SUMMARY REPORT:

UNODC-WHO Stop-Overdose-Safely (S-O-S) project implementation in Kazakhstan, Kyrgyzstan, Tajikistan and Ukraine

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Abbreviations

BOOK	Brief Opioid Overdose Knowledge Scale
CRC	Coordinating Research Center
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
FGDs	Focus Group Discussions
HIV	Human Immunodeficiency Virus
INL	International Narcotics and Law Enforcement Affairs Program, U.S. Department of State
NGO	Non-governmental organization
NRP	National Research Partner
OAMT	Opioid Agonist Maintenance Treatment
OOAS	Opioid Overdose Attitudes Scale
OOKS	Opioid Overdose Knowledge Scale
OOD	Opioid Overdose
PLWOD	People Likely to Witness Opioid Overdose
PWID	People Who Inject Drugs
REDCap	Research Electronic Data Capture
SDG	Sustainable Development Goals
SIS	Study Implementation Site
S-O-S	Stop-Overdose-Safely
T0	Time point 0 months in Module 2, i.e. post-training
T6	Time point 6 months in Module 2, i.e. 6-month follow-up
THN	Take-home Naloxone
UNODC	United Nations Office on Drugs and Crime
UNODC/PTRS	United Nations Office on Drugs and Crime, Prevention, Treatment and Rehabilitation Section
WHO	World Health Organization
WHO MSD/ADA	Alcohol, Drugs and Addictive Behaviours unit, Department of Mental Health and Substance Use, World Health Organization

Overview

This report details the main findings related to the S-O-S (Stop Overdose Safely) project in Kazakhstan, Kyrgyzstan, Tajikistan and Ukraine that was implemented in the framework of the UNODC/WHO S-O-S initiative. It presents the rationale, implementation processes, and a summary of the evaluation of the project through a process evaluation and a prospective cohort study conducted in the four S-O-S countries. The S-O-S project entailed the rollout of a overdose prevention intervention at a city level, with at least one participating city per country. The project addressed a major gap by implementing take-home naloxone (THN) programmes in four low-to-middle income countries. The intervention itself included two major components: (1) a short (15–30 min) training on opioid overdose recognition and response including management with the use of naloxone, and (2) supply of a specially-designed THN kit.

The project resulted in the rapid distribution of THN; 14,263 potential opioid overdose witnesses were trained within the eight-month implementation phase. The cohort study found that 90% of project participants reported using naloxone at witnessed overdoses across almost all countries (88.1% in Ukraine), in line with UNODC/WHO targets. In almost all instances it was recorded that the victim survived. Extrapolation of the naloxone use figures from the cohort study (31%) to the entire S-O-S project sample of 14,263 would suggest that the implementation may have resulted in naloxone administration by as many as 4,388 individuals, and many lives saved as a result.

UNODC and WHO, in the framework of the UNODC-WHO Programme on Drug Dependence Treatment and Care, will continue working with Member States providing technical assistance in line with the Sustainable Development Goal (SDG) target 3.5 on "Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol" and facilitating actions related to prevention and management of opioid overdose.

The UNODC/WHO Initiative to Stop Overdose Safely (S-O-S)

The prevention of opioid overdose mortality has been one of the major areas of work of the UNODC-WHO Programme on Drug Dependence Treatment and Care (UNODC-WHO, 2017).

In 2012 the Commission on Narcotic Drugs passed Resolution 55/7 (CND, 2012) which "(e)ncourage(d) all Member States to include effective elements for the prevention and treatment of drug overdose, in particular opioid overdose, in national drug policies, (…), including the use of opioid receptor antagonists such as naloxone" and "(r)equest(ed) the United Nations Office on Drugs and Crime, in collaboration with the World Health Organization, (…) and Member States, to collect and circulate available best practices on the prevention and treatment of and emergency response to illicit drug overdose, in particular opioid overdose, including on the use and availability of opioid receptor antagonists such as naloxone (…)".

In 2013, UNODC and WHO published a discussion paper on preventing and reducing overdose mortality concluding that there is a demand for further evidence-based guidance from United Nations organizations on how to best structure and implement overdose prevention efforts.

In 2014, WHO Guidelines on community management of opioid overdose (WHO, 2014) were produced and provided evidence-based recommendations on preventing mortality from opioid overdose. The Guidelines' key recommendation, based on a thorough review of the available evidence, was that the availability of naloxone should be increased and training in its use provided to people likely to witness and/or be the first responder to an opioid overdose.

In 2016, the Outcome Document of the United Nations Special Sessions on the World Drug Problem also (A//RES/S-30/1), promotes "the inclusion in national drug policies, in accordance with national legislation and as appropriate, of elements for the prevention and treatment of drug overdose, in particular opioid overdose, including the use of opioid receptor antagonists such as naloxone to reduce drug-related mortality".

During a special launch event at the 2017 Commission on Narcotic Drugs in Vienna, UNODC and WHO presented the "S-O-S Initiative" focusing on Stopping Overdose Safely (S-O-S). Funded by the US State Department's Bureau for International Narcotics and Law Enforcement Affairs (INL) it was developed in response to the 2016 General Assembly Special Session on the World Drug Problem, as well as CND resolution 55/7 on "Promoting measures to prevent drug overdose, in particular opioid overdose." It aims to prevent opioid overdose deaths in line with the recommendations of the WHO guidelines on Community Management of Opioid Overdose (WHO, 2014). The ultimate goal is to contribute towards reducing deaths due to preventable opioid overdoses.

The S-O-S initiative supports people likely to witness an overdose in the community, with a focus on people who use drugs, their peers, as well as family members with THN programs including training, provision of naloxone and linking with treatment services. Moreover, it encourages broad partnerships between national governments, regional organizations, research institutes, civil society, interested

