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Te Tūāpapa Tarukino o Aotearoa

# Emergency opioid overdose intervention: the case for extending access to naloxone.

New Zealand Drug Foundation  
recommendations and issue paper.

[samuel.andrews@drugfoundation.org.nz](mailto:samuel.andrews@drugfoundation.org.nz)

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# Emergency opioid overdose intervention: the case for extending access to naloxone



## New Zealand Drug Foundation recommendations

Based on international best practice and evidence the New Zealand Drug Foundation recommends a range of actions that should be taken to reduce opioid overdose deaths, including increasing access to naloxone. Any action to increase access to naloxone should prioritise the key at-risk groups of: people who inject drugs, recently released prisoners with a history of drug use, and people in treatment for opioid dependence.

The Foundation recommends implementing peer-based overdose prevention **training** through:

- developing a national **training** programme, based on international best practice, specifically tailored to the needs of New Zealand clients
- fully funding Needle Exchange's around New Zealand to carry out peer-based **training** including providing participants with a take-home naloxone kit
- providing peer-based **training** for client groups at Needle Exchange sites, prisons and addiction treatment centres to ensure the most at-risk groups have access to take-home naloxone kits.

To increase access to naloxone the Foundation also recommends:

- that all ambulances and paramedics in New Zealand carry naloxone
- legal protection from arrest for drug possession and  **or** the act of injecting someone for people who administer naloxone in an emergency situation
- reclassifying naloxone as a pharmacist only  **restricted medication**
- that the Ministry of Health improve data collection and analysis of both fatal and non-fatal opioid overdoses to enable evaluation of any overdose prevention initiatives
- that Medsafe investigates additional methods of naloxone administration such as a nasal atomiser
- that the Ministry of Health investigates providing naloxone kits and training in overdose prevention to non-medical emergency services.

# Emergency opioid overdose intervention: the case for extending access to naloxone

## New Zealand Drug Foundation issue paper

An estimated 69,000 people die per year from opioid overdoses and this is an issue of increasing global concern.<sup>1</sup> In New Zealand there are around 37 recorded opioid overdose deaths per year,<sup>2</sup> with the actual number likely to be higher.<sup>3</sup> With higher levels of opioids prescribed for pain management there has been a corresponding rise in related harm from both illicit and licit use of opioids.<sup>4</sup> While New Zealand may not be experiencing a dramatic rise or level of opioid overdose deaths, opioid prescriptions are increasing significantly.<sup>5</sup> International practice shows opioid overdose prevention strategies are essential to reduce increasing overdose deaths.

This paper presents actions that could be taken to extend access to the opioid antagonist drug naloxone. **The objective is to improve the effectiveness of prevention and treatment of opioid harm in New Zealand and particularly reduce overdose deaths.** Long-term opioid overdose prevention and treatment is occurring with substitution treatment, but emergency overdose intervention is lacking. This could be addressed by extending access to naloxone. The options for this are discussed, informed by available evidence and international best practice.

## Naloxone

Naloxone is highly effective at reversing opioid overdoses. It can be administered by intramuscular injection, nasal spray or intravenously and has no significant adverse side effects.<sup>6</sup> It works by taking the place of opioids on the brains' receptors, temporarily stopping all effects of the opioid. Naloxone is only effective for opioid overdoses and begins to reverse overdose symptoms in a few minutes. If the person given naloxone is physically dependent on opioids they may go into withdrawal, but this can be managed through incremental dosing and

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<sup>1</sup> World Health Organisation, *Community management of opioid management*, (WHO, 2014), 1.

<sup>2</sup> Ministry of Health, *Number of accidental poisoning and mental and behavioral disorder deaths where opioid poisoning was recorded on the death record, 2004-2011*, (2015).

<sup>3</sup> Phillip Coffin, "Under estimated and overlooked: A global review of drug overdose and overdose prevention," in *Global State of Harm Reduction 2010: key issues for broadening the response*, ed. Catherine Cook (International Harm Reduction, 2012).

<sup>4</sup> *Community management of opioid management*, 1.

<sup>5</sup> Best Practice Advocacy Centre, "Oxycodone: how did we get here and how do we fix it?" *Best Practice Journal*, 62 (2014).

