had gone over and that I had too many pills obviously and that was a really stupid thing to do, you know, and she was really pissed...really pissed off on me, yeah and yeah. She told me that I scared the crap out of her and yeah, you know. I felt really remorseful about that yeah, yeah.'

(Information hidden to protect the anonymity of the participant)

The respondent also highlighted the clear benefits of having been administered with naloxone:

‘Just basically that it was just great actually that I’ve had the chance of, you know, like if it wasn’t for the naloxone kit, I probably would have been dead, you know. I quite like more than likely would have been gone, you know, that’s yeah. That’s it you know. Yeah, I don’t wanna die. [...] Yeah, it has saved my life yeah.’

(Information hidden to protect the anonymity of the participant)

5 DISCUSSION

Due to the impact of COVID and the associated impact of lockdowns and countermeasure preparedness on the services where recruitment was being undertaken, the number of participants recruited to the study (n=38) fell well short of the initial plan to recruit 120 participants (up to 30 participants from each of the EDs and the St Pat’s). The impact of COVID lockdowns and travel restrictions had for instance a huge impact on illicit drug supply into Australia (Peacock et al., 2020) and between Australian states and territories. As such, for all of 2020 and the first half of 2021, availability and purity of heroin in the illicit drug market in Perth declined (Agramunt & Lenton, 2020) with resulting low rates of opioid overdose, and a significant decrease (36%) in overall injecting frequency of any drugs in comparison to before COVID (Agramunt & Lenton, 2020). There is no doubt that the impact of COVID on the participating services had a significant adverse impact on the recruitment of participants for this study and therefore these results might not be representative of the larger number of individuals who received naloxone training. However, whilst the number of participants recruited was lower than expected, there were several anecdotal reports from patients and clients who were supplied with naloxone, in particular via regular client contact with St Pat’s workers, which showed that naloxone was in demand. The difficulty of following-up patients who had received naloxone training in EDs has also been highlighted in a recent pilot study aiming to assess the feasibility of delivering brief Nyxoid interventions among 3 EDs in Sydney and Melbourne (Black et al., 2022). Indeed, the researchers were unable to interview patients/carers after the clinician intervention due to “*difficulties encountered in following up patients/carers post-intervention*” (Black et al., 2022). Consequently, Black et al. (2022) only relied on staff members surveys and patients discharge summaries, to demonstrate that THN

brief interventions in ED settings were feasible and that the large majority of clinicians (90%) supported the idea that EDs should provide naloxone brief education to their patients. Similar difficulties were encountered in the present study, as various clients did not have a phone or consistent phone number which prevented the research team to contact them for a follow-up interview. Anecdotal reports from St Pat's who have regular contact with their clients reported that other barriers to client follow up included clients being in a hurry; lost, stolen or damaged phone; reluctance to answer unknown calls and hesitation to provide consent to an unknown person; and anxiety speaking to a caller they do not know.

Research conducted internationally (e.g. Bessen et al., 2019; Samuels, Dwyer, Mello, Baird, Kellogg, & Bernstein, 2016) and in Australia (Holland, Penm, Dinh, Aran, & Chaar, 2019) on introducing THN programs in EDs prior to the advent of COVID indicates that these environments, while providing great promise for reducing opioid overdose deaths, are challenging environments in which to establish such programs.

This is not surprising as they are high-pressure busy environments dealing with trauma and immediate life or death issues, illness, violence, injuries, intoxication and distress of others (Anderson et al., 2021) in an environment of limited resources where there are many different clinical professions working together and a high level of staff turnover and stress (Dixon, Murphy, & Wynne, 2022). As a consequence, burnout rates among clinicians are high and might have a negative impact on patient outcomes (Anderson et al., 2021).

The use of champions to advocate for new initiatives has been a part of many attempts at procedural change in systems, and it is also a promising starting point. There are a number of papers which suggest this approach (e.g. Salom et al., 2021; Showalter, Wenger, Lambdin, Wheeler, Binswanger, & Kral, 2021). However, research done on introducing THN programs in EDs has suggested that it may not be enough (Duan, Lee, Adams, Sharp, & Doctor, 2022).

Recent papers in the United States have suggested that changing clinical operating procedures, including electronic patient management and record systems, may help make provision of THN to opioid using clients and others at risk of witnessing an overdose, standard practice (e.g.

Duan, Lee, Adams, Sharp, & Doctor, 2022; Marino, Landau, Lynch, Callaway, & Suffoletto, 2019). This may be supported by training for staff and advocacy.

Although beyond the immediate scope of this research program the research team did witness limitations of the champions approach to establishing THN programs in the EDs when individuals who were initially motivated and enthusiastic became overtaken by the demands of COVID responses or moved to other roles including other hospitals and any momentum which had been developed fell away understandably under competing pressures.

Given that it may be appropriate for the future of THN in EDs and community centres, and while the champions approach may be part of the response, it is important that as soon as possible once feasibility has been established, as it has in this project, that moving naloxone distribution into standard operating procedures is integral. This will be important to ensure not only project initiation but also sustaining the project through shifts in staff and competing priorities over time.

Since the establishment of THN in FSH, JHC, and RPH, several other hospitals have onboarded to the Mental Health Commission's WA Naloxone Program (WANP) including Perth Children's Hospital, Sir Charles Gairdner Hospital, Busselton Health Campus, Peel Health Campus, and Bunbury Regional Hospital. The learnings from these evaluated EDs have helped inform operational procedures and aims to embed THN into best practice and standard operational procedures.

The results of this evaluation are discussed in terms of their relevance to the study aims.

5.1 INVESTIGATE WHETHER NALOXONE WAS USED APPROPRIATELY BY PEOPLE IN A NON-MEDICAL SETTING AND RESULTED IN SUCCESSFUL OPIOID REVERSALS

Four reported overdoses had been witnessed by the participants since receiving naloxone training. Overall, these demonstrated appropriate responses to the opioid overdoses witnessed. Naloxone was reported to have been administered in all witnessed overdoses and was

administered by the participants themselves in 75% of the witnessed overdoses, while it was administered by paramedics in one case. Paramedics were notified each time that naloxone had been administered when an ambulance was called. Three quarters of participants who had witnessed an opioid overdose called an ambulance, as advised in the training. One participant did not call an ambulance, due to its cost, even though he knew that he had been advised to do it. All respondents reported that the person who experienced the overdose had survived in all cases of witnessed overdose, with naloxone being perceived to have been the factor that saved the person's life each time.

Participants were able to identify the major signs and symptoms of an opioid overdose and took appropriate responses in the majority of the cases. All participants who had administered naloxone felt 'very confident' in administering naloxone and mentioned that it was 'very easy' to administer. All of them also thought that the training they received was useful when witnessing an opioid overdose. Even in situations where naloxone wasn't administered by the trainees, the training received by the participants assisted them in managing the situation, while waiting for an ambulance to come and ensure that the person who had an opioid overdose was safe by monitoring his breathing at all times.