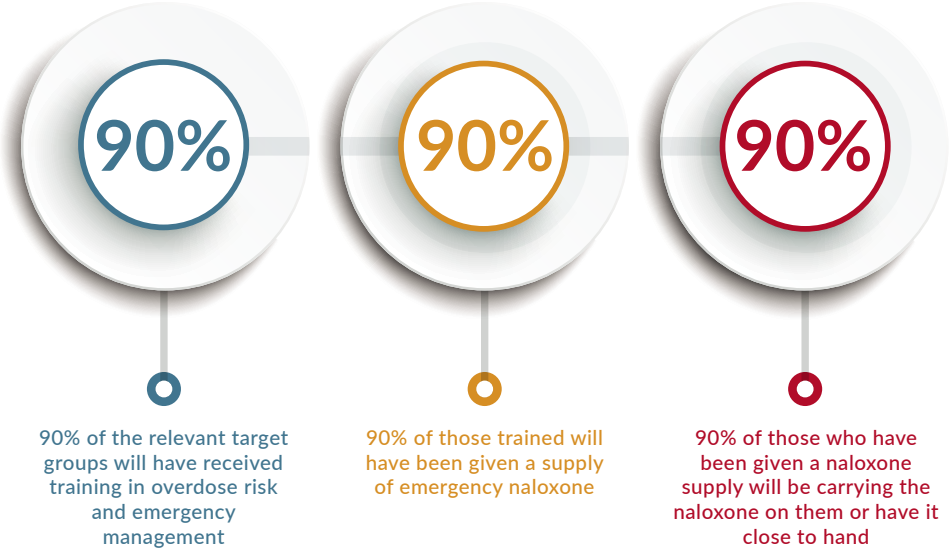
funding agencies and other entities to work towards the 90-90-90 targets (see Figure 1).The initiative sets a global implementation target of 90-90-90 as a joint point of reference (Figure 1):

i) 90 per cent of the relevant target population will have received training in overdose risk and emergency management;

ii) 90 per cent of those trained will be given a supply of emergency naloxone;

iii) 90 per cent of those who have been given a naloxone supply will be carrying the naloxone on them or have it close at hand.

Fig. 1. S-O-S 90-90-90 target



Within the framework of the UNODC/WHO S-O-S initiative, a S-O-S "S-O-S Multisite project on community management of opioid overdose including the use of naloxone" was designed to demonstrate the feasibility and public health impact of the implementation of an opioid overdose intervention in low- and middle-income countries, specifically in Kazakhstan, Kyrgyzstan, Tajikistan and Ukraine.

Rationale for the (S-O-S) initiative

Opioid overdose is a major public health issue

Opioid dependence is a chronic, relapsing condition (McLellan, Lewis, O'Brien, & Kleber, 2000), and individuals who are opioid dependent frequently experience overdose, with a high risk of death (Darke & Zador, 1996). An estimated 57.8 million people used opioids in the past year globally in 2018 (UNODC, 2020). It is estimated that 2-3% of people who use heroin die each year, but much higher rates have been observed among some groups such as people who inject drugs (PWID) or people who have had a previous overdose (Mathers et al., 2013; Stoove, Dietze, & Jolley, 2009). Indeed, opioid overdose is among the leading causes of avoidable death among PWID (Degenhardt & Hall, 2012; Mathers et al., 2013) and risks for overdose are high among those who take opioids through other routes of administration or take opioids for chronic pain (Larney et al., 2019; Nielsen et al., 2018). Non-fatal opioid overdoses are several times more common than fatal opioid overdoses.

Risk factors for opioid overdose

The majority of opioid overdoses (over 80%) are accidental (Heale, Dietze, & Fry, 2003; O'Keefe, Bowring, Aitken, & Dietze, 2018). Opioid dose plays an important role in overdose risk (Dietze, Jolley, Fry, & Bammer, 2005; Glanz, Binswanger, Shetterly, Narwaney, & Xu, 2019), but it is not dose alone that results in overdose death (White & Irvine, 1999). Instead, there are several related behavioural risk factors that have been the subject of extensive study. Risk is increased when:

- opioids are injected, as compared to inhalation, snorting, or oral ingestion (Brugal et al., 2002);
- alcohol or other sedative drugs (e.g. benzodiazepines) are also consumed (Darke & Hall, 2003; Darke & Zador, 1996; Dietze et al., 2005);
- a person consumes opioids alone, with no one around to intervene (Darke & Zador, 1996);
- tolerance is reduced (Darke & Hall, 2003; Darke & Zador, 1996), or
- use shifts across different types of locations (Dietze et al., 2005).

Opioid tolerance is a key mechanism for overdose. Tolerance is significantly reduced after periods of abstinence or reduced opioid use. Situational risk factors impacting opioid tolerance include discharge from prison (Bird & Hutchinson, 2003) or abstinence-based drug treatment services (Davoli et al., 2007). For example, of prisoners with a previous history of heroin injecting who are released from prison, an estimated 1 in 200 will die of a heroin overdose within the first 4 weeks of release (Strang, Bird, & Parmar, 2013). This is approximately 10 times the mortality rate of general prisoners being released (who themselves have an increased risk) and approximately 100 times greater than the age-matched general population (Strang et al., 2013). Similarly, studies in Italy (Davoli et al.,

2007) England (Cornish, Macleod, Strang, Vickerman, & Hickman, 2010), Norway (Ravndal, 2010) and Scotland (Merrall, Bird, & Hutchinson, 2013) found that the first month following conclusion of drug treatment generally confers a high risk of overdose.

Preventing opioid overdose deaths

Opioid agonist maintenance treatment (OAMT) is highly effective with strong evidence of reducing overdose risk (WHO, 2009). However, OAMT coverage is variable and uptake incomplete. This means that responses to acute opioid overdose are often required. Fortunately, opioid overdose can often be reversed through respiratory support and administration of naloxone, an opioid antagonist that quickly reverses opioid effects (WHO, 2014).

Naloxone

Naloxone (n-allylnoroxymorphone) is a semisynthetic competitive opioid antagonist that acts directly on opioid receptors – its greater receptor affinity compared to opioid agonists allows it to efficiently reverse the effects of opioids (Boyer, 2012). It has few other effects other than reversing the effects of opioids (and so has limited abuse potential), but for people who have consumed opioids or are tolerant to opioids this means that naloxone frequently produces a range of side effects in addition to reversing respiratory depression including sweating, nausea and other symptoms associated with opioid withdrawal (Boyer, 2012; Buajordet, Naess, Jacobsen, & Brors, 2004). Naloxone effects typically last 0.5–2 hours, depending on dose and route of administration. Naloxone is not a controlled drug but is subject to medicines regulations within countries. It is on the WHO's Model List of Essential Medicines (WHO, 2019).