<sup>6</sup> Hospita, *DBL Naloxone Hydrochloride Injection USP*, (Medsafe, 2012).

observation.<sup>7</sup> Administering naloxone through a nasal spray is just as effective as an injection and mitigates the risk of needle stick injuries, but is currently unavailable in New Zealand.<sup>8</sup>

Naloxone has been used since the 1960s and is listed as an essential medicine by the World Health Organisation (WHO).<sup>9</sup> Over the last 20 years there has been consistent international action to increase naloxone availability beyond hospitals, aiming to reduce preventable deaths. In New Zealand naloxone is currently used mainly by advanced paramedics and in hospitals, although two Needle Exchanges in Christchurch and Dunedin also have the drug on hand. It is available in the form of naloxone hydrochloride for injection, a subsidised prescription-only medicine.<sup>10</sup> There are around 9000 injections of naloxone ordered by medical practitioners per year.<sup>11</sup>

## Opioid overdose

An opioid overdose is characterised by unconsciousness and respiratory depression<sup>12</sup> and can be fatal or non-fatal. Non-fatal overdoses can still bring lasting health consequences and increase the chance of a subsequent fatal overdose.<sup>13</sup> Overdoses are generally witnessed by someone other than the person involved, enabling potential for emergency intervention.<sup>14</sup> Naloxone is used as an emergency measure to prevent a fatal overdose. However, once naloxone is given, further medical treatment should still be provided to prevent relapse as opioids may remain in the body.

In New Zealand there are on average 37 deaths per year recorded as caused by accidental opioid poisoning (2007-2011).<sup>15 16</sup> The most recent complete mortality data available is from 2011 where 39 accidental opioid poisonings were listed. These are only the confirmed overdose figures which are 50% of all drug related deaths per year.<sup>17</sup> Of the remaining drug related deaths, whether

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<sup>7</sup> *Naloxone Hydrochloride Injection*.

<sup>8</sup> *Community management of opioid management*, 12.

<sup>9</sup> World Health Organisation, *WHO List of Essential Medicines*, (2013).

<sup>10</sup> *Naloxone Hydrochloride Injection*.

<sup>11</sup> Ministry of Health, *PHARMAC subsidised, community dispensed, naloxone hydrochloride*, (2015).

<sup>12</sup> World Health Organisation, *Information Sheet on Opioid Overdose* (WHO, 2014).

<sup>13</sup> Frisher, et al. *Preventing opioid overdoses in Europe: A critical assessment of known risk factors and preventative measures*, (EMCDDA, 2012), 19.

<sup>14</sup> Debra Kerr, et al., "Attitudes of Australian Heroin Users to Peer Distribution of Naloxone for Heroin Overdose: Perspectives on Interanasal Administration," *Journal of Urban Health*, 30 (2008): 352.

<sup>15</sup> Ministry of Health, *Number of accidental poisoning and mental and behavioral disorder deaths where opioid poisoning was recorded on the death record, 2004-2011*, (2015).

<sup>16</sup> This data excludes intentional overdoses which are classified as suicide.

<sup>17</sup> Ministry of Health, *Rate of adverse events to opiates in the treatment of chronic pain*, (2015).

accidental opioid overdose was the cause was unknown for a further 47% of these cases.<sup>18</sup> These figures are the best indication of fatal opioid overdose rates, but actual rates are likely higher. Fatal overdose rates are consistently conservative and suffer from “considerable under-reporting.”<sup>19</sup> This is due to the complex combination of factors that can contribute to deaths including the physical cause of death, such as respiratory depression, being recorded rather than opioid poisoning. There may also be reluctance to report the role of opioids in a death due to possible prosecution alongside an unwillingness to acknowledge drug use by families.

The health coding system (ICD-10-AM) used to record injury and fatality in New Zealand also obscures this data as a fatal opioid overdose can be recorded across three distinct codes for ‘accidental poisoning’. Further, this data fails to differentiate between illicit and prescription opioids. Data for non-fatal overdoses can be obtained from hospital discharge figures but the same broad coding system is used and it is likely to include a high level of non-drug related incidences. Better data would give a more accurate indication of the true levels of drug-related harm occurring.