5.2 INVESTIGATE KNOWLEDGE ABOUT NALOXONE AND OPIOID OVERDOSES FOLLOWING THE THN PROGRAM AND THE PARTICIPANTS' EXPERIENCE OF OVERDOSES AND NALOXONE ADMINISTRATION IN THE PERIOD SINCE PARTICIPATING IN THE THN PROGRAM

Participants provided feedback on knowledge about naloxone and opioid overdoses following the naloxone training received, and their experiences of administering naloxone while witnessing an opioid overdose. While the majority of respondents demonstrated overall adequate knowledge about naloxone and opioid overdoses 3 to 6 months after having received naloxone training, some participants endorsed incorrect answers while being questioned about the signs and symptoms of an opioid overdose, as well as the actions to be taken when it is happening, even though 8 out of 10 participants (80%) thought that they were confident in recognising an opioid overdose, and 75% that they knew how to manage an opioid overdose.

While knowledge was weaker in some areas, it was well-developed in others and the program enabled to successfully reverse 5 opioid overdoses, with participants reporting that naloxone was the factor that saved the person's life each time.

5.3 HIGHLIGHT THE POSITIVE AND/OR NEGATIVE ASPECTS OF THE PROGRAM

Respondents provided feedback on the training and the devices received. While the majority of respondents thought that there were no issues with the devices received, the majority of these also thought that getting one box containing 2 devices was not enough. Indeed, many participants highlighted the fact that they wanted to share their devices with some friends who might be in need, as almost half of the sample (41%) reported they had trained other people since they had received naloxone training themselves. Some participants also highlighted that there was a lack of information provided during the training or a lack of instructions included inside the box.

In terms of positive outcomes, participants highlighted the fact that naloxone was free of charge, and that the training didn't require any improvements, as it was overall very informative, clear, straightforward, and easy to understand. However, some participants also highlighted the fact that additional retraining should be provided on a regular basis, that the training was too short, and that it should be more focused on practice rather than on theory. Some participants also highlighted the lack of privacy when receiving naloxone training and highlighted that something should be done in the community about the awareness of naloxone and its availability. No major negative consequences of the program were reported by the respondents.

5.4 OVERALL FINDINGS AND RECOMMENDATIONS

While acknowledging the smaller than anticipated sample size in this evaluation, the results that have been collected do support the continuation and expansion of this naloxone program and the continuous provision of naloxone at different EDs (FSH, JHC, and RPH) and an outreach community setting (St Pat's) in WA. Although numbers from the ED settings in this study were small, studies published in the time since the commencement of this project reinforce the view that EDs are a pivotal setting for distribution of naloxone to people who had

a non-fatal unintentional opioid overdose, and are at therefore at increased risk of a subsequent overdose or witnessing another's overdose. Specific recommendations are reported below:

- 1) The naloxone training was rated by 90% of trainees as of good or excellent quality and more than 95% said they would recommend it to others. Similarly, over 95% said they could recall some or a lot of the content of the training. This shows that the training was well received by participants.
- 2) It was noteworthy that 4 in 10 trainees said they had trained someone else in the use of naloxone. In addition that a person experiencing an overdose cannot administer naloxone to themselves, this is an important mechanism for diffusion of information to those who may be hard to reach by usual methods of training. It suggests that raising and supporting this peer education aspect in the training may be appropriate in any review of training content.
- 3) The finding that the majority of respondents still had their naloxone was gratifying, as was the finding that over one in 5 had given at least some of it to others. This goes to the potential reach of peer-to-peer naloxone distribution and exploring mechanisms such as 'secondary supply' to support this activity in addition to highlighting that distributing more doses of naloxone is worth encouraging.
- 4) The finding that in the small number of cases where naloxone was administered since receiving the training, each of which contributed to the person experiencing the overdose's survival, again demonstrates that it can be used appropriately in a non-medical setting.
- 5) Many respondents highlighted that receiving naloxone at no cost was one of the most valuable aspects about the workshop they received. The appreciation and importance of receiving the naloxone at no cost is relevant and reinforces the need to continue to provide this life-saving medicine free of charge and is consistent with the federal national rollout of the free THN program.

- 6) The importance of calling an ambulance was highlighted in the training and 3 of 4 overdose witnesses did call an ambulance. However, accounts of overdose responses by participants again emphasised that the cost of ambulance transport (over \$1000) can be an understandable deterrent for people who are already marginalised and might prevent them from seeking help. Immediate action should be taken to reduce the costs of ambulance transport for people who are transported after experiencing an overdose, to remove this barrier to people seeking help when needed.

- 7) The results of this evaluation point to some of the incorrect responses and misunderstandings suggesting that trainers could reinforce debunking the ‘myths’ that are currently being reported in the general community among non-opioid users about how to manage an opioid overdose. Indeed, anecdotal evidence suggests that there is a strong myth in the general community among non-opioid users that people who experience an opioid overdose might become agitated and have an increased heartbeat which will lead to a cardiac arrest, even though opioids are depressants. Reinforcing education about the effects of depressants versus stimulants in the training might help some participants who might not be familiar with opioid use, but who might be at risk of witnessing an opioid overdose to better recall the signs and symptoms of an opioid overdose. It is recommended to include ‘myth busting’ on future resources so people can access this information post education sessions as a reminder.

- 8) There were a handful of reports from some participants that their health provider did not go over the signs and symptoms of an opioid overdose with them and just handed them the naloxone device without any additional explanation. Given that medical settings such as EDs are high pressure environments it is even more paramount that written support materials are provided with every naloxone device supply and future QR code links to online training in naloxone administration and overdose management, or specifically focussed staff training in very brief interventions for staff in these services.

- 9) Roughly a third of participants reported some problems in knowledge about naloxone and opioid overdoses following the training. There were a number of useful suggestions made by respondents as to how this could be addressed including the following:
- Follow-up retraining sessions and or drop-in sessions should be offered to the participants on a regular basis, in order to improve knowledge about naloxone and opioid overdoses following the naloxone training.
 - A leaflet, a fridge magnet and/ or a laminated information sheet summarising the main points taught during the training could be handed over to the participants, in addition to the Recognise & Respond wallet card.
 - Opportunity to attend longer sessions
 - Sessions could be more focused on practice than theory.
 - Opportunity to attend one-on-one sessions behind closed doors.
- 10) Further research could be undertaken to determine which format of training (brief education versus group sessions that last more than one hour) has better knowledge retention.
- 11) The trainees should be able to obtain more devices if needed and since the rollout of the national free THN program can now be made aware that they can currently also obtain additional devices for free at the pharmacy.
- 12) Pamphlets and promotional material (e.g. posters...) should be available at hospitals and community services where naloxone programs are delivered so that people are aware that it is available at these sites if needed.
- 13) Continued expanded access to THN across wide-ranging and diverse services is needed for ongoing client/patient education opportunities, with consistent state-wide messaging on how to recognise and respond to opioid overdose and how to use naloxone.

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APPENDIX A: CONTACT INFORMATION FORM



Take-Home Naloxone Project

Contact information form

You are invited to participate in a research study which is going to evaluate how people who receive Naloxone training are able to respond to an opioid overdose. It is not compulsory for you to be a part of the evaluation. If you choose not to participate, then this decision will not have any adverse effects.

The study is being conducted by the National Drug Research Institute at Curtin University.

You will get a \$40 payment for your time if you complete a survey about the training you received.

Provide the Curtin University evaluation team with your contact details and they will give you more information about the study. Your personal information will be kept confidential.