Take-home naloxone (THN) for preventing opioid overdose deaths

In most countries naloxone is only available through medical services. However, given its limited potential for abuse (it has no intoxication properties) and remarkable effectiveness in reversing opioid effects efforts have been made to make naloxone available to non-medically trained people. These community-based programs are consistent with the *WHO Guidelines on Community Management of Opioid Overdose* (World Health Organization, 2014) (see Box 1 below) and are often referred to as take-home naloxone (THN) (Meade et al., 2018) or overdose education and naloxone distribution (OEND) (Winhusen et al., 2020) programs. Fundamentally they involve training lay people who may witness an opioid overdose (friends or family of people at risk) how to recognize and respond to

Box 1: Recommendations of WHO Guidelines on Community management of opioid overdose (2014)

1. People likely to witness an opioid overdose should have access to naloxone and be instructed in its administration to enable them to use it for the emergency management of suspected opioid overdose.
2. Naloxone is effective when delivered by intravenous, intramuscular, subcutaneous and intranasal routes of administration. Persons using naloxone should select a route of administration based on the formulation available, their skills in administration, the setting and local context.
3. In suspected opioid overdose, first responders should focus on airway management, assisting ventilation and administering naloxone.
4. After successful resuscitation following the administration of naloxone, the level of consciousness and breathing of the affected person should be closely observed until full recovery has been achieved.

opioid overdose and how to administer naloxone (Olsen, McDonald, Lenton, & Dietze, 2017). These programs are not only an effective response to overdose (McDonald & Strang, 2016; Olsen et al., 2017) but modelling suggests that they are cost-effective (Coffin & Sullivan, 2013; Irvine et al., 2018) and they have been shown to impact at a population level (Abouk, Pacula, & Powell, 2019; Walley et al., 2013).

Elements of effective overdose management programmes

THN programs typically involve the provision of overdose prevention training and equipping participants with naloxone to be used in case of opioid overdose (McDonald, Campbell, & Strang, 2017). This is similar to the practice of prescribing adrenaline to people with severe allergic reactions and placing it in the care of family members or others to administer to the person suffering the allergic reaction, if needed.

Training in overdose management typically promotes overdose risk awareness (e.g., overdose risk factors and symptoms) and includes training in overdose emergency management (including use of the recovery position, resuscitation, the importance of calling an ambulance) and naloxone administration (Dietze et al., 2018). Training can effectively increase participants' knowledge, confidence and skills in managing an opioid overdose (Dietze et al., 2018). Training can be offered to people who use opioids (formerly or currently) or their close contacts such as family members and service staff.

The length and style of training necessary for THN is variable. While comprehensive training in opioid overdose and resuscitation is desirable, basic training can enable the effective emergency use of naloxone and it has been argued that the lack of more extensive training should not impede its use in the community (Behar, Santos, Wheeler, Rowe, & Coffin, 2015). There are many overdose management training programmes available and these can be adapted to reflect local contexts and needs (WHO, 2014). Indeed, training can be delivered in a teaching session (Strang et al., 2008), friendly dialogue, group discussion or on a drop-in basis (Wagner et al., 2010). Training can take as little as 10 minutes (Doe-Simkins, Walley, Epstein, & Moyer, 2009) or as long as eight hours (Seal et al., 2005); even very short training can increase the accuracy of overdose identification (Behar et al., 2015; WHO, 2014).

Rationale for the (S-O-S) multisite project

Community management of opioid overdose programs that include training and provision of naloxone for non-medically trained people likely to witness an overdose have been implemented in many countries (Olsen et al., 2017; Strang, Bird, Dietze, Gerra, & McLellan, 2014; Strang et al., 2019). The effectiveness of community-based THN for overdose prevention have been demonstrated extensively in North America and Europe (McDonald & Strang, 2016) as well as in Australia (Dwyer et al., 2018). However, less is known about how these results translate to other regions internationally, in particular to low- and middle-income countries (Strang et al., 2019).

Implementation of the (S-O-S) project

The S-O-S multisite project was implemented in Kazakhstan, Kyrgyzstan, Tajikistan and Ukraine to promote the expanded community management of opioid overdose, focusing on low- and middle-income countries. In line with the WHO (2014) guidelines on "Community Management of Opioid Overdose", the project aimed to prevent opioid overdose by promoting access to naloxone and the training of potential first responders in overdose management and evaluate its feasibility and impact. The ultimate goal is to contribute towards reducing deaths due to preventable opioid overdoses. Evaluation of the S-O-S project was undertaken through a mixed-methods study, comprising a process evaluation, qualitative data collection and a cohort study. The project intervention was rolled out at a city level, with at least one participating city per country. As indicated above, the intervention included two major components: (1) a short (15–30 min) training on opioid overdose recognition and response including overdose management with the use of naloxone, and (2) supply of a specially-designed THN kit.

Specific objectives of the project included the following: (a) train up to 4000 potential opioid overdose witnesses in each participating country in opioid overdose prevention and management, including the use of naloxone; (b) distribute THN kits to trained potential overdose witnesses; (c) identify implementation barriers and facilitators; (d) evaluate the effectiveness of training and naloxone distribution and its impact on overdose response; (e) consider any other impacts where possible.

The project involved four main phases conducted over 2016–2021 as shown in Table 1. A description of each phase is provided below.

Table 1. Phases and timelines related to the S-O-S project

May–December 2016	January 2017–June 2019	June 2019–July 2020	July 2020–July 2021
ASSESSMENT PHASE	**PREPARATORY PHASE**	**IMPLEMENTATION PHASE**	**EVALUATION AND DISSEMINATION PHASE**
• Governmental support • Key-stakeholders' meetings • Study protocol development • Identification and engagement of national counterparts	• Situational analysis/site visits/legal reviews • Finalization of study protocol • Ethics approval(s) for the study • Development of training materials • Trainings of national partners	• OOD training and dissemination of naloxone • Coordination of data collection • Monitoring and evaluation	• Data analysis • Development of national and international reports • Dissemination of results • Assuring sustainability and scale up

Assessment and Preparatory Phases

Assessment missions to all four countries took place between June and September 2016. These missions involved meetings with potential project counterparts (governmental and municipal representatives, potential research partners, implementation sites and people likely to witness an overdose) to inform the situational analyses, which included the following considerations: determining the composition of the national research team; identification of project cities and implementation sites; intervention and methodology development and adaptation; availability and possible challenges for procurement of naloxone; composition and production of THN kits; developing data management systems; understanding potential risks to study participants; performing reviews of local legal frameworks; specifying local processes for safe needle and syringe disposal; and preparing lists for referrals to drug use disorder treatment services.

UNODC and WHO then hosted an initial meeting on 5–7 December 2016 in Vienna, Austria to jointly discuss the planned project with country representatives and other interested experts and countries. UNODC then approached the four project countries with official letters inviting collaboration on the project. After receiving positive feedback, contacts with designated national focal points and other project partners were established and situational analyses were further developed. A second regional meeting took place in Almaty, Kazakhstan on 13–17 September 2017 with relevant counterparts from project countries to jointly decide on roles and next steps, and to identify training needs. Over the course of 2017/2018, additional legal reviews were conducted in all project countries to determine any legal and/or logistical issues related to THN schemes and national level implementation. Over this time an evaluation protocol was developed and project personnel were finalized. This included formalizing a study governance structure (see Annex 1) and project teams in each project country that consisted of: (1) a governmental counterpart; (2) a national research partner; (3) trainers and aligned services; and (4) representatives of WHO/UNODC country offices. A third regional meeting on community management of opioid overdose took place on 22–25 October 2018 in Kyiv, Ukraine and focused on developing the implementation stages (see Annex 2), training and research components of the study, which included the finalization of the evaluation study protocol.

