

Simple action 7

Transforming instructions for overdose emergency kits

The Simplification Centre is a registered charity established to campaign for and demonstrate clearer information.

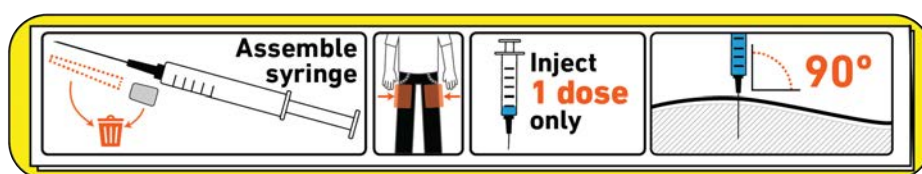
Our Simple Actions bring together volunteer designers and writers to tackle communication problems no one appears to own.

The idea is to demonstrate how much better things can be, and to provide models of good practice.

This Simple Action day was held in London, 31 March 2017, and attended by Daniel Alford, John Alexander, David Dickinson, Tomoko Furukawa, Pat Kahn, Sol Kawage, Shannon Lattin, Suki Law, Eleanor Smith, Conrad Taylor, Stephanie Vandenberg, Dhanika Vansia, and Rob Waller.

The workshop was led by Stephanie Vandenberg and Rob Waller, who edited this report. Content was also contributed by David Dickinson, Tomoko Furukawa, Suki Law and Conrad Taylor.

We were grateful for the expert input of Martin McCusker, a member of the Lambeth Service User Council and the International Network of People Who Use Drugs.



Opioid overdoses are an increasing issue. They are life threatening and recognizable, but more importantly, they are treatable with an antidote called naloxone which can save lives.

For years, street nurses and paramedics have carried injectable naloxone with them for emergencies where someone looks like they have overdosed. It can literally save the patient's life by reversing the effects of overdose for long enough for an ambulance to arrive and for a person to get further medical help.

However, because of laws and stigma around drug use, people are sometimes reluctant to call emergency services. The solution has been to make these antidote kits easily available to the general public – not only to paramedics but also to drug users, support networks for drug users, or places where people may routinely or periodically use drugs, such as clubs, hostels or other venues.

So injections may have to be given in difficult environments by people who are untrained, rushed and stressed. This makes the instructions critically important.

Background: the opioid issue

'Opiates' or 'opioids'?

The term 'opiates' refers to natural forms derived from opium, while 'opioids' is a more general term that also applies to synthetic forms.

How do opioids work?

Opioids work by blocking the specific receptors in the brain that are responsible for how someone experiences pain. Once the opioid attaches to the receptor, the nerve cells send messages to the brain that alter the way that pain is perceived. Thus the person who has taken the drug experiences less pain. By blocking the receptor sites, the opioids mute the perception of pain. The receptors are also responsible for other side effects of opioids – sleepiness, eye pupils reduced in size, feelings of euphoria, lower blood and slower breathing.

In an overdose situation, so many receptors are so filled with opioid that the side effects become more dominant, specifically the effect on breathing. The person starts to breathe shallowly and may even stop breathing, causing unconsciousness and, if untreated, death.

There is a significant issue with drug overdose in North America and increasingly in Europe, specifically with opioids (for example, heroin, morphine fentanyl, methadone and oxycodone, in tablet and injectable form). Opioids are a group of medications that have been used to treat pain for centuries. They originally came from opium poppies, but many newer kinds of opioids have been designed and made in the laboratory. Doctors can prescribe opioids for specific painful health conditions.

Because of the way they work on the body and brain, opioids can also make people feel an incredible sense of well-being and happiness, known as euphoria. Some people can become dependent on the pain relieving effects or the euphoric effects and suffer even worse pain or other distressing withdrawal symptoms if they stop using it, even for a few hours. This can happen both in the case where a doctor has prescribed medications and has changed the dose, or if a person is using opioids recreationally without a prescription. It can also be the case where the body builds up a tolerance (needs more of the same drug to get the same effect).

Opioids are available by prescription and/or may be purchased from the black market (online or from a drug dealer). In cases where they are bought on the black market, it is difficult to determine how much of the opioid substance is present in the drug bought as there are no quality control measures or regulations on illegal opioids. Therefore, tablets may contain synthetic opioids which are much stronger than the user expects. It may also be the case that a user is purchasing a different kind of drug, like cocaine or ecstasy (MDMA) and the dealer/supplier mixing up the drug has put opioids into the cocaine or ecstasy without the user even knowing.

In the United Kingdom, deaths from opioid overdoses have doubled in the past three years.¹ In the United States, figures have been escalating for longer and more people now die from drug overdoses than in motor vehicle accidents or gun deaths.²

About naloxone

Naloxone is unusually specific in its action. It very swiftly flushes the opioid molecules off the receptor sites, so that the brain begins quickly to respond as if the opioid were no longer there. However,

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1 Source: Office for National Statistics, 2016

2 Source: Centers for Disease Control and Prevention. <https://blogs.cdc.gov/nchs-data-visualization/drug-poisoning-mortality/>

the opioid is still in the bloodstream, and the narcotic effect will re-establish itself in about 20 minutes. But this is often enough of a window of opportunity to allow medical help to arrive.

Naloxone has no other serious effects, and no possible recreational use, so it is not a controlled drug (and it is on the WHO's List of Essential Medicines). If you suspect overdose, you should use naloxone, because if you guessed wrong it's not going to have a negative effect.

Increasingly, naloxone has been put into the hands of first responders, including drug support workers. There is no strong reason why ready-to-use naloxone kits may not be disseminated more widely, with appropriate training – for example, to first aiders at night clubs, hostel workers, the families of heroin users, or drug users themselves.

How information design can help

People often die from opioid overdoses because other people do not know what to do to help. Health agencies have begun distributing antidote kits widely which has led to a new challenge – that antidote kits may be used by people who have received little or no training. Some may encounter the instructions for the first time when there is an emergency and they need to give an injection urgently to someone who has passed out.

A re-design would make the antidote more user friendly so that people who use and misuse drugs, even on an occasional and recreational basis, can survive overdose.

Thirteen people came to our Simple Action day, including David Dickinson of Consumption Ltd, an expert on pharmaceutical information, and several information designers and students of information design. Stephanie VandenBerg, one of the workshop leaders, is an emergency physician with expertise in this topic, and she also invited Martin McCusker, a member of the Lambeth Service User Council and the International Network of People Who Use Drugs. Martin gave us invaluable first hand insight into the issues.