First Name:	
Last Name:	
Main phone number:	
Additional phone number:	
Date:	

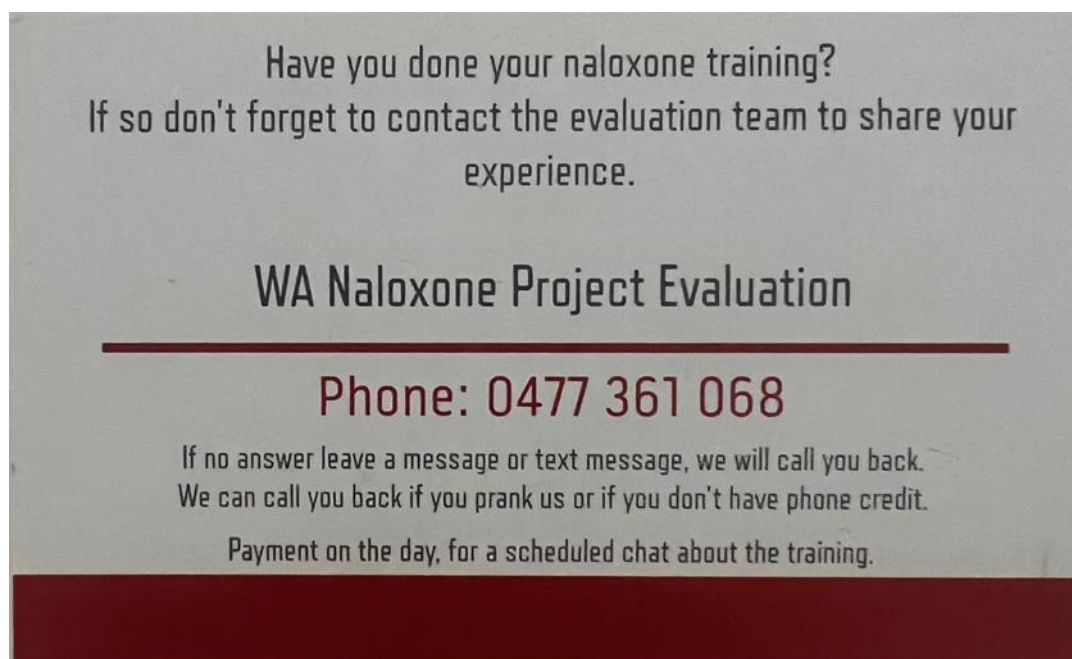
For more information, please do not hesitate to contact Seraina from Curtin University on:

0477 361 068

Thank you very much for considering participating in our study!

Curtin University Human Research Ethics Committee (HREC) has approved this study (HREC number HRE2019-0584). Should you wish to discuss the study with someone not directly involved, in particular, any matters concerning the conduct of the study or your rights as a participant, or you wish to make a confidential complaint, you may contact the Ethics Officer on (08) 9266 9223 or the Manager, Research Integrity on (08) 9266 7093 or email hrec@curtin.edu.au. This study has also been approved by the [Hospital name] Human Research Ethics Committee (approval number).

APPENDIX B: BUSINESS CARD



APPENDIX C: RECOGNISE AND RESPOND WALLET CARD

Recognise & Respond

Signs of an Opioid Overdose

- Blue lips and / or fingernails
- 'On the nod' / slumped posture
- Snoring or gurgling
- Unconscious
- Shallow breathing or not breathing at all
- No response

RECOGNISE,
RESPOND,
STAY

Naloxone is a fast acting medication that reverses the effects of opioid overdose

- A person may experience withdrawal symptoms, this will depend on how much naloxone is given and which naloxone device is used
- Side effects are rare
- If no response to naloxone, continue **DRSABCD**

- D** Check for **DANGER**
- R** Check for **RESPONSE**
- S** **SEND** for help
- A** Clear and open **AIRWAY**
- B** Check for **BREATHING**
- N** Give **NALOXONE**
- C** Commence **CPR**
- D** Use **DEFIBRILLATOR** if available

Using Prenoxad™

- Remove Prenoxad™ red strip
- Twist box to break seal and open
- Open needle packet, remove syringe
- Unscrew rubber cap, screw on needle
- Insert needle at 90° angle



*Prenoxad™ can be given in doses marked on the side of the syringe, instructions in box

Using Nyxoid®

- Remove a Nyxoid® device from packaging
- **DO NOT TEST PUMP**
- Put the person on their back
- Clear the nostrils
- Insert Nyxoid® into one nostril
- Press plunger once to spray naloxone into nose
- If second Nyxoid® dose is required spray into other nostril



*Be aware a person may experience greater withdrawal symptoms after second dose

Using an ampoule

- Tap the ampoule base to remove liquid from top
- Snap the neck of ampoule
- Open a 2, 3 or 5ml barrel and a 23g needle and assemble
- Uncap the needle
- Draw up all of the naloxone from the ampoule
- Insert needle at 90° angle