Selection of cities

All countries identified at least one city in each country for implementation. The criteria for the identification of a project city or cities were: (a) high prevalence rates of opioid use; (b) willingness/interest of stakeholders at the city level to be part of the project and support opioid overdose interventions; (c) availability and interest of services at the city level to deliver the intervention; and (d) where possible, project cities should have had only limited coverage of opioid overdose prevention efforts and THN provision to date.

Based on the information gathered at the second regional meeting the project countries tentatively selected the following cities for project implementation:

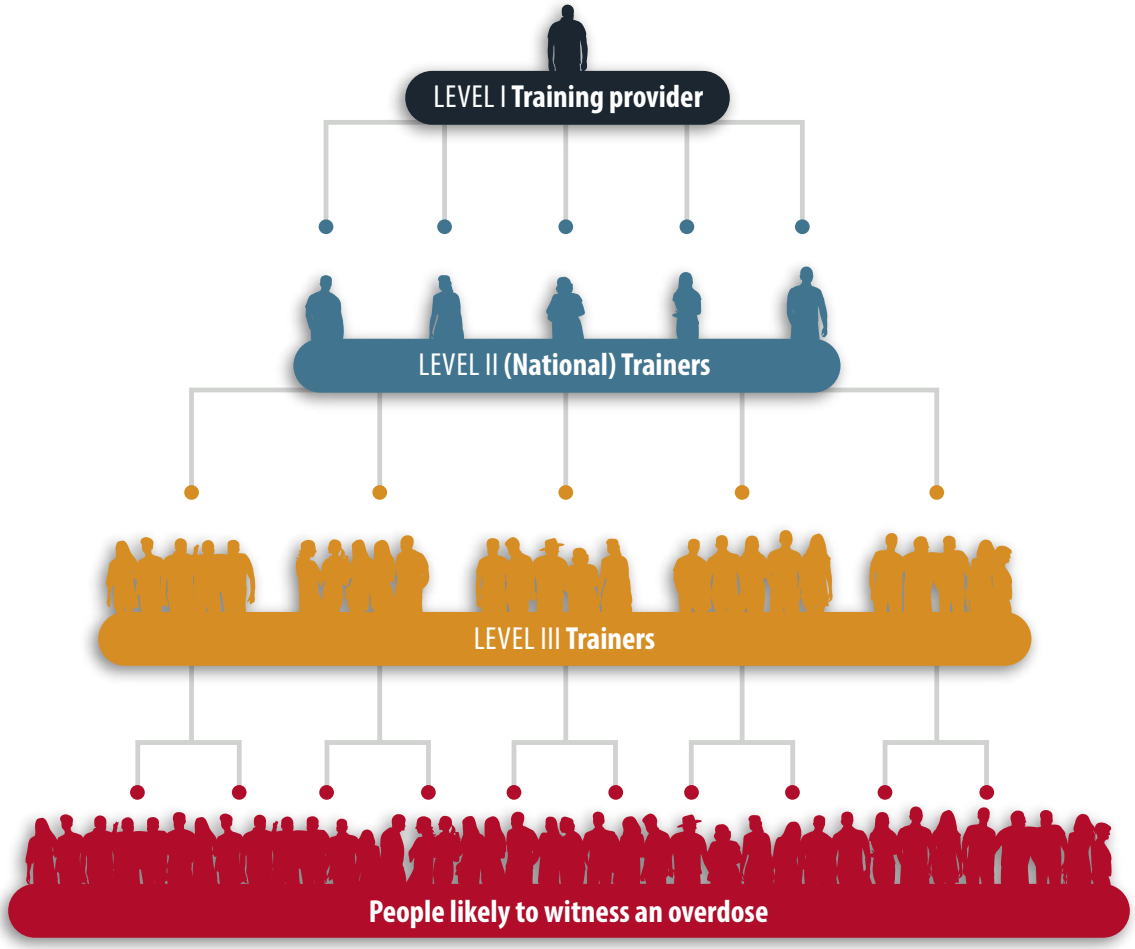
- Kazakhstan: Almaty
- Kyrgyzstan: Bishkek, Sokuluk and/or Kant
- Tajikistan: Dushanbe and Khorugh
- Ukraine: Kyiv

S-O-S training package and training implementation

During the preparatory phase, the S-O-S training package was developed to accommodate a cascade of training across three levels:

- LEVEL I: *Level 1 Trainers* who deliver training to national Level II Trainers including identification, organisation and provision of training within cities/countries;
- LEVEL II: *Level II Trainers* who train participants in the third level of the training cascade including identification, organisation and provision of training in both group and individual contexts to potential witnesses; and
- LEVEL III: *Level III Trainers* who train potential opioid overdose witnesses to identify and manage an opioid overdose, including with the use of naloxone.

Fig. 2. Overall structure of the S-O-S training cascade



All training levels were in line with WHO guidelines. Overdose response training covered the following topics: 1) risk factors for opioid overdose (loss of tolerance, mixing psychoactive substances, using alone), 2) signs of overdose (e.g. lack of response to sternal rub, shallow or no breathing, blue lips and fingernail beds), and 3) how to respond to an overdose (call ambulance, provide rescue breathing, use naloxone). A *One-to-One Naloxone Training Checklist* was developed to guide the intervention and included 12 key topics (see Annex 3):

- The most common drugs identified in a drug-related death
- Main risk factors of drug overdose
- High risk times for overdose
- Signs & symptoms of suspected opioid overdose
- The common myths – WHAT DOES NOT HELP in case of overdose
- Knows when to call for an ambulance
- Knows about the recovery position
- Knows about rescue breathing and cardiopulmonary resuscitation (CPR)
- Knows when and how to administer naloxone
- Knows that naloxone is short acting
- Knows the importance of staying with the person
- Content and use of the SOS Take-home naloxone kit (SOS THN Kit) and disposal strategy

The training package was piloted and used at regional training with National Trainers who would go on to work as Level II Trainers from all four countries during the third regional meeting in Kyiv on 22–25 October 2018.

The target population for the intervention implementation was people likely to witness an opioid overdose, defined as:

- People who use opioids;
- Friends, partners, and family members of people at risk of opioid overdose; and
- People who come into contact with people at risk of opioid overdose through their work (health care workers, police, emergency service workers, people providing accommodation to people who use drugs, peer education and outreach workers) (WHO, 2014).