Discovery/Transforming/Making: a design method

We adopted a simple three stage method – Discovery, Transforming, Making. Also used in the Information Design Summer School, and on the Reading University information design MA programme, this method discourages you from diving straight into finished solutions, with the risk of missing essential issues. It helps you to reflect on alternative approaches, and to avoid being over-defensive of solutions in which you've invested significant time. It also detaches design thinking from design execution (that is, the detailed design of graphics, typography and layout that requires software skills and design training).

Discovery is researching the problem, including communication objectives, user journeys, contexts of use, technical constraints and opportunities. We critique current solutions, and identify constraints we need to be aware of.

Transforming means thinking creatively about solutions – sketching, brainstorming, experimenting. At this stage we try not to be too concerned with production technologies.

Making is the final creation of the finished solution. Now the concern is to preserve the essence of the transformed idea, while finally acknowledging the realities of production, branding, regulations and so on.

The process is to a large extent cyclical – it's important to revisit Discovery following Making, in the form of user-testing. And it's equally important to collect performance data following launch, and following significant revision.

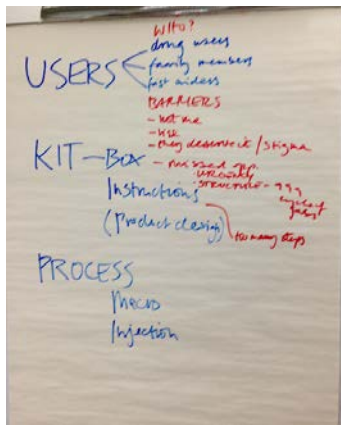
We broke into three groups, coming together to compare notes between stages.

Martin McCusker



Discovery: what we found

Martin McCusker and Stephanie VandenBerg introduced the issue, presented us with different aspects of the design challenge, showed us samples of the emergency kits and answered our questions. Then we divided into three groups for the workshop, and the account that follows is an amalgam of the different groups' work.



Who uses the naloxone kit?

We started by identifying different types of users of the kit:

- *insiders* – for example, a drug user who has witnessed or experienced multiple overdoses. Many will be very familiar with naloxone, and they may even have an emergency kit. They will be unafraid of injections, familiar with symptoms and will use street terms for drugs and drug events. They may or may not have experienced an overdose themselves or even had friends or fellow users die after an overdose. So they may experience many different emotions around the topic of overdose.
- *first aiders* include a range of professionals who might have to deal with people who have overdosed. These include police and paramedics, and also hostel managers, bar or club workers, school staff, pharmacists, sporting event staff, supermarket managers and others. They will have had first aid training, include some awareness about overdose emergencies, and will be familiar with the recovery position, although they may not have used naloxone kits regularly or at all. Although professionals, they too experience many different emotions around the topic of overdose.
- *others*: people with no training or expectation they might find themselves dealing with an overdose. They might happen to be present and find it in a first aid kit, and they may be a friend or family member who is unaware the patient is a drug user. Until an overdose emergency arises they have probably never heard of naloxone or seen an overdose kit. They may experience shock, panic, and confusion.

In the redesign exercise we focused on this last group, since they have the least expertise and are completely reliant on the information provided with the kit.

The wider context

It became clear from the expert briefing that the communication problem is wider than just the emergency kit. There is an issue of emergency preparedness – people need to know how to recognise an overdose. And the emergency response itself involves more than the kit. Responders need to call for an ambulance (112 or 999 in the UK), they need to place the patient in the recovery position, and they may need to give CPR (cardiopulmonary resuscitation: rescue breathing – the ‘kiss of life’ – with heart massage.)

Given the time available, we decided to assume a few key steps in the response pathway had already taken place. Specifically, we

assumed that the helper could recognize an opioid overdose and see or find a naloxone kit.

The injection kit

The injection kit requires the following actions:

- open the naloxone kit
- unscrew a plastic cap from the top of the syringe (which is prefilled with naloxone)
- unwrap the needle by peeling the backing paper away
- screw the needle onto the syringe
- remove the sheath from the needle by gently twisting it
- insert into the patient's thigh or upper arm (it is not necessary to pull clothing back)
- give just one dose (marked on the side of the syringe)
- wait two minutes and if no response repeat the dose.

The wider task also involves calling an ambulance, assessing breathing, possibly administering CPR, and moving the patient into the recovery position.

So we have a coming together of different sources of stress:

- lack of training and experience
- the need to assemble the syringe from small parts
- fear of needles and injections
- fear of hurting the person further
- issues of timing and sequencing
- intimate contact with a stranger
- possible unfamiliarity with drugs, drug-users and overdoses.

Now we can refine our view of the inexperienced user. They will be not only inexperienced but probably highly stressed.

Stress is known to impair cognition¹ and information designers can help by providing clear short steps, with minimal memory load, and removing distractors and sources of ambiguity.

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1 Vytal, K., Cornwell, B., Arkin, N., Letkiewicz, A., Grillon, C., 2013. The complex interaction between anxiety and cognition: insight from spatial and verbal working memory. *Frontiers in Human Neuroscience*, 7:93.

Seeking the manufacturer's view

Following our Simple Action day, we have reached out to this particular manufacturer. They operate in a highly regulated environment, and belong to an industry with a high regard for compliance, so we are interested in their insight about the constraints and challenges they face. We will published their response in a future edition of this report.

In addition to the package leaflet, Martindale Pharma publish a dedicated website with detailed information and guides aimed at a number of different audiences: www.prenoxadInjection.com/

Figures 1–4 show a naloxone kit commonly used in the UK.

Figure 1. Top of the pack

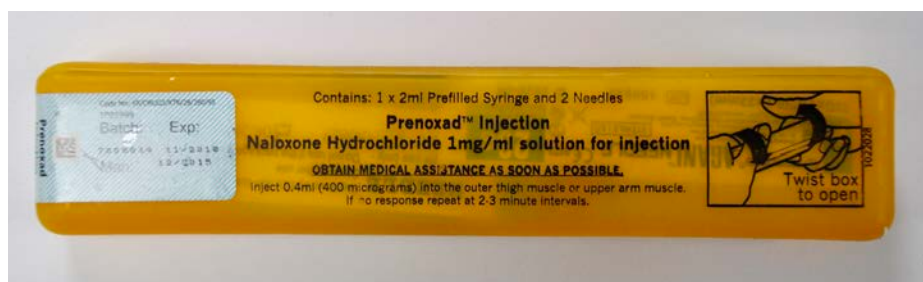


Figure 2. Base of the pack

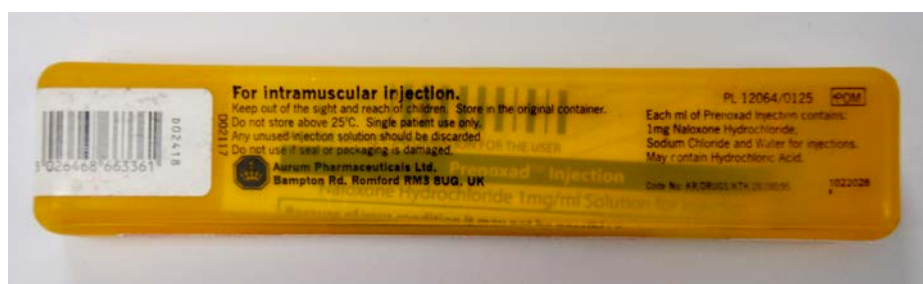


Figure 3. The open box, showing the syringe held in place by an integral clip, two needles, and the instruction leaflet.