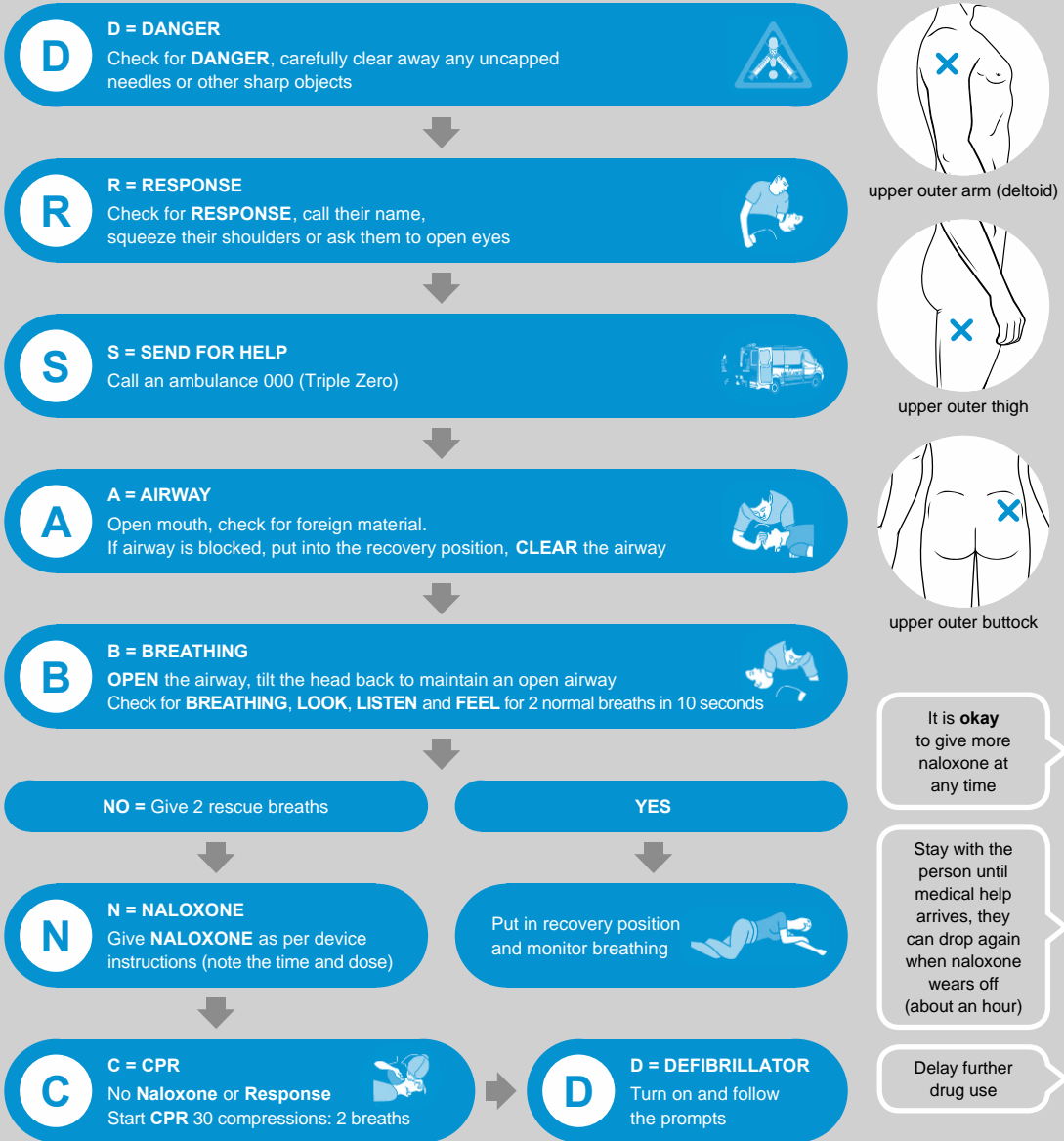
*Give all of the naloxone



REMEMBER Naloxone is now available over-the-counter or with a prescription

Anyone can learn how to give naloxone. Talk to your GP, pharmacist or alcohol & other drug / health worker. Police will not routinely attend an overdose unless ambulance officers feel unsafe or threatened.

Responding to Opioid Overdose



Call an ambulance 000 (Triple Zero)



APPENDIX D: PARTICIPANT INFORMATION SHEET AND CONSENT FORM



Evaluation of the Take-Home Naloxone ED Project
2020-2021– Royal Perth Hospital [Varied for each site as appropriate]
Evaluation Participant Information Sheet

A new program, called the Take-Home Naloxone ED Project, is starting up here in Western Australia in the Joondalup Health Campus, Fiona Stanley, and Royal Perth Hospital Emergency Departments, as well as the St Patrick's Crossroads Outreach Program. People who volunteer for this program are being educated about recognising and responding to overdoses on opioid drugs like heroin and oxycodone as part of a strategy to help stop overdose deaths. People who successfully complete the brief education/training are being offered a supply of naloxone, an overdose reversal drug, to assist their peers to resuscitate them should they experience opioid overdose.

An independent evaluation of the program is being undertaken by Professor Simon Lenton. Professor Lenton can be contacted at the National Drug Research Institute at Curtin University (GPO Box U1987, Perth WA 6845, telephone (08) 9266 1603, email s.lenton@curtin.edu.au).

Why are we conducting the evaluation?

We are conducting the evaluation to find out about the experiences and views of people who do the brief education/training and are given a supply of take-home naloxone. This information will be used by the Mental Health Commission to see whether the program is effective and appropriate. This information will help them to make decisions about next steps for the program, for example expanding it, changing it or closing it down.

What does the evaluation involve?

We need to speak to you about your experiences of the program. We would like you to:

- **complete a researcher-administered survey** about the experience of the brief education/training. We **may ask you to take part in an audio-recorded interview**. The follow-up interview will take between 45 and 60 minutes.

It is not compulsory for you to be a part of the evaluation. If you choose not to participate, then this decision will not have any adverse effects. You can withdraw from the evaluation at any time. You don't need to provide any reasons if you choose not to participate in the evaluation either now or in the future.

Payment

We will also offer you \$40 in cash as compensation for your out-of-pocket expenses (e.g. parking, travel costs...) and time if you complete a face-to-face interview. We will ask you to write your name, and sign, to show that you have received the payment. If you complete a phone interview, you will be sent a \$40 Coles/Woolworths voucher via registered mail.

Reporting

The results of this independent evaluation will be given to the Mental Health Commission. Summary results will be made available to the people who use WA drug and alcohol services and to others in the community. The results may also be published on the internet, in academic journals or in books, and presented to conferences. No individual responses will be identifiable in any of the reports.



Are there any risks if I participate in the evaluation?

There are no physical risks associated with taking part in this evaluation. However, there is a small risk that thinking about your experiences may cause you distress. Should you experience any distress or anxiety during or after participating within this interview, you will be advised to seek help from a professional. If you are in need, a help line number will provide immediate support to you (Lifeline 13 11 14).

The evaluation survey will only identify you by a code. Your personal details will be stored separately. Audio recordings will be transcribed into a word document and destroyed after transcription. Any personal information provided during the interview (e.g. names, ...) will be removed from transcription.

The study is not intended to find about any illegal activity (e.g. the use of illegal drugs now or sometime in the past) but may do so as participants will be asked about their own experiences of overdose.

The information you provide will be kept in a secure place, in a locked cabinet in a locked office at the National Drug Research Institute at Curtin University and will be seen only by the authorised evaluation researchers. It will be kept confidential as much as possible - to the extent permitted by law.

As mentioned above, there will be no adverse effects for you if you don't want to be a part of the evaluation or withdraw from it later on. If you choose to withdraw from the evaluation all audio recordings and computer records will be erased and all paper-based records will be securely destroyed.

If you feel upset by any of the questions we ask you, our trained interviewers who have a background in Psychology and expertise in conducting research interviews will be happy to help you. Please feel free to tell them if any of the topics discussed make you feel uncomfortable. You do not have to answer the questions if you don't want to.

The reports of the evaluation will be written in such a way that the information provided cannot be linked to any individual person. Your privacy will be assured.

Providing consent to participate in the evaluation

Please read and, if you agree, sign the attached Consent Form.

Contact names and phone numbers

If you have any questions or complaints about the evaluation, please feel free to contact the chief investigator (details above).

This project has been granted ethical approval by the Royal Perth Hospital (RPH) Human Research Ethics Committee (HREC). If you have any concerns about the conduct of the project or your rights as a research participant, please contact the East Metropolitan Health Service (EMHS) Research Ethics and Governance Unit on (08) 9224 2292 or EMHS.REG@health.wa.gov.au and quote the ethics approval number RGS0000003582.

Curtin University Human Research Ethics Committee (HREC) has also approved this study (HREC number HRE2019-0584). If you wish to discuss the study with someone not directly involved or if you wish to make a confidential complaint, you may contact the Ethics Officer on (08) 9266 9223 or the Manager, Research Integrity on (08) 9266 7093 or email hrec@curtin.edu.au



Evaluation of the Take-Home Naloxone ED Project 2020-2021
Evaluation Participant Consent Form: written consent

Chief Investigator: Professor Simon Lenton

I (please print your name) consent to take part in this evaluation project. I have read and understood the Evaluation Participant Information Sheet. I have had the nature and purpose of the evaluation, so far as it affects me, fully explained to my satisfaction by the evaluation research worker. I give my consent freely.

I understand that if I agree to participate in the evaluation project **I will be asked to complete a researcher-administered survey** about the overdose brief education/training program. The **follow-up interview will take about 45 to 60 minutes** and will involve questions about what I learned in the brief education/training, my views about and experiences of overdose prevention, and my use or non-use of naloxone to help resuscitate someone experiencing an opioid overdose. I understand that **I may be asked to give my permission for the interview to be audio-recorded for some specific sections only**. Participants who have witnessed an overdose will also be invited to provide the research team’s contact details to the person who had overdosed.