Approximately 1 in 100,000 people in New Zealand die from a fatal opioid overdose each year (based on official 2011 data). This is a relatively low official rate when compared internationally, but nonetheless shows that harm is occurring. The United States (US) had a rate of 5.4 fatal opioid overdoses per 100,000 people based on 2011 data, making overdose a national epidemic.<sup>20</sup> In Australia the rate of fatal opioid overdoses was 4.9 per 100,000 people based on 2010 data.<sup>21</sup> The lower level of fatal overdose in New Zealand can be attributed to lower levels of opioid use, restricted supply due to geographical isolation, consistent quality of available opioids as they are primarily diverted pharmaceuticals, and data limitations.<sup>22</sup> These factors reduce the visibility and extent of the problem, but preventable deaths are still occurring and emergency overdose intervention is needed.

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<sup>18</sup> Ibid.


<sup>19</sup> Coffin, “Under estimated and overlooked: A global review of drug overdose and overdose prevention,” 113.


<sup>20</sup> National Centre for Health Statistics, *Drug-poisoning Deaths Involving Opioid Analgesics: United States, 1999-2011*. (Centre for Disease Control and Prevention, 2014).

<sup>21</sup> A. Roxburgh and L. Burns, *Accidental drug-induced deaths due to opioids in Australia 2010*, (National Drug and Alcohol Research Centre, 2014).

<sup>22</sup> Ministry of Health, *Drug Use in New Zealand: Key Results of the 2007/08 New Zealand Alcohol and Drug Use Survey*, (Ministry of Health: Wellington, 2010).


## Overdose prevention

The United Nations Office on Drugs and Crime (UNODC) and WHO released a 2013  discussion paper on best practice for opioid overdose prevention. These organisations **argued** that fatal overdoses can be “easily averted through the use of naloxone, a safe and non-abusable substance.”<sup>23</sup> The paper recommends the global and systematic implementation of both long-term opioid substitution therapy and emergency overdose prevention with naloxone. This was followed up with guidelines for opioid management in 2014. The major recommendation is to ensure people should have access to naloxone if they are likely to be in a situation where they could administer it to save someone’s life.<sup>24</sup>

Internationally, naloxone is a ‘corner-stone’ of opioid overdose prevention strategies and is frequently an aspect of harm reduction programs.<sup>25</sup> There is consensus on the usefulness of naloxone, with a consistent correlation between increased access to the **drug**  and decreasing overdose deaths.<sup>26 27</sup> **Due to the controversial nature of drug harm reduction and naloxone access,** naloxone programs have been thoroughly evaluated providing a broad evidence base. The current debates around naloxone are not whether to extend access, but the best process to achieve this.

Increased access to naloxone can be realised through:

- a. equipping non-medical emergency services with naloxone
- b. changing the medical classification of naloxone
- c. peer-based training with take-home naloxone kits.

These three broad approaches **are not mutually exclusive**  and are all practiced in various countries. However, action should focus on the groups most at risk of a fatal opioid overdose. For example, while overdose can occur from both illicit and prescription opioids, there are additional risk factors for people who inject opioids, whether the drug is illicit or a diverted pharmaceutical. The three groups most vulnerable to fatal opioid overdose are people who:

- inject opioids

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<sup>23</sup> United Nations Office on Drugs and Crime, *Opioid overdose: preventing and reducing opioid overdose mortality*, (UNODC/WHO, 2013), 7.

<sup>24</sup> *Community management of opioid management*, 9

<sup>25</sup> Coffin, “Under estimated and overlooked: A global review of drug overdose and overdose prevention,” 116.

<sup>26</sup> European Monitoring Centre for Drugs and Drug Addiction, *Preventing fatal overdoses: a systematic review of the effectiveness of take-home naloxone*. (Publications office of the European Union, 2015).

<sup>27</sup> *Opioid overdose: preventing and reducing opioid overdose mortality*.

- are recently released from prison with a history of drug use
- are in treatment for opioid dependence.<sup>28</sup>



Existing demand reduction, treatment and harm reduction effort combined with emergency intervention using naloxone, can form the basis of a comprehensive overdose prevention strategy.