All potential witnesses trained as part of the study who demonstrated sufficient evidence that they know how to respond to an opioid overdose, including administering naloxone, received an overdose response kit that included naloxone (see below). Training was undertaken with the intention that individuals would be certified as opioid overdose responders for up to two years during which they

could receive additional kits without retraining. Following completion of training, participants were issued a training certificate with the participants' unique study ID (alphanumeric code) which the participant could use to obtain naloxone refill kits, if needed.

Naloxone and the S-O-S THN kit

While naloxone is not under international control and on the essential list of medicines, access to naloxone to conduct the study proved challenging, as naloxone products including ampules were not registered or about to run out of registration in some project countries. Ukraine was the only project country with local production of naloxone ampules and therefore a relative ready supply and access. In addition, Ukraine made naloxone an over the counter medication during the course of the project to increase its accessibility for THN.

The S-O-S THN kit, developed jointly with project counterparts, was distributed to people who completed S-O-S training. Kit design and content specifications were developed on the basis of evidence from international recommendations, local experience and focus groups with people who use drugs. The final kit consisted of a compact plastic box with a sliding cover that safely accommodated: 2 naloxone ampules (Sol Naloxone hydrochloride 0.4 mg/ml-1ml); 2 muscle syringes with pre-attached needles (2,5ml 23G 0,6 x 30mm); 1 alcohol swab; 1 pair of gloves; and 1 small leaflet.

Protocol development and ethical clearance

Based on the information collected, the evaluation study protocol that was initially developed in 2016/2017 was finalized in 2018. Ethical approval of the full study protocol was obtained from the World Health Organization Ethics Review Committee (ERC.0003090 from 13.11.2018) and from local Ethics Committees in Kazakhstan (Medical Faculty, Higher School of Public Health, Al-Farabi Kazakh National University; N 1236 from 31.07.2018); Kyrgyzstan (Bioethical Committee, Republican Center of Narcology, Ministry of Health of Kyrgyz Republic; N 952 from 06.09.2018); Tajikistan (Biomedical Committee, Academy of Medical Science, Ministry of Health and Social Protection of the Republic of Tajikistan; N 92 from 14.08.2018); Ukraine (Institutional Review Board, Ukrainian Institute of Public Health Policy; N 29/IRB from 01.08.2018).

Implementation and Evaluation Phases

During the implementation phase of the S-O-S project the intervention was rolled out in all four countries, with a target of training 4000 potential witnesses of opioid overdose using the S-O-S package and distributing S-O-S THN kits to these potential witnesses. During the third regional meeting in Kyiv in October 2018, one training service provider (Level I trainer, a UNODC/WHO consultant) would train approximately 5–6 national Level II Trainers per project country (a total of 20). Each of the 20 Level II (National) Trainers was then expected to train at least 10 Level III Trainers in contact with people likely to witness an opioid overdose (approximately 50 per country producing a total of around 200 across the project countries). Each of the 50 Trainers in each project country was then expected to train 80 people likely to witness an overdose in individual and group settings in order to reach the target of 4,000 producing a total of around 16,000 trained across the four project countries.

Regular coordination and supervision were provided by core research team to National Research Partners (NRPs) to guide and supervise the whole study process. UNODC and WHO country offices supported the implementation at the country level further, especially the coordination of various study partners and the procurement or securing of naloxone for use in the study.

Process evaluation

Key parameters of the implementation of the S-O-S project across the implementation phase were collected by NRPs in each country and sent to the Leading Group (comprised of the Principal Investigator from the Burnet Institute and representatives from the WHO and UNODC), who compiled a process evaluation spreadsheet that was updated over time. These key parameters include the number of trainers and potential opioid overdose witnesses trained through the project, the number of naloxone kits distributed and the number of refill kits requested.

Qualitative data

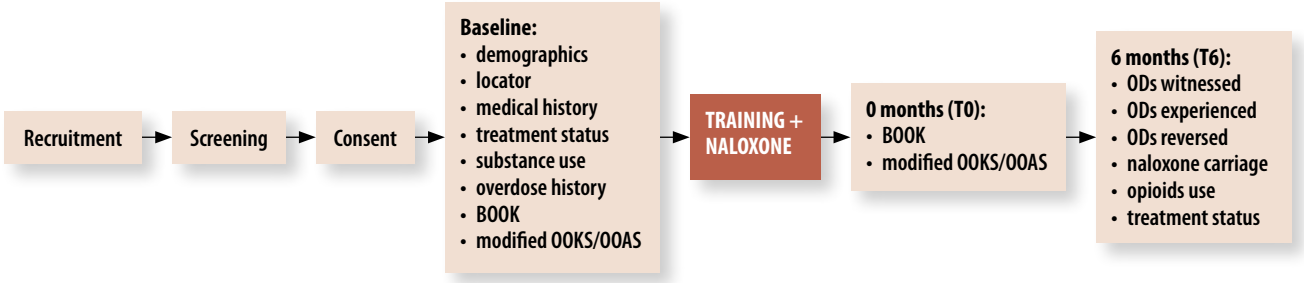
A series of focus group discussions (FGDs) and individual interviews (with intervention participants and service providers) were conducted by NRPs in the four participating countries. FGDs and interviews aimed to gather participant insights about the project and its implementation (including experiences of the training component, usability of the naloxone kits, how the initiative has made a difference in their lives, and issues, concerns and recommendations for future consideration). All FGDs and interviews were conducted and audio-recorded by local research teams in local languages. NRPs in each of the four countries conducted their own thematic data analysis and compiled project reports of the analysis in English.

Impact evaluation

In each country a sample of participants from the broader intervention roll-out was recruited into a prospective cohort study to follow THN recipients over a six-month follow-up period. The key question of the cohort study is to what extent THN training and supply results in the use of naloxone at an overdose event witnessed by study participants (potential overdose witnesses).

Sample size calculations suggested a sample of 400 was required in each country to allow for an estimated 138 witnessed overdose events in each country at six months follow up, allowing for expected attrition and the percentage of participants expected to witness an opioid overdose which was estimated as being 25% of opioid consuming participants (Kan M, 2014) and 20% of other witnesses (Williams, Marsden, & Strang, 2014).

Fig. 3. Study flow diagram for the prospecive cohort Study



The cohort study was advertised primarily through word-of-mouth and recruitment flyers posted at locations frequently attended by people who use opioids and/or people likely to witness overdose such as outreach services and clinical services. Eligible participants were those likely to witness opioid

overdose (e.g. people with current or past opioid use, their family members or friends) who were: (1) residents of the study city for six months or more, (2) aged above 18 years, (3) able to speak and read language of study instruments fluently, (4) willing to provide written informed consent to participate in the study, and (5) willing to undergo follow-up assessment at six months and provide contact details to enable these assessments. People who were trained using the S-O-S intervention were approached by trained study staff, informed of the study procedures and invited to participate in the study. They were then given a participant information sheet which described the study in detail including study procedures, and possible risks and benefits of participation after which written informed consent was obtained from those wishing to participate in the study.