I understand that, while the study is not intended to find out about illegal activity (e.g. the use of illegal drugs now or sometime in the past), it may do so as participants will be asked about their own experiences of overdose. Participants are advised not to disclose any details and sensitive information including about any illegal activities that they may have participated in. Any inadvertent disclosure of such information is edited out from the audio and the transcripts in order to protect the participant.

I understand that, while information gained during the evaluation project may be published in reports and in academic publications, my name and other identifying information will not be used in any publication.

I understand that my personal information such as my name and contact details will be kept confidential so far as the law allows. Surveys and completed interview forms and any other identifying materials will be stored in a locked cabinet in a locked office at Curtin University. Electronic information will be stored on a secure server that is accessible only on a password protected computer. The password will be known only by the authorised members of the evaluation team.

I understand that I may withdraw from the evaluation at any stage, without providing any reason for doing so, and that this will not have any adverse effects for me. Any records related to me will be erased or securely destroyed.

I agree to an audio recording being made of my interview. Yes No

Signed: _____ Investigator: _____

Date: _____ Date: _____

Please print name or alias: _____ Name: _____



Evaluation of the Take-Home Naloxone ED Project 2020-2021
Evaluation Participant Consent Form: oral consent

Chief Investigator: Professor Simon Lenton

I understand that if I agree to participate in the evaluation project ***I will be asked to complete a researcher-administered survey*** about the overdose brief education/training program. ***The follow-up interview will take about 45 to 60 minutes*** and will involve questions about what I learned in the brief education/training program, my views about and experiences of overdose prevention, and my use or non-use of naloxone to help resuscitate someone experiencing an opioid overdose. I understand that ***I may be asked to give my permission for the interview to be audio-recorded for some specific sections only***. Participants who have witnessed an overdose will also be invited to provide the research team’s contact details to the person who had overdosed.

I understand that, while the study is not intended to find out about illegal activity (e.g. the use of illegal drugs now or sometime in the past), it may do so as participants will be asked about their own experiences of overdose. Participants are advised not to disclose any details and sensitive information including about any illegal activities that they may have participated in. Any inadvertent disclosure of such information is edited out from the audio and the transcripts in order to protect the participant.

I understand that, while information gained during the evaluation project may be published in reports and in academic publications, my name and other identifying information will not be used in any publications coming from the evaluation.

I understand that my personal information such as my name and contact details will be kept confidential so far as the law allows. Surveys and completed interview forms and any other identifying materials will be stored in a locked cabinet in a locked office at Curtin University. Electronic information will be stored on a secure server that is accessible only on a password protected computer. The password will be known only by the authorised members of the evaluation team.

I understand that I may withdraw from the evaluation at any stage, without providing any reason for doing so, and that this will not have any adverse effects for me. Any records related to me will be erased or securely destroyed.

I agree to an audio recording being made of my interview. Yes No

I..... (please say your name) consent to take part in this evaluation project. The Evaluation Participant Information Sheet has been read to me and I understand what is in there. I have had the nature and purpose of the evaluation, so far as it affects me, fully explained to my satisfaction by the evaluation research worker.

Do you give your consent freely?..... (please say Yes or No)

Date:

Investigator’s name:

Signature

APPENDIX E: RESEARCHER ADMINISTRATED QUESTIONNAIRE

Evaluation of the Take-Home Naloxone Project Conducted by the Mental Health Commission, WA

Follow-up Survey

Interviewer initial / Resp# /

Date: _____ Interviewer: _____

A. DEMOGRAPHICS, DRUG USE AND TREATMENT INFORMATION

1. Age: years

2. Gender: Female Male Other

3. Marital Status:

- Single
- In a relationship but not living together
- In a relationship and living together
- Married
- Separated
- Divorced
- Widowed

4. Who do you live with? Alone With opioid users With non-opioid users

5. Where have you lived for more than three days in last week?

- In my home or apartment that I own
- In my home or apartment that I rent
- In my parents' or other family members' home or apartment
- In someone else's home or apartment (not family)
- In an institution
- On the street (park, basement, doorway...)
- Crisis accommodation
- Other: _____

6. Where were you born? (country) _____

7. Are you of Aboriginal or Torres Strait Islander origin? Yes _____ (which) No

8. What is the highest level of education you have completed?

- Did not go to school
- Year 6 or below
- Year 7 or below
- Year 8 or below
- Year 9 or below
- Year 10 or below
- Year 11 or below
- Year 12 or below
- TAFE/Apprenticeship
- University

9. Within which suburb do you live? _____

10. What is your employment status?

- Working full-time
- Working part-time/casual
- Temporarily laid off, sick leave or maternity leave
- Looking for work, unemployed
- Retired
- Disabled, permanently or temporarily
- Homemaker
- Studying
- Other: _____

11. Are you currently receiving any benefit?

- Yes: _____
- No

12. Are you in a treatment program? (choose one option that best applies):

- Opioid detox (methadone)
- Opioid maintenance (methadone)
- Opioid detox (Subutex) (NB: Subutex=buprenorphine)
- Opioid maintenance (Subutex)
- Opioid maintenance (Suboxone)
- Other (please describe)
- Not in treatment – please give reason (skip to question 14) -

13. Length of time in treatment (current episode) in months: _____ months

Please answer the following questions if you have ever used illegal drugs. Otherwise please move to Question 32.

14. Age first used opioids:	15. Age first IV/injected use, if applicable:	
16. Are you currently taking any prescribed medication?	Yes <input type="checkbox"/> No <input type="checkbox"/>	16a. (If yes) On the last occasion, what were you prescribed? 16b. (If yes) Were these prescribed to you? <input type="checkbox"/> Yes <input type="checkbox"/> No (specify): _____
17. Which illegal/non-prescribed opioid/s have you used at least once in the last 28 days? (please tick for each)	Heroin <input type="checkbox"/> Methadone <input type="checkbox"/> Buprenorphine <input type="checkbox"/> Other (specify all)	
18. Have you injected opioids in the last 28 days?	Yes <input type="checkbox"/> No <input type="checkbox"/>	

<p>19. Which illegal/non prescribed opioid/s are you currently using daily or on alternate days? (please tick for each)</p>	<p>Heroin <input type="checkbox"/></p> <p>Methadone <input type="checkbox"/></p> <p>Buprenorphine <input type="checkbox"/></p> <p>Fentanyl <input type="checkbox"/> Patch <input type="checkbox"/> Powder <input type="checkbox"/> Liquid</p> <p>Other (specify all)</p> <p>.....</p> <p>.....</p>
<p>20. In the last 12 months, how many times have you gone 3 or more days without using any (whether prescribed or non prescribed) opioids?</p>	<p>Never <input type="checkbox"/></p> <p>Once or twice <input type="checkbox"/></p> <p>Several times <input type="checkbox"/></p> <p>Many times <input type="checkbox"/></p>
<p>21. Which other substances are you currently using daily or on alternate days? (please tick for each)</p>	<p>Cocaine <input type="checkbox"/></p> <p>Alcohol <input type="checkbox"/></p> <p>Benzodiazepines <input type="checkbox"/></p> <p>Amphetamine Type Stimulants <input type="checkbox"/></p> <p>Other (specify all) <input type="checkbox"/></p> <p>.....</p> <p>.....</p> <p>.....</p>