Figure 4. The syringe, with marked doses.



Problems with the pack

The group soon identified potential problems with the pack:

- The generic term ‘naloxone’ is used in public information and training, but the brand name ‘Prenoxad’ is given priority here.
- There are too many words on the pack, mostly written in a technical style and printed in small type, on translucent plastic. There is little graphic discrimination between key information needed in emergencies, and other things such as the manufacturer’s address, storage instructions, pack contents and so on. Some of the information is prescribed by regulations, but we chose to take a purely functional perspective here.
- The packaging does not convey a sense of emergency – it is not clear what the kit is for, and does not encourage an action.
- The brief instruction on the lid is a missed opportunity, as it is (nearly) an excellent summary of the key actions. It reads ‘Inject 0.4ml (400 micrograms) into the outer thigh muscle or upper arm muscle. If no response repeat at 2–3 minute intervals.’

Product design issues

Some of the problems would require a product design solution, going beyond an information designer’s brief:

- Although the pack is physically easy to open (twist it to snap it open), this would not be obvious to untrained people. So for them, physical ease is achieved at the expense of cognitive difficulty.
- Although naloxone needs to be administered one dose at a time, there are five doses in one syringe. There is a risk of administering too much, which might bring someone round too quickly and in a state of shock. It would also be wasteful, since the naloxone effect wears off after around 20 minutes, and a further dose may be needed if the ambulance has not arrived. The group suggested that each dose could be signalled by a click and physical resistance.
- Assembling the needle is fiddly. The instructions could be made clearer if colour coding were used (coloured plastic in the syringe, and coloured ink in the instructions).
- Exposed needles may provoke fear and present other psychological barriers. A design like the EpiPen has no visible needles – and our experts reported that such a system is in use in some places.

The instructions

The kit includes an instruction sheet, poorly printed on thin paper. This is shown in Figures 5–7 along with our critique.

Figure 5. The front of the leaflet.

- The package information leaflet is a regulated necessity, but we don't believe this means it can't be sensibly structured and considerably designed.
- The box at the start makes the point that the patient (addressed as 'you') won't be able to read the leaflet, because they have overdosed. This is not as odd as it seems – it points out that the patient may need the information later – for example, to read about side effects.
- The leaflet identifies two audiences: the patient and the helper, but fails to reflect this in the structure of the leaflet. So the pronoun 'you' is used to refer to different people in different sections.
- The twin flow charts (for if the patient is breathing normally, or not) are awkwardly separated over a column break.
- The tear-off flow chart repeats the same information. The explanation is slightly different, with the risk of confusing the user.

Prenoxad™ Injection
Naloxone Hydrochloride 1mg/ml Solution for Injection

Because of your condition it may not be possible for you to read this leaflet before you are given Prenoxad Injection. The leaflet has been provided to you to give some information that you should have and to assist the person who is helping you.

You may wish to read it later.

- If you have any further questions, please ask your doctor or nurse
- If any of the side effects become serious, or if you notice any side effects not listed in this leaflet, please tell your doctor or nurse

In this leaflet:

1. What Prenoxad Injection is and what it is used for
2. Before Prenoxad Injection is given
3. How Prenoxad Injection will be given
4. Possible side effects
5. Storing Prenoxad Injection
6. Contents of the Pack and other information

1. What Prenoxad Injection is and what it is used for

Prenoxad Injection contains the medicine naloxone. Naloxone belongs to a group of medicines that reverse the action of opioid drugs e.g. diamorphine (heroin), methadone, dextropropoxyphene, nalbuphine, pentazocine. This medicine is used to:

- reverse the action of opioid drugs e.g. if you have been given or taken an overdose of these drugs.
- if you are at risk of an opioid overdose you should always carry your Prenoxad Injection with you. It is designed as an emergency rescue treatment but you should still get medical attention as soon as possible.

2. Before Prenoxad Injection is given

This medicine is often used in circumstances where it is necessary to act very rapidly. You should not be injected with this medicine unless it is in the circumstances that were explained when you were given the Prenoxad Injection.

Prenoxad Injection will only be made available once the prescriber has assessed the suitability and ability of a client or a representative to administer naloxone in the appropriate circumstances.

You should not be given Prenoxad Injection if:

- you are allergic (hypersensitive) to Naloxone or to any other ingredients in this medicine, listed in section 6 of this leaflet.

Before giving you the Prenoxad Injection your prescriber will have considered whether special care needs to be taken if:

- you have kidney or liver problems
- you have heart problems.

If you have any of these problems you should make your doctor aware or remind him.

Taking other medicines

If you are able, you must tell your doctor if you are taking or have recently taken any medicines, including those obtained without a prescription.

Pregnancy and breast-feeding

Prenoxad Injection should not be used if you are pregnant or breast-feeding unless it is absolutely essential.

Driving or using machines

Please speak to your doctor before driving or using machines.

Prenoxad Injection contains sodium

This medicine contains less than 1 mmol sodium (23 mg) per 2ml dose, i.e. it is essentially sodium-free.

3. How Prenoxad Injection will be given

You or the person instructed by your doctor and clinic will give 0.4ml of the injection solution at any one time, into the outer thigh muscle or upper arm muscle (intramuscularly). The number of times injections of 0.4ml will be repeated will depend on your individual need and response to the treatment.

The pack contains two needles. The second needle is provided in case the first needle is damaged or gets contaminated because for example you have dropped it on the floor.

Adults

Known or suspected opioid overdose:

Prenoxad Injection should only be given where it is known or suspected that an opioid overdose has occurred.

The following procedure should be followed:

See overleaf for diagrams to help the person give the injections.