Participants were administered study questionnaires at the three time points shown in Figure 3: pre-training (baseline, immediately post-training (Time point 0, T0), as well as 6 months post-training (T6). Questionnaire responses were recorded on electronic devices pre-programmed using REDCap software or recorded on hardcopy equivalents and then entered into REDCap by study staff as soon as possible after questionnaire administration. Questionnaires administered at each time point were designed to capture information as follows:

1. **baseline:** (1) standard demographics questionnaire along with a self-administered baseline questionnaire on (2) history of drug use, (3) overdoses witnessed and experienced and naloxone use (4) questionnaire on behaviour when witnessing an overdose and overdose knowledge (Brief Opioid Overdose Knowledge (BOOK) and modified questions from Opioid Overdose Knowledge Scale(OOKS)) and attitudes (Opioid Overdose Attitudes Scale (OOAS)) (Dunn et al., 2016; Williams, Strang, & Marsden, 2013);

2. **T0:** repeat administration of opioid overdose knowledge and attitudes questionnaires;

3. **T6:** modified version of the baseline questionnaire including questions on carriage of naloxone, witnessed overdoses and actions, experienced overdoses, opioid use, and treatment status (drawn in part from the follow-up questionnaire from the N-ALIVE trial (Meade et al., 2018).

Participants were given cash as reimbursement for the time and out-of-pocket expenses associated with participating in the study. Participants who were unable to be contacted and interviewed within eight months of their baseline visit were deemed lost to follow up.

Process evaluation findings

Process indicators were collected for the S-O-S study. Implementation took place July 2019 through to April 2020, with some differences in dates across countries. Table 1 shows progress in relation to each of the core implementation parameters. A total of 14,263 potential witnesses were trained using the S-O-S training materials by a total of 224 Level III Trainers across the countries. Implementation differed across countries but across countries the large majority of witnesses trained were male and people who used drugs. The target of 4,000 THN kits distributed was reached in all countries other than Kazakhstan where 3,700 kits were distributed, and multiple kits were distributed to some witnesses who requested so in Ukraine and Kazakhstan. A total of 1,328 refill kits were requested over the project implementation period, some 8.2% of the total initially distributed. While some of the kits will have been wasted, it is likely that the vast majority will have been used to reverse opioid overdoses (Kan M, 2014).

Table 1: Program implementation measures for the S-O-S project across project countries

Program dimensions	Overall	Kazakhstan	Kyrgyzstan	Tajikistan	Ukraine
N Level III Trainers trained	224	110	54	20	40
N Witnesses trained	14,263	3,055	4578	4,000	2,630
% female witnesses	24.9	20	27.5	23	33.3
% opioid consumers	70.2	79	89	73	86
% peers/family members	14.8	12	9	17	12
% health workers	9.8	9	2	10	2
N kits distributed	16,278	3,700	4,578	4,000	4,000
N Refill kits requested	1,328	776	422	537	115

Qualitative perspectives on S-O-S study implementation

A summary of the qualitative data collected during the course of the process evaluation is provided in Table 2.

Table 2: Qualitative research conducted by NRPs for S-O-S process evaluation

		Total	Kazakhstan	Kyrgyzstan	Tajikistan	Ukraine
Focus group discussions A Immediately post-intervention	20 focus groups	n=146	5 groups n=46	5 groups n=37	5 groups n=35	5 groups n=28
	Intervention recipients (people who inject drugs, family, friends)	n=81	n=23	n=30	n=11	n=17
	Service providers (outreach, clinicians, police, nGOs)	n=65	n=23	n=7	n=24	n=11
Focus group discussions B 3–5 months post-intervention	16 focus groups	n=101	1 group n=6	5 groups n=37	5 groups n=30	5 groups n=28
	Intervention recipients	n=64	n=6	n=30	n=12	n=16
	Service providers	n=37	n=0	n=7	n=18	n=12
Individual interviews (n=45) Post-intervention	Intervention recipients	n=17	n=10	n=0	n=3	n=4
	Service providers	n=28	n=5	n=10	n=7	n=6

Qualitative data were collected from 161 intervention recipients (including people who inject drugs (PWID) and families, friends and acquaintances of PWID), and 131 service providers and government officials (including doctors, nurses, outreach workers, counsellors, police, emergency health providers, researchers and health service managers) in the four countries between July 2019 and April 2020. Of

the total intervention recipients, all were aged between 25 and 64 years (mean age = 41.4 years), 63 were female and 98 were male. Data were collected via 36 focus group discussions (FGDs) (n=247) and 45 individual interviews. Nineteen FGDs were conducted in the immediate post-intervention period, 16 were 3–5 months post-intervention, and one was conducted (in Ukraine) just prior to project implementation. Amongst FGD participants, 145 were people who had received the intervention and 102 were service providers. Amongst individual interview participants 17 were intervention recipients and 28 were services providers.

Benefits of the initiative – from the perspective of intervention recipients

Several opioid consumers who participated in FGDs said the project had helped build their self-esteem and confidence, as the message it conveyed was that their lives matter and that they are valued and respected enough for people to want to be educated and resourced to save their lives. For example, one participant in Ukraine said, *"I used to think that everyone was just waiting for us all to die. Who needs these addicts? (…) but this program shows, no, someone needs us, someone cares about how to save my life"*. Learning about other strategies to reduce risk was also described as valued by a number of opioid consumers. Some participants also noted how the project had helped to build trust between opioid consumers and service providers, through the experience of completing the training together. Others believed the project was helping to reduce stigma and discrimination in the community, by raising awareness about injecting drug use issues.

Benefits of the initiative – from the perspective of others

Across all project intervention sites many participants described having witnessed the opioid overdose of someone they knew (whether a family member, a friend, an acquaintance or a service user); several told of the trauma and grief they had experienced watching this person "go blue", "stop breathing" and then die, and the powerlessness and helplessness of being unable to help. Overwhelmingly, most participants expressed their deep appreciation for the project, because it now meant that in these situations they were empowered with the knowledge, skills and resources to save someone's life. As one participant in Tajikistan said, *"What could be more important than to learn how to save someone's life!"* Many participants relayed stories, since completing the training, of having revived someone who had overdosed, and of the numbers of others (including witnesses and others who had not been intervention recipients) who now wanted to know where they too could purchase and learn how administer naloxone themselves. For example, one participant from Kazakhstan said, *"My neighbour was found in a hallway overdosed. We injected him two ampoules and he woke up. His parents then came to us asking where to get (naloxone). After then, another fifty people came"*.