## Options for emergency overdose prevention with naloxone

### a. Emergency services

Providing non-medical emergency services with training to administrate naloxone is an approach primarily adopted in the US. In 13 states some or all emergency services (including police, fire, ambulances/paramedics) carry naloxone and have authority to administer it.<sup>29</sup> Increasing the number of non-paramedic emergency services that have and can give naloxone improves the speed of response, when a minute could be the difference between life and death. In these situations naloxone is normally delivered by intranasal spray as this is an easier method without the risk of needle-stick injuries. As of mid-2014 all New York police officers carry a naloxone kit and are trained in its use.<sup>30</sup>

The New York approach was initially trialled in places with significant levels of opioid overdose. In Indianapolis 93% of police officers had attended an overdose in the past year<sup>31</sup>, as had 64% of police officers in Seattle.<sup>32</sup> The attitudes of police officers in these areas who were given naloxone training were generally positive as they were now able to respond to an overdose with a lifesaving tool.<sup>33</sup> People who access naloxone in this manner must also engage with emergency services and this ensures they will receive medical attention post overdose. This approach also enables broader access to naloxone as it is available in the widest range of emergency situations. Across the US studies there was generally a decrease in overdose fatalities where emergency

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<sup>28</sup> *Opioid overdose: preventing and reducing opioid overdose mortality*, 5-6.

<sup>29</sup> Corey Davis et al., “Expanding Access to Naloxone Among Firefighters, Police Officers, and Emergency Medical Technicians in Massachusetts,” *American Journal of Public Health*, 104 (2014): 7.

<sup>30</sup> “Community Overdose Prevention (COP) Program,” *New York State Office of the Attorney General*, (2014). <http://www.ag.ny.gov/feature/community-overdose-prevention-program-cop-program>.

<sup>31</sup> Bradley Ray, Daniel O'Donnell and Kailyn Kahre, “Police officer attitudes towards intranasal naloxone training,” *Drug and Alcohol Dependence*, 146 (2015): 108.

<sup>32</sup> Caleb Banta-Green, et al., “Police Officers’ and Paramedics’ Experiences with Overdose and Their Knowledge and Opinions of Washington States’ Drug Overdose-Naloxone-Good Samaritan Law,” *Journal of Urban Health*, 90 (2013): 1102.

<sup>33</sup> “Police officer attitudes towards intranasal naloxone training.”

services were equipped with naloxone.<sup>34</sup> Another benefit was improved relationships between law enforcement and people who use drugs, as officers began to play a harm reduction role.<sup>35</sup>

While the emergency services approach has been effective in the US, it may have more limited effectiveness elsewhere. For this approach to work there needs to be real or perceived protection from arrest for drug possession, alongside a willingness by the emergency services to provide support. In the US ‘good Samaritan’ laws have been implemented to protect anyone who provides naloxone and ensure people are not arrested for drug possession in an emergency situation.<sup>36</sup> However, **these laws can be politically controversial** and a Washington-based study found low awareness of the laws and inconsistent compliance by enforcement officials.<sup>37</sup>

In New Zealand there is a high level of mistrust between the communities most at risk of overdose and police, and there is a perception that police may attend a situation where an ambulance has been called to respond to a drug overdose. This reduces the likelihood of success from this approach with a resulting unwillingness for drug users to contact emergency services and provide full information in the case of overdose. The fact that only advanced paramedics carry naloxone in New Zealand further complicates this situation as calling for medical help may not even ensure the person overdosing will get the necessary treatment. Providing emergency services with naloxone may improve the relationship between these services and people who use drugs. However, in relying solely on emergency service intervention the ability of people who use drugs (eg peers of the overdose victim) to **respond themselves is diminished.**

## **b. Medical reclassification of naloxone**

A broad intervention to increase access to naloxone is through medical reclassification, to make it more easily available directly to consumers. In New Zealand naloxone is currently classified as a prescription medicine that is *only* available through a Practitioner Supply Orders (PSO), five injections at a time. With a PSO doctors order a ‘stockpile’ of medication which they can use when necessary without the time or cost barriers of separate prescriptions for multiple users. A similar example of this approach is condom provision where under a PSO doctors can give free condoms to particular patient groups as a preventative health measure. Under PSO guidelines, naloxone is available for “emergency use, teaching and demonstration purposes and for

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<sup>34</sup> *Opioid overdose: preventing and reducing opioid overdose mortality*, 14.

<sup>35</sup> Davis, “Expanding Access to Naloxone Among Firefighters, Police Officers, and Emergency Medical Technicians in Massachusetts,” 8.