IF THE PATIENT IS BREATHING NORMALLY BUT IS UNROUSABLE OR UNCONSCIOUS:

1. Move the patient into the recovery position, lying on their side, mouth open and pointing towards the ground.
2. Give 0.4ml of Prenoxad Injection (to first black line) into the outer thigh or upper arm muscle.
3. Call 999 and ask for an ambulance.
4. Give further intramuscular injections of 0.4ml Prenoxad Injection (to next black line) into the outer thigh or upper arm muscle every 2-3 minutes until the ambulance arrives or the patient regains consciousness.

IF THE PATIENT DOES NOT APPEAR TO BE BREATHING NORMALLY:

1. Call 999 immediately and ask for an ambulance.
2. Give basic life support by giving the patient 30 chest compressions and 2 rescue breaths if possible.
3. Give 0.4ml of Prenoxad Injection (to first or next black line) into the outer thigh or upper arm muscle.
4. Give 3 cycles of 30 chest compressions and 2 rescue breaths if possible.
5. Repeat steps 3 and 4 until the ambulance arrives or the patient is breathing normally.

When the patient is breathing normally move them to the recovery position (lying on their side, mouth open and pointing towards the ground). Watch continuously.

If medical assistance has not arrived after you have used up the contents of one syringe and you have a second syringe available then this may be used using the same procedure as with the first. Use of the second syringe in the same way as the first does not present a safety hazard.

Prenoxad Injection is for single patient use only and any unused injection solution should be discarded as instructed in section 5.

If you are given more or less Prenoxad Injection than you should have

If you think you have been given too much or too little tell your doctor or the ambulance crew at the scene of the overdose.

4. Possible side effects

Like all medicines Prenoxad Injection can cause side effects, although not everybody gets them.

Possible side effects include:

Very common (incidence > 1 in 10): nausea.

Common (incidence greater than 1 in 100 but less than 1 in 10): dizziness, headache, faster beating of the heart, increased blood pressure, vomiting.

Uncommon (incidence greater than 1 in 1000 but less than 1 in 100): tremor, sweating, irregular heartbeat, decreased heart rate, diarrhoea, dry mouth, local irritation, inflammation, faster or deeper breathing.

Rare (incidence greater than 1 in 10000 and less than 1 in 1000): seizure, tension.

Very rare (incidence less than 1 in 10000): allergic reactions (urticaria, rhinitis, dyspnoea, swelling, anaphylactic shock, cardiac arrest, redness of the skin with blisters or ulcers).

Frequency unknown: fever, nervousness, restlessness, irritability, runny nose, sneezing, yawning, piloerection, weakness, shivering, death.

If any of the side effects become serious, or if you notice any side effects not listed in this leaflet, please tell your doctor or nurse.

5. Storing Prenoxad Injection

Keep out of the sight and reach of children.

You should not be given Prenoxad Injection after the expiry date which is printed on the box and syringe label. The doctor, nurse or pharmacist will check the expiry date on the box and syringe label before giving the pack to you.

The service that prescribed the product should be contacted so that they can advise you how to dispose of unused expired product or left over used product, including used and unused needles. Following use any left over product, including used and unused needles, may be given to the attending ambulance crew. Medicines should not be disposed of via drains or household waste.

Store in the original box to protect from light.

Do not store above 25°C. If the injection is discoloured it should not be used.

6. Contents of the Pack and other information

What Prenoxad Injection contains.

The active substance is Naloxone Hydrochloride 1mg per ml. The other ingredients are Sodium Chloride, Water for Injection and Dilute Hydrochloric Acid.

What Prenoxad Injection looks like and contents of the pack.

The injection is supplied in a 2ml pre-filled syringe containing 2ml of a clear, colourless solution together with two needles. The syringe and needles are contained in a yellow box.

Marketing Authorisation Holder: Martindale Pharmaceuticals Ltd, Bampton Road, Romford, RM3 8UG, United Kingdom

Manufacturer: Martindale Pharmaceuticals Ltd, Bampton Road, Harold Hill, Romford, RM3 8UG, United Kingdom

Product Licence Number: PL 12064/0125
Date of last revision: November 2012

Instructions for administration to patients may be found overleaf

Action on finding a potential overdose

Person unconscious and unresponsive

DO NOT

- Inflict pain
- Put in bath or shower
- Walk them about
- Use other drugs such as stimulants
- Leave them alone

DO

- Shout for help and approach with care
- Open airway: Tilt head back gently and lift chin

BREATHING

Recovery position

Inject 0.4ml naloxone (to first black line)

Call 999

NOT BREATHING

30 chest compressions then 2 rescue breaths

Inject 0.4ml Prenoxad (to first black line)

Repeat 3 cycles of 30 chest compressions then 2 rescue breaths if possible

BREATHING

Recovery position

Stay with person until ambulance arrives

Figure 6. The back of the leaflet.

- The other side of the package information is a graphic guide to using the kit. It omits any mention of the wider process.
- We thought it odd that instruction 1 tells you how to open the box... which you have already done in order to get the instructions.
- Instruction 2 could also be omitted. It is obvious from opening the pack, and no explanation is given about the purpose of the second needle (a spare? to inject two people?). Eight separate steps is too many to remember, so we looked for opportunities to cut them out or combine them.
- Instruction 4 should be on the needle pack itself.
- The hands take up a lot of space in the illustrations, but they are not helpful to left-handed people. They add little information value.
- The numbered steps do not correspond to the numbered steps in the flowchart on the other side.
- Instruction 7 suggests that the syringe should be held at an angle of around 45° but in instruction 8 it is shown at 90° (which our experts explained is correct).
- Instruction 8 gives a choice of injection sites – this introduces another decision into the process, so our redesign just names one site. Our experts told us that the thigh is most likely to be suitable, and we chose that one.