Naloxone training and kits

Participants described the training provided through the intervention as positive in a number of ways. Many described the information delivery as clear and useful. In addition to gaining the knowledge, skills, resources and confidence to recognise the signs of an overdose and reverse it, the opportunity to learn basic first aid skills (including how to deliver CPR) was described as a bonus, given many had never had this opportunity previously. Understanding the importance of calling an ambulance even once someone had been revived with naloxone was also valued.

Predominantly participants described the naloxone kits as very user friendly – compact, attractive, containing everything needed to reverse an overdose, and convenient to use. Some interviewees did, however, share some suggestions for improving the kits and the training, which included: reducing the size of the kit for men (because they do not usually carry handbags); and providing training resources in local languages (e.g. Kyrgyz and Uzbek), in addition to Russian.

Some identified challenges

Despite the many positive outcomes of the project, some barriers to successful implementation were raised. Although across each country some positive experiences of interactions with the police were described (as a result of their involvement in or awareness of the initiative), given the criminalised nature of injection drug use, fear of police arrest was a barrier to carrying naloxone. For example, some said if they were pulled over by police while driving and were discovered to have naloxone in the car, that they would likely lose their licence, and others were still concerned if they called an ambulance, that police would arrive (even though they now understood that ambulance officers were not obliged to call the police) and arrest the person who had overdosed, and the person that administered the naloxone. However, during the study period there were no reports from NRPs on any legal issues associated with persons carrying or using naloxone. In Ukraine some interviewees also explained how many pharmacies still do not stock naloxone, even though naloxone is an over-the-counter medication in the country, and if they do, there can be a lack of awareness that it can be purchased without a prescription.

Scaling up and the future

There was unanimous support for the project to be scaled up for universal delivery across the countries where it was implemented, so that all people at risk of a opioid overdose have people around them who have free access to naloxone and have the knowledge and skills to administer it, particularly for people in remote rural areas, where access to health services is limited. A number of participants recommended that future projects should work hard to get more police and health services involved, so they have the capacity to deliver naloxone themselves. Some key stakeholders from Kyrgyzstan recommended the training be part of the police academy education and medical academy curricula and that naloxone and the S-O-S intervention should be made available to people in prison and in other places of detention where people inject drugs.

Cohort study results

Data analysis

Analyses of data from cohort study were stratified by whether the participant reported ever having injected a drug (yes/no) as appropriate. Impacts of THN training on overdose response knowledge and attitudes were assessed by comparing questionnaire responses obtained after training with those obtained before using repeated measures ANOVAs for changes in continuous outcomes over time. The primary outcome was determined from the T6 questionnaire responses as the percentage of witnessed overdoses where naloxone was used, with an associated 95% confidence interval.

Findings

A total of 1646 people were recruited into the cohort study, with recruitment targets met in each country.

S-O-S training impacts

The impact of training was measured by comparing baseline Opioid Overdose Attitudes Scales (OOAS) and Brief Opioid Overdose Knowledge Scale (BOOK) scores with those obtained immediately after training in a pre-post design, with change scores shown in Table 3. Across almost all OOAS and BOOK domains there were improvements recorded post training.

Table 3: Training impacts indexed by pre-post change among cohort study participants

Measure	Improvement PWID n=1125	Improvement Non-PWID n=521
OOAS score change (mean):		
Total	9*	14*
Competence	6*	9*
Concerns	3*	5*
Readiness	0	-1*
BOOK score change (mean):		
Total	2.1*	4.9*
Opioid knowledge	0.4*	1.3*
OD knowledge	0.8*	1.8*
OD response	0.9*	1.8*

Note: * - $p<0.05$.

Impacts of S-O-S participation on overdose response

Table 4 shows key parameters around impacts of the S-O-S intervention as measured at six months post-training for program participants. Most (64.7%) indicated that they still had the naloxone they were given at enrolment in the study, but this varied from 45.2% in Kyrgyzstan to 88.8% in Tajikistan. The large majority of participants (between 85-100%, depending on country) told others that they had naloxone. Rates of reported naloxone carriage varied significantly across countries from 17% in Ukraine through to 95% in Tajikistan.

The primary outcome for the study is use of naloxone at witnessed overdoses. Table 4 shows that 34.5% of the participants reported that they had witnessed an opioid overdose since their training, ranging from 19.9% in Tajikistan through to 49.8% in Kazakhstan. At these witnessed overdoses, 89.1% of participants reported that they had used naloxone at their most recently witnessed overdose, with the 95% Confidence Interval (86.0-91.6%) crossing 90% meaning that the 90% target for naloxone use was achieved. This was the case across all countries except Ukraine, where the upper bound of the Confidence Interval was very close to 90%, at 88.2%. In almost all cases the victim survived.

Table 4: Follow-up THN measures among cohort study participants with a history of IDU by country

Measure	Total (n=1388) % (95%CI)	Kazakhstan (n=341) % (95%CI)	Kyrgyzstan (n=349) % (95%CI)	Tajikistan (n=356) % (95%CI)	Ukraine (n=342) % (95%CI)
Witness overdose since baseline	**34.5 (32.1–37.1)**	**49.8 (44.6–55.2)**	**32.4 (27.7–37.5)**	**19.9 (16.1–24.4)**	**36.6 (31.6–41.8)**
Overdose response (at witnessed overdose)	**(n=479)**	**(n=170)**	**(n=113)**	**(n=71)**	**(n=125)**
Used naloxone at witnessed overdose (95% CI)	89.1 (86.0–91.6)	89.4 (83.8–93.2)	89.4 (82.2–93.9)	100	82.4 (74.7–88.2)
Victim survived	98.3 (96.6–99.2)	98.8 (95.3–99.7)	100	98.6 (90.5–99.8)	95.9 (90.6–99.8)
Other program variables	**(n=1388)**	**(n=341)**	**(n=349)**	**(n=356)**	**(n=342)**
Still have naloxone from enrolment	64.7 (62.2–67.2)	45.2 (39.9–50.5)	52.7 (47.5–57.9)	88.8 (85.0–91.2)	71.4 (66.4–75.9)
Carried naloxone past three days	36.5 (33.9–39.1)	25.0 (20.7–29.9)	14.0 (10.8–18.1)	88.7 (84.9–91.6)	16.6 (13.0–20.9)

Assessment of the overall effect of S-O-S project implementation

Overall, 31% (427/1388) of the participants followed up in the cohort study reported administering naloxone at an overdose that they witnessed during the follow up period. If this figure could be reliably extrapolated to the entire S-O-S study sample of 14,263, this would suggest that the implementation may have resulted in naloxone administration by as many as 4,388 individuals.