<sup>36</sup> *Opioid overdose: preventing and reducing opioid overdose mortality*, 15.

<sup>37</sup> “Police Officers’ and Paramedics’ Experiences with Overdose,” 1102.



provision to certain patient groups where individual prescriptions are not practicable.<sup>38</sup>

Naloxone could technically be made widely available for ‘patient groups’ (such as people who inject drugs) as a preventative health measure, however this is under doctor’s discretion and does not appear to be common practice. The table below outlines New Zealand’s medical classification system and where naloxone currently sits.

New Zealand medicine classification system <sup>39</sup>		
Classification	Access	Example
Controlled drug (CD)	Illegal under the Misuse of Drugs Act but some drugs can be prescribed in certain situations	Dexamphetamine (Class B drug and ADHD medication)
Prescription Only (Rx)	GP prescription or doctor’s standing orders	Oxycodone
Practitioner Supply Order (PSO)	Medical emergency/training or particular patient groups	Condoms Naloxone (PSO only)
Pharmacist Only/Restricted (R)	Pharmacist consultation	Epi-pen (adrenaline)
Pharmacy Only (P)	Over the counter in a pharmacy	Benzoyl peroxide (5%-10%, acne medication)
General Sale (G)	Any retailer	Paracetamol

The less formally restrictive medical classification that could be considered for naloxone is making it a pharmacist only (restricted) or pharmacy only medication, increasing the ease of access. Naloxone was reclassified in Italy where it became an over-the-counter medicine in 1995 but this action has not been evaluated.<sup>40</sup> In Pittsburgh, US, pharmacists advise patients on opioid pain medication about the risks of opioid overdose and can give them naloxone prescription.<sup>41</sup> In Australia a major recommendation for overdose prevention has been to change naloxone to a

<sup>38</sup> “Glossary.” PHARMAC. Updated April 2015. <http://www.pharmac.health.nz/tools-resources/glossary/>.

<sup>39</sup> “Classification and Criteria,” Medsafe. Updated August 2013. <http://www.medsafe.govt.nz/profs/class/classificationCategoriesAndCriteria.asp>.

<sup>40</sup> *Preventing fatal overdoses: a systematic review of the effectiveness of take-home naloxone*, 13.

<sup>41</sup> “Case Studies: Pharmacy,” *Naloxone Info*. Accessed February 2015. <http://www.naloxoneinfo.org/case-studies/pharmacies>.

pharmacist-only, and in time a pharmacy-only medication but this has yet to be implemented.<sup>42</sup> This broad intervention approach is useful for ensuring that concerned friends, family members and fellow drug users can have naloxone on hand where necessary. Further, with pharmacies being key providers, access is extended to people taking prescription opioids who would not necessarily be involved in other drug services.

The initial reclassification of naloxone in New Zealand would be to make it a pharmacist only (restricted) medication. This is currently done for adrenaline via Epi-pens, to enable access without the barriers of doctor's visits and associated costs.<sup>43</sup> A restricted classification also ensures people must meet specific criteria and receive a consultation from the pharmacist. The mandatory consultation could be equivalent to a brief training in naloxone administration, which is proven as effective.<sup>44</sup> Under this approach, access naloxone could be restricted to the three key risk groups of: people who inject drugs; recently released prisoners; and people in opioid substitution treatment. A pharmacy only classification would make naloxone more accessible again, but this foresees an opportunity for brief training in overdose prevention and naloxone administration.<sup>45</sup>

Increasing the availability of naloxone through re-classification does not directly target the most at risk groups and an educational outreach campaign would be needed to increase awareness of naloxone's availability. Progressing this intervention also requires the medical profession to value naloxone's harm reduction benefit, yet research indicates a reluctance to accept this.<sup>46</sup> Re-classification appears more suited as a complementary action, once more targeted interventions bringing naloxone to the most at risk groups are in place.

### **c. Peer-based training**

Peer-based training in overdose prevention and naloxone administration is a third important option for extending access. This harm reduction approach gives people who use drugs the knowledge and tools themselves to help prevent overdose deaths. They can save the lives of

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<sup>42</sup> Anex, *Australian Drug Policy: Lifesavers – access to naloxone to reduce opioid overdose-related deaths and morbidity*, (Melbourne, 2012).

<sup>43</sup> "Classification Categories and Criteria."