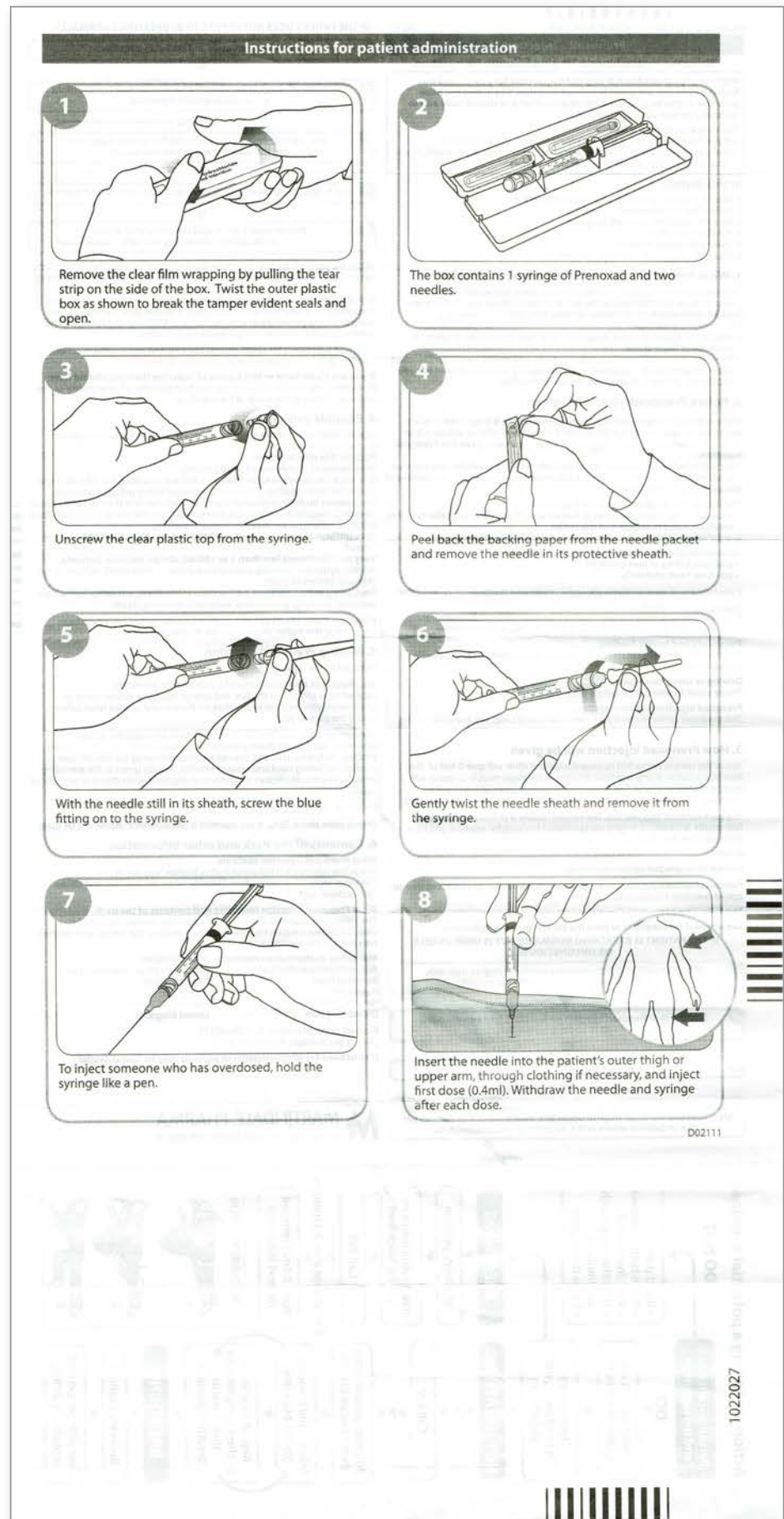
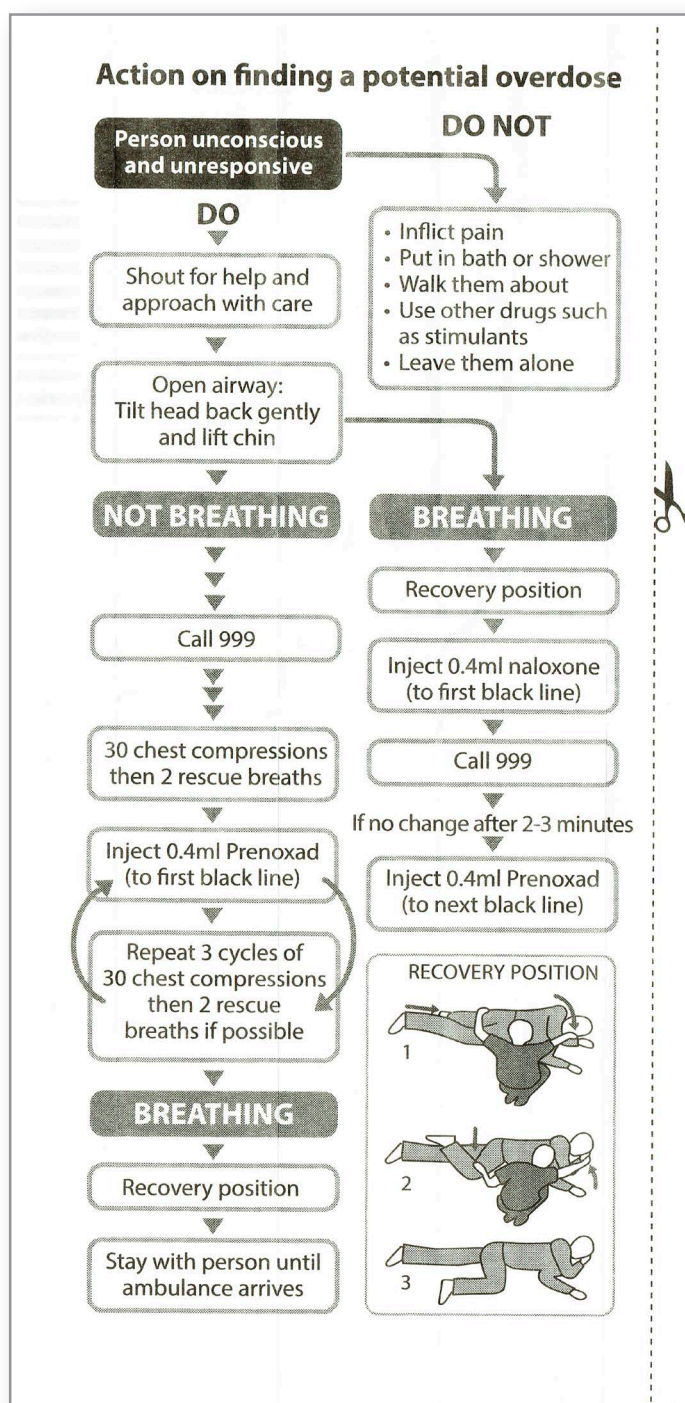


Figure 7. The tear-off flow chart

The tear-off flow chart seems a good idea, but it is poorly executed.