THE DRUG ABUSE SCREENING TEST

22. Just confirming that you have you used drugs other than those required for medical reasons.

Yes No (If No, then skip to 32)

23. Do you use more than one drug at a time?

Yes No

24. Are you always able to stop using drugs when you want to?

Yes No

25. Have you had “blackouts” or “flashbacks” as a result of drug use?

Yes No

26. Do you ever feel bad or guilty about your drug use?

Yes No

27. Does your partner (or parents) ever complain about your involvement with drugs?

Yes No

28. Have you neglected your family because of your use of drugs?

Yes No

29. Have you engaged in illegal activities in order to obtain drugs?

Yes No

30. Have you ever experienced withdrawal symptoms (felt sick) when you stopped taking drugs?

Yes No

31. Have you had medical problems as a result of drug use (e.g. memory loss, hepatitis, convulsions, bleeding, etc.)?

Yes No

B. THE PRENOXAD/NYXOID/NALOXONE TRAINING

32. Did you attend or receive training for the use of Prenoxad/Nyxoid/Naloxone in overdose situations?

YES NO (skip to section C)

32a. Which device(s) were you trained in using?

Prenoxad Nyxoid Other (e.g. ampoules...)

33. How well do you recall the training?

A lot Some Only a little Not at all

34. How long ago did you receive training in Prenoxad/Nyxoid/Naloxone use?

_____ (months)

35. Where did you receive the training?

Royal Perth Hospital

Joondalup Health Care Campus

Bunbury Hospital

St Patrick's accommodation

Foundation Housing

Wellington Street Park (Perth City)

The Rise (Maylands)

55 Central (Maylands)

Parry street park (Fremantle)

Other: _____ (specify)

35a. Did you receive one on one brief education of less than 30 minutes or did you receive training with a group of people that lasted more than 1 hour?

Brief education Group training

36. Who else attended the training with you? (please tick all that apply)

No-one, I attended on my own At least 1 family member/friend who use(s) opioids

At least 1 family member/friend who does not use(s) opioids Others: _____(specify)

37. How would you rate the quality of the training you received? (CSQ-1)

Excellent

Good

Fair

Poor

38. How likely are you to recommend the training to a friend?

Extremely likely

Most likely

Somewhat

Unlikely

39. What aspects of the training were the most valuable for you? And why?

40. Have you used any of the skills covered in the training? (Prompts How/Why/Changes in your drug use?/Advised others)

41. What would you like improved on or added to the training? (Prompts How/Why/Overdose prevention section?/Resuscitation section?/Naloxone administration section?)

42. Since you were trained, have you trained anyone else in the use of Prenoxad/Nyxoid/Naloxone?
 YES NO

If Yes, who did you train?

- Partner/husband/wife
- Parent
- Sibling
- Other family member
- Friend
- Housemate
- Colleague
- Other: _____

43. How were you given your supply of 'take home' Prenoxad/Nyxoid/Naloxone?

- At the training
- Prescription collected from a chemist
- Over the counter (without prescription)
- Other, please specify: _____

44. What happened to the Prenoxad/Nyxoid/ Naloxone unit you were given?

- Still have it (full)
- Still have it (not full)
- Lost it
- It has expired
- Used on myself
- Used on someone else
- Other: _____

45. Have there been any problems with the Prenoxad/Nyxoid/Naloxone you received at the education session?

(How did you find/experience the Prenoxad/Nyxoid Naloxone unit? Was there enough naloxone for your purpose?)

46. Where do you keep your Prenoxad/Nyxoid/Naloxone? _____

47. Does anyone know where you keep your Prenoxad/Nyxoid/Nyxoid /Naloxone when you are at home/the place where you live?

Yes No

48. Thinking about the past 3 days, did you carry your Prenoxad/Nyxoid/Naloxone when you went out and about?

Yes No

48a. If Yes, how often did you carry it?

- All of the time
- Most of the time
- Some of the time
- Rarely

49. Which of the following signs indicate an opioid overdose? (Please tick all that apply)

<input type="checkbox"/>	Blood-shot eyes	<input type="checkbox"/>	Fitting/Convulsing/Shaking
<input type="checkbox"/>	Slow/shallow breathing	<input type="checkbox"/>	Deep snoring
<input type="checkbox"/>	Turning blue (e.g. blue lips...)	<input type="checkbox"/>	Pinned pupils
<input type="checkbox"/>	Loss of consciousness / unrousable	<input type="checkbox"/>	Agitated behaviour
<input type="checkbox"/>	Rapid heartbeat	<input type="checkbox"/>	Clammy skin
		<input type="checkbox"/>	Nodding in and out of conversation

50. Which of the following should be done when managing an opioid overdose? (please tick all that apply)

<input type="checkbox"/> Call an ambulance	<input type="checkbox"/> Give stimulants (e.g. black coffee, cocaine etc.)
<input type="checkbox"/> Stay with the person until they come round	<input type="checkbox"/> Shock the person with cold water
<input type="checkbox"/> Inject saline (salt) solution/ milk	<input type="checkbox"/> Perform mouth to mouth resuscitation
<input type="checkbox"/> Place the person in the recovery position (on their side with mouth clear)	<input type="checkbox"/> Give Prenoxad/Nyxoid/Naloxone
<input type="checkbox"/> Stay with the person until the ambulance arrives	<input type="checkbox"/> Check for breathing
<input type="checkbox"/> Check for blocked airway (nose and mouth)	<input type="checkbox"/> Put the person to bed to sleep it off
<input type="checkbox"/> Put the person in a bath	<input type="checkbox"/> Walk the person around the room

51. What is Prenoxad/Nyxoid/Naloxone used for?

<input type="checkbox"/>	To reverse the effects of an opioid overdose (e.g. heroin, methadone)	<input type="checkbox"/>	To reverse the effects of a cocaine overdose
<input type="checkbox"/>	To reverse the effects of an amphetamine overdose	<input type="checkbox"/>	To reverse the effects of any overdose

52. What are the recommended intramuscular injecting sites on the body for Prenoxad/ Naloxone?

1. _____ 2. _____ 3. _____

52a. How do you administer Nyxoid?

53. What is the recovery position?

53a. Interviewer to assess: Did the client describe the recovery position correctly?

YES NO Partly

54. Do you feel confident you would recognise an opioid overdose? YES NO MAYBE

55. Do you know how to manage an opioid overdose? YES NO MAYBE

56. Would you call the ambulance in an opioid overdose situation? YES NO MAYBE

	YES	No	Maybe		YES	NO	Maybe	Under specific circumstances (Please specify)
56 a. Would you be able to check the person's airway and breathing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	56 b. Would you actually do it?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> _____ _____
57 a. Would you be able to give mouth-to-mouth resuscitation if necessary?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	57 b. Would you actually do it?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> _____ _____
58 a. Would you be able to place a person in the recovery position?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	58 b. Would you actually do it?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> _____ _____
59 a. Would you be able to give an injection of Prenoxad/ Naloxone or administer Nyxoid?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	59 b. Would you actually do it?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> _____ _____

C. PERSONAL OVERDOSES

NB: Definition of Overdose

Overdose is defined as any of the following symptoms occurring in conjunction with your drug use: difficulty breathing, turning blue, lost consciousness, unable to be roused, collapsing. Overdose does not mean being 'on the nod'.