<sup>44</sup> Emily Behar et al., "Brief overdose intervention is sufficient for naloxone distribution to opioid users," *Drug and Alcohol Dependence*, 148 (2015).

<sup>45</sup> "Classification Categories and Criteria."

<sup>46</sup> Traci Green et al., "Barriers to Medical Provider Support for Prescription naloxone as Overdose Antidote for Lay Responders," *Substances Use & Misuse*, 45 (2013).

their peers and in turn rely on their peers if they need help, which is likely to empower these marginalised communities.<sup>47</sup>

The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) did a comprehensive literature review to determine the effectiveness of peer-based training.<sup>48</sup> The findings indicate that “educational and training interventions complemented by take-home naloxone decrease overdose-related mortality.”<sup>49</sup> Further, there was a correlation between training received and increased knowledge and practice of appropriate overdose prevention.<sup>50</sup> The US, Canada, Scotland, Wales and Australia have all implemented variations of a naloxone peer-based training program.<sup>51</sup>

Most peer-based training is carried out by organisations with an established relationship with communities of people who use drugs. The training specifics vary but they generally involve groups of six or less, are between 20 minutes and three hours and focus on risks, identification and prevention of overdoses. Only the third part of the training covers naloxone and it is generally discussed as a tool to prevent overdose fatality, alongside a demonstration on use. It is common practice for the training to be followed by a brief test and if the participants show the necessary understanding then they are given a take-home naloxone kit. The ability to provide the kit depends on naloxone’s legal status in that country. Peer-based training is generally implemented as a thoroughly evaluated regional trial with the potential for up-scaling to a national rollout upon positive outcomes.

Peer-based training is effective as it directly engages with the hard-to-reach community of people who inject drugs. Studies on the attitudes of people who use drugs indicate a willingness to receive training and use naloxone to prevent fatal overdoses.<sup>52</sup> <sup>53</sup> Evaluations of training programs found high levels of knowledge retention on all aspects of overdose prevention, both three months<sup>54</sup> and six months after training.<sup>55</sup> The most recent evidence suggests that brief five

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<sup>47</sup> Susan Sherman et al., “‘The life they save may be mine’: Diffusion of overdose prevention information from a city sponsored programme,” *International Journal of Drug Policy*, 20 (2009).

<sup>48</sup> *Preventing fatal overdoses: a systematic review of the effectiveness of take-home naloxone.*

<sup>49</sup> *Ibid*, 1.

<sup>50</sup> *Ibid*, 11.

<sup>51</sup> *Opioid overdose: preventing and reducing opioid overdose mortality.*

<sup>52</sup> Tara Lagu, Bradley Anderson and Michael Stein, “Overdoses among friends: drug users willing to administer naloxone to others,” *Journal of Substance Abuse Treatment*, 30 (2006).

<sup>53</sup> “Attitudes of Australian Heroin Users to Peer Distribution of Naloxone”

<sup>54</sup> John Strang et al., “Overdose training and take-home naloxone for opiate users: prospective cohort study of impact on knowledge and attitudes and subsequent management of overdoses,” *Addiction*, 103 (2008).

<sup>55</sup> Romina Lopez Gaston et al., “Can we prevent drug related deaths by training opioid users to recognise and manage overdoses?” *Harm Reduction Journal*, 6 (2009).



to ten minute, one-on-one training, is also just as effective as longer sessions.<sup>56</sup> Further, there is high potential for ‘organic’ dissemination of appropriate overdose prevention responses in these communities with evidence of the information being passed on<sup>57</sup> and getting this training becoming a social norm.<sup>58</sup> Overdose prevention training without naloxone is much more limited as it does not include a key tool enabling participants to take direct action in an emergency.

The first example of a nationally established naloxone program is in Scotland, which after two thoroughly evaluated regional pilots had a national rollout in 2010.<sup>59</sup> The national naloxone program has been more successful in reducing overdose fatalities than non-naloxone overdose prevention training alone.<sup>60</sup> Having a national program also enabled strong standards for training and centralised resource production and distribution.