- Including it in the tightly folded detailed instructions makes it less likely to be found – it would be more effective as a separate sheet.
- The DO / DO NOT headings at first appear to be alternatives. But of course they go together. And the DO NOT heading at first could look like it commands the whole right hand column.
- The DO NOT instruction is separated from the forbidden things – so at a glance they could be read as positives not negatives. Do-not lists are a classic information design issue: we recommend always repeating the 'do not' even at the risk of repetition:
 - 'do not inflict pain
 - do not put in a bath or shower
 - do not walk them about.'
- It is not clear why there are three arrows between not breathing, Call 999, and '30 chest compressions...' Are they just decorative, or do they designate time passing (unlikely)?
- Why is the explanation of the recovery position, which looks useful, out of sequence? Possibly because it is referred to from both columns. How about a reference to it: 'Recovery position (see bottom right)'?



Regulatory issues

All packaged medicines sold in UK (and all other EU member states) must include a leaflet with information under specific headings, specified by law. The detailed text under those headings is based on a template issued by medicines regulators, the European Medicines Agency. The text on the outer label of a medicine is similarly tightly regulated: certain details have to appear (these include both the commercial and generic names of the medicine, the strength, the manufacturer's name, the batch details, the expiry date and the production batch number.).

A medicines package leaflet is, by law, subject to ‘consultation with target user groups’ – user testing for short. The same law says that it must be written and designed to be clear and understandable, allowing the medicine user to act appropriately. This is one of the few areas of public discourse in which user testing and user-centred design is mandatory.

Further, the official template for package leaflet information is flexible to allow innovative formats, and departures from standards statements, if user consultation shows that changes are needed. In short, the actual content is mandated and defined, but the manner of its design is not: there is more flexibility in the tone and format of presentation than we might imagine.

But in the end, it’s a ‘package leaflet’. It needs to include a large amount of officially sanctioned information, and it needs to fit into a small package. The amount of information to be included has been growing over time (the 2014 version of the template had 70% more words than the 2004).¹ As Figure 5 illustrates, leaflets have grown; the paper is often thin; the type may be small.

The good news is that other formats are coming. Some authorities and researchers are interested in producing a summary of the information: a set of headlines including the six or seven must-know items. In this case, the instructions for giving a dose of naloxone should be what leaps off the page.

Extra formats are also allowed by UK and many EU regulators, if they can be justified. Sometimes patient cards are issued; prescribing programmes may include doctor or pharmacist training, with support materials for patients. Innovative use of fold-out packaging may be acceptable. A laminated handout would have space for a flow chart which might be kept in a staff room or first-aid office. An associated phone app could back up any of the above.

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1 Dickinson, David and Suzy Gallina, 2017. ‘Information design in medicines package leaflets’, in *Information design: research and practice*, eds A Black, P Luna, O Lund, and S Walker; 685-700. Abingdon: Routledge.

Transforming

The term transforming reflects the fact that information designers work at every level – not just at the visible surface. This includes:

- **Channel/medium/object:** the best carrier for the information – booklet, poster, app, website, sign, label, etc.
- **Content:** what needs to be included to achieve the project's objectives.
- **Structure:** how to order information in sequences or layers.
- **Language:** the best way to express ideas verbally.
- **Graphics:** opportunities to express information visually, using diagrams, charts, icons and so on.
- **Typography and layout:** pages and screens which are easy to read and signal the content structure.
- **Navigation:** helping people find their way around using menus, contents lists, heading structures, colour, etc.

Obviously in a short workshop it's not possible to consider all levels in equal depth.

For the workshop, we accepted the *communication channel* – the box and a leaflet of some kind – as a given. However, the current box is a missed opportunity and we looked at ways it might better communicate key information. In particular, we made the generic word 'naloxone' prominent, and explained its purpose and key stages in its use.

Figure 8. Early sketch for the box.



Our *content* objectives were limited to information which would help an untrained user in an emergency, so we focused on how to revive a patient who is not breathing, and how to give the injection. This included content which was not strictly informational, but designed to encourage the untrained and hesitant bystander ('you can save a life').

We developed a better *structure*, reflecting a hierarchy of prominence:

Before the emergency: on the box

What is the kit for?

During the emergency: on the box + simple graphic instructions

Are they breathing?

Assembling the syringe

Give the injection

After the emergency: in a leaflet or link to online information

Background information for the patient

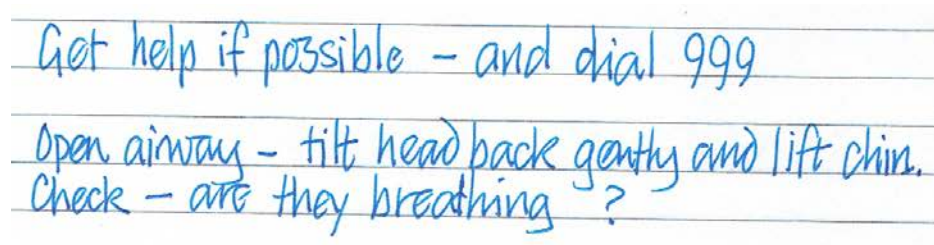
Possible side effects

Content aimed at healthcare professionals who have taken over the treatment following the emergency

Regulatory content not aimed at the patient.

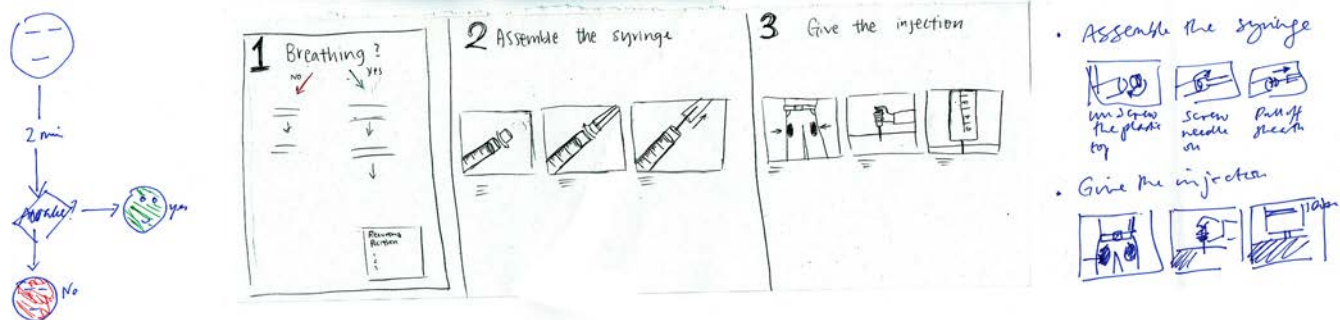
Considering *language*, we aimed at plain English, with common words and short sentences. Technical or uncommon words were substituted where possible – for example, ‘needle cover’ instead of ‘needle sheath’. This not only helps people with poor literacy, but it also helps others who might be experiencing a cognitive fog because of stress. We discussed the use of street slang but decided that, not only would it be unfamiliar to non-users, but also it can vary depending on neighbourhood or region.