60. Have you ever had an opioid overdose? YES NO Not sure/maybe (If no go to Section D)

If yes, how many? _____

61 a. Have you had an opioid overdose *since receiving your Prenoxad/Nyxoid/Naloxone*? YES NO (If no go to Section D)

61 b. If yes, how many _____

61 c. When did you last have an opioid overdose?

- Within the last week
- Within the last month
- Within the last 6 months
- More than 6 months ago

SINCE RECEIVING PRENOXAD/NYXOID/NALOXONE

Please answer the following questions about your most recent overdose experience

I'm going to audio record the next question and I will tell you when the recorder is off. Is that OK?

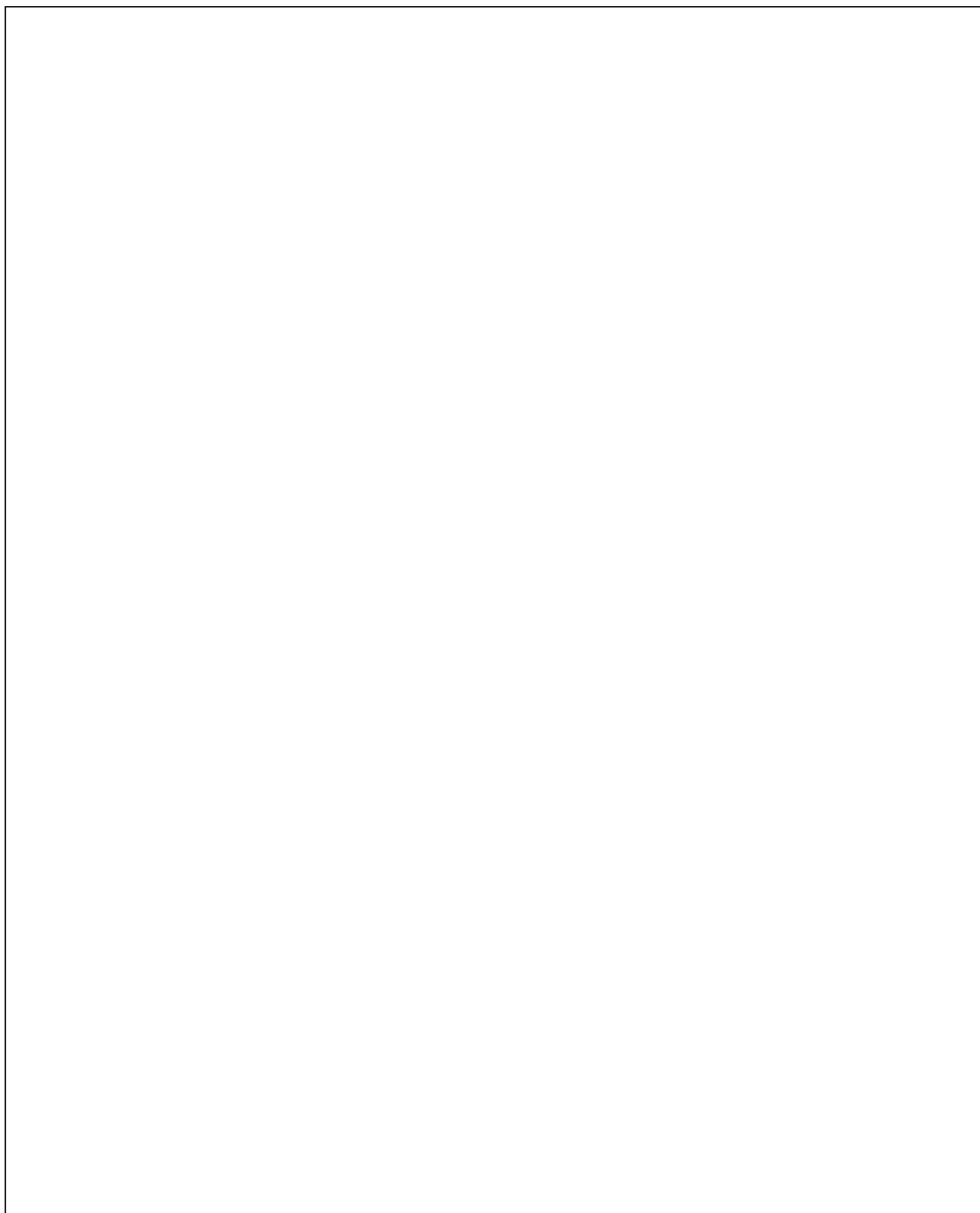
[Begin audio recording]

This is respondent (Interviewer initial / Resp#) / question 61 d.

61 d. Can you describe in your own words what happened the last time you had a drug overdose?

Prompts:

- What happened before you overdosed? What drugs had you been using?
- Had you had recent periods of abstinence due to prison treatment etc?
- Who else was present when you were using?
- What happened when you overdosed (what did others tell you)?
- What happened after you overdosed? Did you go to hospital? Adverse reactions, re-intoxication etc,



Thanks for that. The audio recorder has been turned off. [Stop audio recording] Although you've just given me the story of your last overdose in your own words, I need to ask you some more detailed questions about it so we make sure we get the same information from everyone we interview and don't miss out anything important. I appreciate that this might be a bit repetitive, but are you OK with that?

62. How long after receiving Prenoxad/Nyxoid/Naloxone did you have an overdose?

63. During this overdose was Prenoxad/Nyxoid/Naloxone used to revive you? YES NO

64 a. If yes, to whom did the Prenoxad/Nyxoid/Naloxone belong?

- | | |
|------------------------------------|---|
| <input type="checkbox"/> Myself | <input type="checkbox"/> The person who overdosed |
| <input type="checkbox"/> Ambulance | <input type="checkbox"/> Friend/partner of the person who overdosed |
| <input type="checkbox"/> Stranger | <input type="checkbox"/> Other, please specify: _____ |

64 b. Was the Prenoxad/Nyxoid/Naloxone...?

- prescribed to the person to whom it belonged (skip to question 65)
- prescribed to another person (skip to question 65)
- bought over the counter from a pharmacy without a prescription(skip to question 65)
- Don't know (skip to question 65)

64 c. To whom was the Prenoxad/Nyxoid/Naloxone prescribed?

- | | |
|---|---|
| <input type="checkbox"/> Myself | <input type="checkbox"/> The person who overdosed |
| <input type="checkbox"/> Stranger | <input type="checkbox"/> Friend/partner of the person who overdosed |
| <input type="checkbox"/> Other, please specify: _____ | |

65. Why do you think you overdosed?

- reduced tolerance to opioids please specify: _____
- change in purity, please specify: _____
- mixing drugs (polydrug use), please specify: _____
- other, please specify: _____

66. What happened after the overdose?

- | | |
|--|---|
| <input type="checkbox"/> I was placed in recovery position | <input type="checkbox"/> Ambulance was called |
| <input type="checkbox"/> Police attended | <input type="checkbox"/> Don't know |
| <input type="checkbox"/> I was admitted to hospital | |

67. Who administered the Prenoxad/Nyxoid/Naloxone to you? _____

68. Where on the body was the Prenoxad/Nyxoid/Naloxone injection given?

69. How many Prenoxad/Nyxoid/Naloxone doses were you given during this overdose?

70. How long approx. did it take to regain consciousness following the Prenoxad/Nyxoid/Naloxone was administered to you (if known)?