Australia has recently extended access to naloxone through peer-based training programs. Such programs were nearly implemented in the early 2000s, but the heroin supply fell and the need for naloxone was no longer seen as urgent.<sup>61</sup> The catalyst for the recent implementation of these programs was Anex’s<sup>62</sup> paper ‘Lifesavers’ a position paper on access to naloxone for potential opioid overdose witnesses. The paper advocated for medical reclassification of naloxone and peer-based training in needle exchanges, prisons and treatment centres.<sup>63</sup> The Australian Medical Council endorsed the approach and in December 2012 the Australian Capital Territory (ACT) was given permission to carry out a pilot program.<sup>64</sup> Peer-based training now occurs in five Australian states with the initial findings positive.<sup>65</sup> The ACT program ensured the barriers of price and the prescription-only classification of naloxone were mitigated through free on-site provision of the take-home kits under doctor’s standing orders and a \$20 incentive for attending the training.<sup>66</sup> The initial evaluation found the program saved lives with naloxone being used to

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<sup>56</sup> “Brief overdose intervention is sufficient for naloxone distribution to opioid users,” 209.

<sup>57</sup> “Can we prevent drug related deaths by training opioid users”

<sup>58</sup> Karla Wagner et al., “Personal Social Network Factors Associated with Overdose Prevention Training Participation,” *Substance Use & Misuse*, 48 (2013).

<sup>59</sup> Andrew McAuley et al., “From evidence to policy: The Scottish national naloxone programme,” *Drugs: education, prevention and policy*, 19 (2012).

<sup>60</sup> Glenys Watt et al., *Service Evaluation of Scotland’s National Take-Home Naloxone Programme*, (Scottish Government Social Research, 2014).

<sup>61</sup> Simon Lenton et al., “Working together: expanding the availability of naloxone for peer administration to prevent opioid overdose deaths in the Australian Capital Territory and beyond,” *Drug and Alcohol Review*, (2014): 1.

<sup>62</sup> Australian non-profit organisation focused on drug harm minimisation.

<sup>63</sup> *Lifesavers – access to naloxone to reduce opioid overdose-related deaths and morbidity*

<sup>64</sup> “Working together: expanding the availability of naloxone for peer administration.”

<sup>65</sup> *Ibid*, 6.

<sup>66</sup> *Ibid*, 4.

successfully reverse 23 overdoses, alongside participants having improved knowledge of overdose prevention.<sup>67</sup>

A consistently identified limitation of peer-based training and take-home kits is when naloxone provision substitutes medical attention. For the short period in which naloxone is acting to prevent an overdose, medical observation is necessary as another dose may be required to prevent relapse.<sup>68</sup> An evaluation of the Pittsburgh naloxone program found that an ambulance was called in a mere 10% of the 249 overdoses where naloxone was given.<sup>69</sup> In Scotland and the ACT the frequency of calling an ambulance was still only 50%<sup>70 71</sup> but was 74% in New York.<sup>72</sup> Rates of medical professional involvement in overdoses where naloxone is given are likely linked to the chance of arrest if emergency or medical services are called.<sup>73</sup> Lack of medical involvement can be mitigated by 'good Samaritan' laws, agreed protocols with emergency services, particularly law enforcement officials, and through emphasis in training on the need for medical attention after naloxone is given.

In New Zealand a peer-based program would most appropriately be carried out by the Needle Exchange Programme. Needle exchanges use a peer-based model to provide sterile injecting equipment and have positive, established relationships with local communities of people who inject drugs. Following the ACT model, peer-workers can be trained to provide overdose prevention training to clients, including naloxone administration. With naloxone's PSO status, it appears that if a doctor was supervising (or running) the training, participants could be provided with take-home naloxone. Ideally this would be part of an overdose prevention kit containing: two naloxone injections, a rescue breathing mask and detailed information on overdose prevention, naloxone administration and post-overdose care. The cost of these kits is likely to be around \$10 per participant (with the subsidised formulation) with additional costs of the trainer's time and program development. Outreach training can also take peer-based training and naloxone kits to prisons and opioid substitution treatment centres, covering the other at-risk groups.

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<sup>67</sup> Anna Olsen et al., *Key Interim Findings – Independent evaluation of the 'Implementing Expanding Naloxone Availability in the ACT (IENAACT)' Program, 2011-2013*, (ACT Health, 2014).

<sup>68</sup> *Naloxone Hydrochloride Injection*.