Figure 9. One group focused on simplifying the language and content.



Most of the early concepts relied heavily on *graphics*, exploring flow charts as well as pictorial instructions.

Figure 10. Numerous sketches were produced, exploring different visual concepts..



Making

Making is more than just artworking a transformation concept. It inevitably reveals new issues (such as information not fitting in the space available), and as the designer works on the solution creative reflection continues and new ideas emerge. So transforming inevitably continues into this stage.

There is not usually enough time during a Simple Action day to develop a finished solution, so the finished work should be seen as directional, not definitive.

Figure 11 shows how a leaflet using the current format could include a flow chart of the overall process, as well as explanations of the recovery position and of how to give an injection.

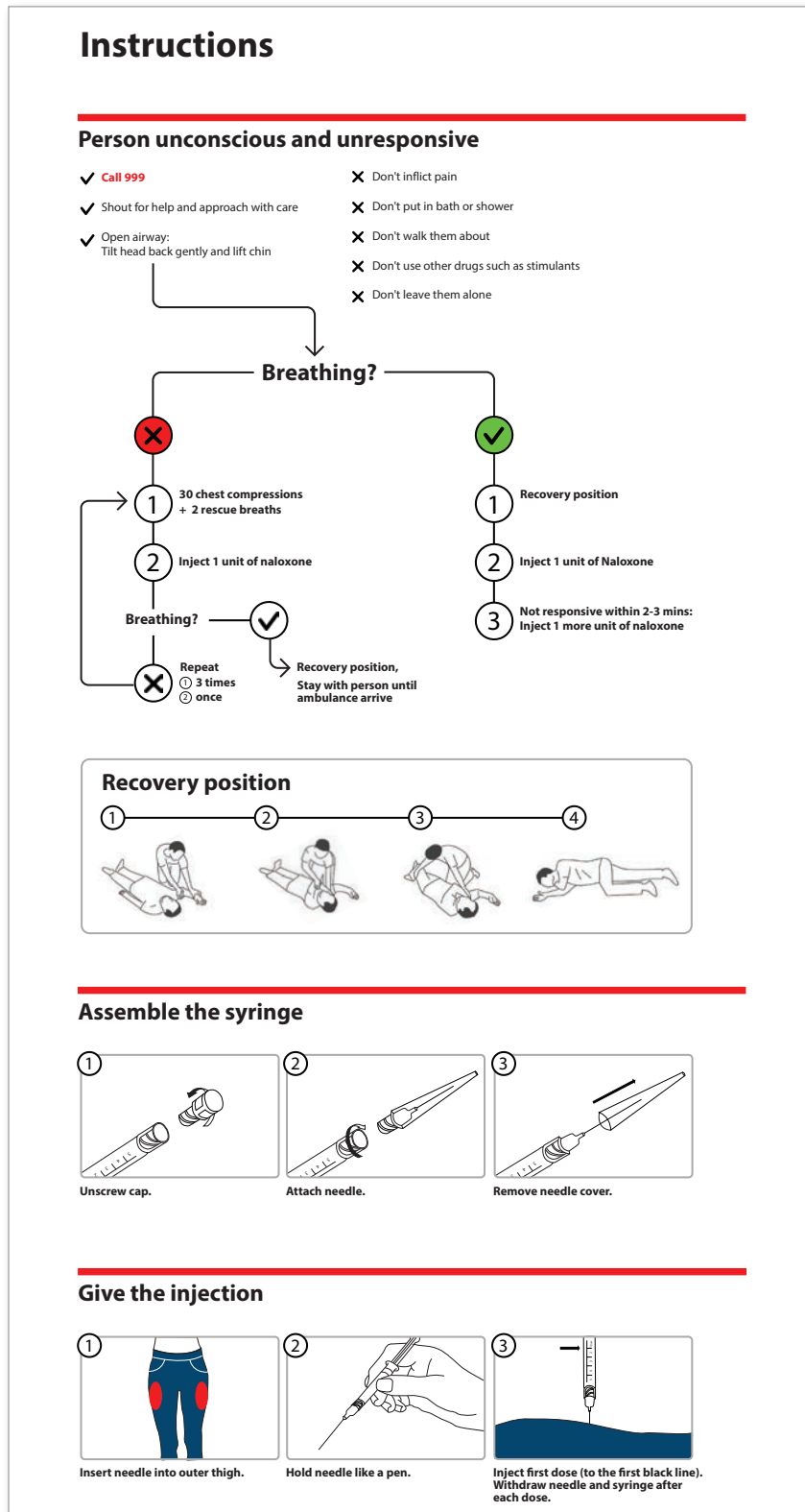
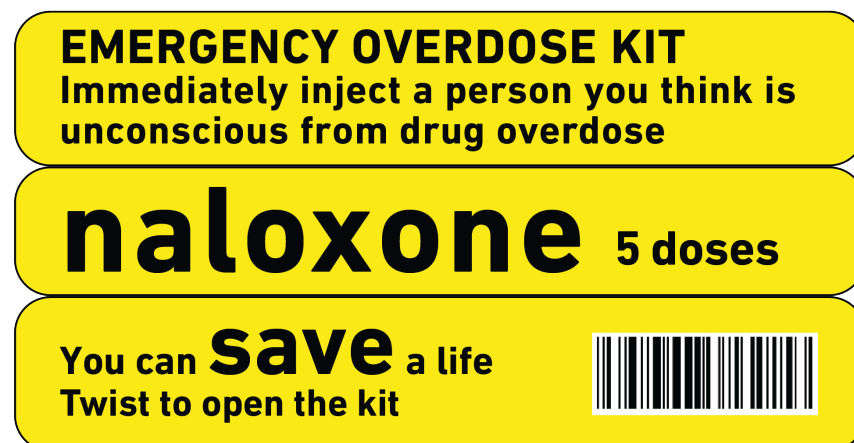


Figure 11. Concept developed by Shannon Lattin, Suki Law, Eleanor Smith, Dhanika Vansia, and Rob Waller. Artwork by Suki Law.