71. Did you experience any complications or problems from Prenoxad/Nyxoid/Naloxone (other than the symptoms associated with opioid withdrawal)?

YES NO DON'T KNOW

If yes, please describe:

72. In your opinion did the Prenoxad/Nyxoid/Naloxone prevent you dying from an overdose? YES NO
 DON'T KNOW

73. Has the Prenoxad/Nyxoid/Naloxone been replaced?

YES by the organisation that provided it YES over the counter in a pharmacy without a prescription
 YES by prescription in a pharmacy Don't know
 NO If not, why not? _____

D. WITNESSED OVERDOSES

74. Have you ever witnessed an opioid overdose? YES NO (if no go to Section E)

If yes, how many? _____

75 a. Have you witnessed an opioid overdose *since receiving your Prenoxad/Nyxoid/Naloxone*?

YES NO (if no go to Section E)

75 b. If yes, how many _____

75 c. When did you last witness an opioid overdose?

- Within the last week
- Within the last month
- Within the last 6 months
- More than 6 months ago

**Please answer the following questions about the overdose you witnessed
SINCE RECEIVING PRENOXAD/NYXOID/NALOXONE**

I'm going to audio record the next question and I will tell you when the recorder is off. Is that OK?

[Begin audio recording] This is respondent (Interviewer initial / Resp#) / question 75 d.

75 d. Can you describe in your own words what happened the last time you witnessed a drug overdose since receiving Prenoxad/Nyxoid/Naloxone?

Prompts:

- What happened before the overdose?
- What drugs had the person been using?
- Had they had recent periods of abstinence due to prison, treatment, etc?
- Who else was present? What happened when they overdosed?
- What happened after they overdosed? Did they go to hospital? Adverse reactions, re-intoxication, etc?

Thanks for that. The audio recorder has been turned off. [Stop audio recording]

76. How did you recognise that this person had overdosed?

- | | |
|--|---|
| <input type="checkbox"/> Shallow breathing | <input type="checkbox"/> Unresponsive to mild pain |
| <input type="checkbox"/> Pale or blue lips | <input type="checkbox"/> Unconscious |
| <input type="checkbox"/> Pin-point pupils | <input type="checkbox"/> Fitting/Convulsing/Shaking |

77. Why do you think they overdosed?

- Reduced tolerance to opioids
 Change in purity
 Mixed drugs use, please specify: _____
 Other, please specify: _____

78. What actions were taken during the overdose on this occasion? (check all that applies)

<input type="checkbox"/> Called an ambulance	<input type="checkbox"/> Gave stimulants (e.g. black coffee, cocaine etc.)
<input type="checkbox"/> Stayed with the person until they came round	<input type="checkbox"/> Slapped or shook the person
<input type="checkbox"/> Walked the person around the room	<input type="checkbox"/> Shocked the person with cold water or put the person in a bath
<input type="checkbox"/> Injected saline (salt) solution or milk	<input type="checkbox"/> Performed mouth to mouth resuscitation
<input type="checkbox"/> Placed the person in the recovery position (on their side with mouth clear)	<input type="checkbox"/> Gave Prenoxad/Nyxoid/ Naloxone
<input type="checkbox"/> Stayed with the person until the ambulance arrived	<input type="checkbox"/> Admitted to hospital
<input type="checkbox"/> Checked airways for obstruction	<input type="checkbox"/> Checked pulse
<input type="checkbox"/> Checked breathing	<input type="checkbox"/> Put the person in bed to sleep it off

79. Did the person survive the overdose? YES NO

80. Did the police attend? YES NO

81. Was Prenoxad/Nyxoid/Naloxone used to aid resuscitation? YES NO (if no go to Section F)

82 a. To whom did the Prenoxad/Nyxoid/Naloxone belong?

- | | |
|---|---|
| <input type="checkbox"/> Myself | <input type="checkbox"/> The person who overdosed |
| <input type="checkbox"/> Ambulance | <input type="checkbox"/> Friend/partner of the person who overdosed |
| <input type="checkbox"/> Stranger | |
| <input type="checkbox"/> Other, please specify: _____ | |

82 b. Was the Prenoxad/Nyxoid/Naloxone...?

- prescribed to the person to whom it belonged (skip to question 83)
- prescribed to another person (skip to question 83)
- bought over the counter from a pharmacy without a prescription(skip to question 83)
- Don't know (skip to question 83)

82 c. To whom was the Prenoxad/Nyxoid/Naloxone prescribed?

- Myself
- Stranger
- Other, please specify: _____
- The person who overdosed
- Friend/partner of the person who overdosed

83. If an ambulance was called, were the ambulance personnel notified that Prenoxad/Nyxoid/Naloxone had been used?

- YES
- NO
- DON'T KNOW

84. Who administered the Prenoxad/Nyxoid/Naloxone to the person?

85. Where on the body was the Prenoxad/Nyxoid/Naloxone administered?

86. How many Prenoxad/Nyxoid/Naloxone doses were they given?

87. How long approximately did it take for them to regain consciousness? _____

88. Did they experience any complications or problems such as aggression, disoriented from Prenoxad/Nyxoid/Naloxone other than the symptoms associated with opioid withdrawal?

- YES
- NO
- DON'T KNOW

If yes, please describe:

89. If the person survived, in your opinion did the Prenoxad/Nyxoid/Naloxone prevent the person dying from an overdose?

- YES
- NO
- DON'T KNOW

90. Has the Prenoxad/Nyxoid/Naloxone been replaced?

- YES by the organisation that provided it
- YES by prescription in a pharmacy
- YES over the counter in a pharmacy without a prescription
- YES by another service: _____
- Don't know
- NO If not, why not? _____

E. EXPERIENCE OF GIVING PRENOXAD/NYXOID/NALOXONE

These questions are to be answered if YOU have given any of the Prenoxad/Nyxoid/Naloxone you received from the program?

91. How confident did you feel giving Prenoxad/Nyxoid/Naloxone?

very confident quite confident not very confident not at all confident

92. How easy was it to administer the Prenoxad/Nyxoid/Naloxone?

very easy quite easy not very easy not at all easy

93. Was the Prenoxad/Nyxoid/Naloxone training you received useful in this situation?

YES NO DON'T KNOW

94. Do you require additional training or re-training on Prenoxad/Nyxoid/Naloxone use?

YES NO DON'T KNOW

95. If possible, the research team would like to speak to the person who overdosed. Would you be willing to pass on our contact details to that person:

YES NO

If yes, we will provide you with a card with our contact details.

Interview provided card to participant? YES NO

F. CONTACT DETAILS (TO BE KEPT SEPARATELY FROM SURVEY FORM)

Have you experienced or witnessed an opioid overdose where Prenoxad/Nyxoid/Naloxone was used other than those described above?

YES NO

If yes, may the evaluation team contact you? YES NO

Please provide contact details:

Address: _____

Mobile: _____

Landline: _____

Email: _____

THANK YOU VERY MUCH FOR YOUR TIME



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