<sup>69</sup> Alex Bennett et al., "Characteristics of an Overdose Prevention Response and Naloxone Distribution Program in Pittsburgh and Allegheny County, Pennsylvania," *Journal of Urban Health*, 88 (2011).

<sup>70</sup> "From evidence to policy: The Scottish national naloxone programme."

<sup>71</sup> *Independent evaluation of the 'Implementing Expanding Naloxone Availability in the ACT (IENAACT)' Program*

<sup>72</sup> Tinka Piper et al., "Evaluation of a Naloxone Distribution and Administration Program in New York City," *Substance Use & Misuse*, 43 (2008).

<sup>73</sup> *Preventing opioid overdoses in Europe: A critical assessment of known risk factors and preventative measures*, 21.

Peer-based training should be able to be a standalone measure within current legal frameworks, only requiring funding and official endorsement. Providing peer-based training on overdose prevention is also an opportunity for needle exchanges to develop their relationship with clients and increasingly become a centre of primary care for these hard-to-reach communities.

## Opposition to naloxone

Opposition to wider access for naloxone appears to centre on the assumption that having naloxone as an emergency intervention will lead to greater risk taking behaviour (ie less care in using and higher rates of opiate use) as there is a ‘medical safety net’ for overdose.<sup>74</sup> However, this moral hazard argument is limited given that overdose is predominantly accidental, with most drug users seeking a positive experience. Naloxone also stops the desired effect of the opioid (the ‘high’) and produces no ‘high’ itself, removing the incentive to use naloxone for a reason other than to combat an overdose. Further, research suggests that surviving an overdose due to naloxone increases the likelihood of the person involved reducing drug use and seeking treatment.<sup>75</sup>

There may also be views that wider access is not necessary with naloxone already available in hospitals and with advanced paramedics. Yet if lives can be saved by having naloxone more widely available as a cost effective intervention when and where needed,<sup>76</sup> the argument to retain sole medical authority of this drug is unjustified.

## Conclusion

Naloxone is a very safe drug that is effective in reducing deaths from opioid overdose. Extending access is an efficient preventative health intervention to directly address drug-related harm. If access to naloxone is increased, a corresponding decrease in opioid overdose deaths can be expected.<sup>77</sup> The New Zealand Drug Foundation considers that there is a strong argument that access to naloxone should be extended beyond its currently limited availability to avoid preventable deaths.



This paper has outlined three distinct and potentially complementary methods of increasing access to naloxone. The first is by emergency services being authorised to use naloxone when

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<sup>74</sup> “Barriers to Medical Provider Support for Prescription naloxone as Overdose Antidote for Lay Responders,” 560.

<sup>75</sup> Karen Seal et al., Naloxone Distribution and Cardiopulmonary Resuscitation Training for Injection Drug Users to Prevent Heroin Overdose Death: A Pilot Intervention Study,” *Journal of Urban Health*, 82 (2005) 308.

<sup>76</sup> Phillip Coffin and Sean Sullivan, “Cost-Effectiveness of Distributing Naloxone to Heroin Users for Lay Overdose Reversal,” *Annals of Internal Medicine*, 158 (2013).

<sup>77</sup> Ibid.

and where needed. This ensures naloxone is available in emergency situations but would require improved trust between police and at-risk groups. The second option of re-classifying naloxone and making it available in pharmacies is the broadest intervention that relies on people being aware of naloxone and proactively getting it from a pharmacy. The third approach of peer-based training with take-home naloxone kits provides the drug using community with both the knowledge and tools to reduce opioid overdoses. This method most clearly targets the at-risk communities and can be provided through Needle Exchanges. Peer-based training requires the most resources to implement but it is emerging as best practice. All the above options have legal/regulatory and social barriers to overcome, but a combination of some or all are likely to be effective to extend access to naloxone, improve emergency opioid overdose prevention, and save lives.

There are also ways access to naloxone can immediately be increased. It is logical for naloxone to be a medication easily available to all people engaging with addiction services. All ambulances and paramedics, not just advanced paramedics, should also carry naloxone, especially when there is a fear to explicitly mention an opioid overdose by drug user communities when calling for help. Finally, the nasal spray method of delivering naloxone warrants consideration for use in New Zealand as it is more user-friendly, just as effective and reduces risk of needle-stick injuries.<sup>78</sup>

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<sup>78</sup> *Community management of opioid management*, 12

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