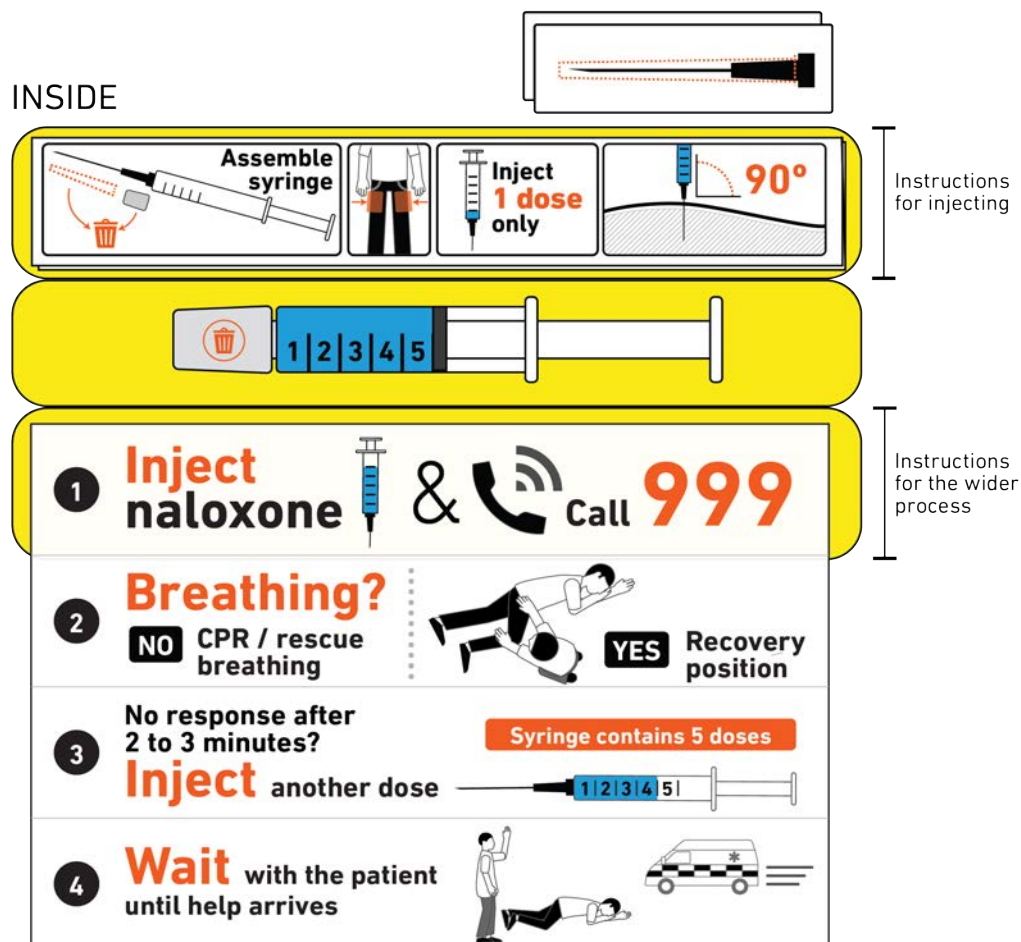
Figure 12 shows how the box could carry an impactful message about the product's purpose. It does not, of course, comply with regulatory requirements for pharmaceutical products – this could go on the unused box side, or the information shown could form a wrapper. The inside lid is used as an information surface, and the wider procedure is described in a short pull out information sheet.

Figure 12.
Concept developed by Daniel Alford, Tomoko Furukawa, Sol Kawage and Stephanie Vandenberg. Artwork by Tomoko Furukawa and Sol Kawage.

OUTSIDE



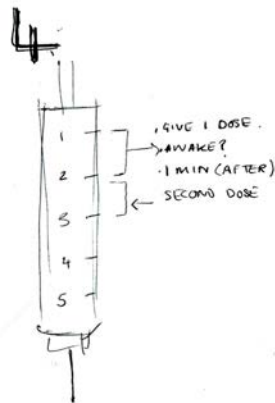
INSIDE



Further ideas to develop

The transforming stage produced a number of concepts which did not survive into Making. But they may be worth recording so they are not lost. Step 4 in Figure 13, for example, combines an explanation of the dosage marks on the syringe with an instruction about how to time the repeated doses.

Figure 13. An alternative explanation of the dosage and timing



We also considered other carriers for the information, such as a laminated wallchart for those premises where naloxone kits are kept as a precaution (eg first aid room; nightclub office): a much more practical option than trying to use the package leaflet.

Conclusions

The purpose of our Simple Action days is to highlight problems of poor information design in situations where communication really matters, and to point towards better solutions. Given the short time available, our solutions are more directional than definitive.

Simple Action days bring design-trained eyes to bear on important information which seems not to have had such attention in its production. They can be a revelation to professionals without design training, who may not have given much thought to clarity and communication effectiveness. In fact, when we critique documents there is sometimes a sense of shock as we realise just how incomplete and incoherent they are. You have to ask ‘what were they thinking?’ of the people who approved the information for use.

We trust medicines because they are developed and dispensed responsibly. Medicines information is also the subject of regulation and this Simple Action day can be seen as part of a continuous effort to challenge poor practice and identify best practice.

Preparing medicines information is not just about truth, completeness of content and compliance with regulations. Those tend to be priorities when the documents are drafted by committee, but it's crucial also to think about effectiveness in action, and in sub-optimal conditions – in a crisis, by untrained users, under stress, possibly surrounded by noise and commotion.

Exercises like this highlight the importance of proper process for information design, of the kind we take for granted in other areas of public safety. A proper process would follow the same method we used in our one-day exercise – discovery, transforming, making – but with considerably more effort spent at each stage, in particular on consultations and user research.



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About Simple Actions

Most of us don't complain when we come across information that's poorly written or designed – for example, a mobile phone contract, an application form, or a user guide. We cope and make do, we blame ourselves for not being clever enough, we make mistakes, or if we have a choice we might just chuck it away. For one thing, it's probably not worth complaining, and we wouldn't know who to complain to anyway.

It's not obvious to everyone how to improve poor documents. A lot of everyday information could be better, but we've got used to it and assume that, like the rain, there's nothing we can do. But that's often not true, and with a little effort we can set much higher standards.

So the Simplification Centre has got together a group of volunteer information designers and writers to challenge the quality of everyday information.

They work together to take on 'orphan design projects' – those communications that no one seems to own or look after, but that really matter. Their work is published on the Simplification Centre website, where anyone can comment, or borrow the ideas under a Creative Commons license (www.simplificationcentre.org.uk/simple-actions).



One of our Simple Actions days, with a group of volunteer information designers.