Conclusions

The S-O-S project was successfully implemented in three Central Asian countries (Kazakhstan, Kyrgyzstan and Tajikistan) and Ukraine. Rapid distribution of THN was achieved, with in excess of 14,000 potential opioid overdose witnesses distributed within the eight-month implementation phase. The kits were distributed to a variety of potential overdose witnesses, including those in key risk groups such as people who consume opioids. The process evaluation clearly demonstrates the feasibility of S-O-S project implementation in different countries with different health systems, cultures, religions and drug markets (as found in the characterized participants in the cohort study).

The process evaluation also showed how the S-O-S project and its implementation was considered acceptable to stakeholders ranging from people who use drugs through to health and law enforcement officials. However, the implementation of the project was seen as more than merely acceptable, with a range of reported benefits of participation described in the qualitative evaluation that match impacts reported in other studies internationally (Olsen et al., 2017).

The cohort study used to evaluate S-O-S impact showed clear impacts of the project in key domains. First the S-O-S training delivered to study participants showed that training delivered benefits in terms of attitudes towards opioid overdose and knowledge around opioid overdose across all participant groups. These findings are consistent with previous research on similar THN programs (Dietze et al., 2018). Importantly, measures of opioid overdose knowledge were almost perfect (near measure ceiling) at training follow-up, with knowledge enhancement most evident amongst those showing lowest knowledge at baseline.

The cohort study shows that the 90% target of program participants using naloxone at witnessed overdoses was achieved across almost all countries. The only exception, Ukraine, had an upper-bound of the 95% Confidence Interval of the estimate that as 88.1%, missing the target by only two percent. In almost all instances it was recorded that the victim survived. These findings are important and demonstrate that implementation of the S-O-S intervention under the current delivery framework can impact on opioid overdose in the four study countries in line with stated WHO-UNODC targets.

The cohort study was not designed to specifically measure carriage of naloxone by potential witnesses, although this is noted as a key parameter in WHO-UNODC targets and considered a part of the so-called naloxone cascade of care (Tobin, Clyde, Davey-Rothwell, & Latkin, 2018). Low rates of naloxone carriage, such as those observed in this study have been previously noted (Tobin et al., 2018). However, this did not seem to impact on the rate at which naloxone was used at witnessed overdoses. The carriage of naloxone was measured using a question derived from the N-Alive study (Meade et al., 2018; Strang et al., 2013) and our finding suggested that naloxone carriage measured in this way may not be the most appropriate way to characterize this element of naloxone access within the cascade as naloxone was clearly available when needed, as indicated by the use of naloxone. Indeed, discussions with NRPs suggested that it was likely that naloxone was available in the locations in which people may witness an overdose and stored there rather than specifically carried, and this is consistent with the S-O-S target which specifies that 90% of those who receive an emergency supply of naloxone should carry it or have it close at hand. Future work should examine

whether alternate measures of naloxone access can better capture naloxone availability for opioid overdose response than the carriage measure used in the current study.

The S-O-S implementation study was not designed to measure the impact of THN distribution on opioid overdose mortality in the four countries, but nevertheless demonstrated high rates of naloxone usage at witnessed overdoses. Extrapolation of the naloxone use figures from the cohort study (31%) to the entire S-O-S project sample of 14,263 would suggest that the implementation may have resulted in naloxone administration by as many as 4,388 individuals. In countries with limited or inaccessible emergency medical services, it is likely that a large proportion of the observed naloxone administrations resulted in rapid overdose reversal minimizing consequences such as hypoxic brain injury and saving lives. However, it is not possible to determine exactly how this figure translates into the number of lives saved. Modelling work from British Columbia suggests that there is "one averted death per 11 (95% CRI = 10–13) THN kits used". If this figure can be generalized to the settings of the S-O-S project then it would suggest some 398 lives may have been saved. However, the drug markets and overdose response systems in British Columbia (e.g. ambulance services, fentanyl availability and the availability of other overdose response services such as supervised consumption sites) are likely to be very different to what is available in the study countries and so this number should be treated with caution.

Future directions

While opioid overdose prevention programs involving naloxone distribution have become available in many countries, they are still lacking in less resourced settings (Strang et al., 2019). The S-O-S project has demonstrated that community management of opioid overdose can be successfully implemented in low-and middle-income countries in line with WHO recommendations. Future replication studies in other low-and middle-income countries would be beneficial and interest has been expressed to UNODC and WHO by countries outside of the current project. More advanced study designs (randomized controlled trials, analysis of data from routinely collected health data) to systematically demonstrate the impact (including in terms of lives saved) of community management of opioid overdose in low-and middle income countries would be desirable. Improved measurement of naloxone carriage should feature in these studies. However, reliable data on opioid overdose incidence remain limited globally meaning the number of overdoses is likely to be underreported at national levels. Improved measurement of overdose in national and regional health data reporting systems as well as broader development of drug information systems is needed.

Sustainability of community management of opioid overdose with the use of take-home naloxone remains a challenge including in current S-O-S project countries. The implementation of the current project was focused on the city level and given the positive outcomes, scale-up at a country level with a strong evaluation component would be desirable.

While naloxone is on the WHO Model List of Essential Medicines (WHO, 2019), not under international control and available for affordable prices, access remains challenging in many jurisdictions. Naloxone is often not continuously registered at national level and has usually been purchased under emergency medication import frameworks and not available for over-the-counter purchase in many countries. These issues present major barriers to the procurement of this life-saving medication in the community. Relatively simple national actions and positive policy developments could play a significant role in increasing access to naloxone. For example, this was observed as a positive unintended consequence of the S-O-S project when Ukraine amended its legislation making naloxone an over the counter medication.

UNODC and WHO, in the framework of the UNODC-WHO Programme on Drug Dependence Treatment and Care, will continue working with Member States providing technical assistance in line with the SDG target 3.5 on "Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol". This includes the implementation of existing guiding documents and technical tools, such as WHO/UNODC International Standards for the Treatment of Drug Use Disorders (UNODC/WHO, 2020). The S-O-S training package and materials will be made available for training on emergency management of opioid overdose with THN.

UNODC global projects on drug use disorder treatment are being implemented in all project countries, thereby supporting countries in the development of a continuum of care for the treatment of drug use disorders through policy maker and service provider training. WHO and UNODC recommend the use of a range of treatment options for opioid dependence. These include opioid agonist maintenance treatment (with medicines such as methadone and buprenorphine), which has the strongest evidence of effectiveness and cost-effectiveness, as well as psychosocial treatment and support, and pharmacological treatment with opioid antagonists. WHO and UNODC support countries in improving the coverage and quality of treatment programs for opioid dependence and introducing them where they do not already exist.

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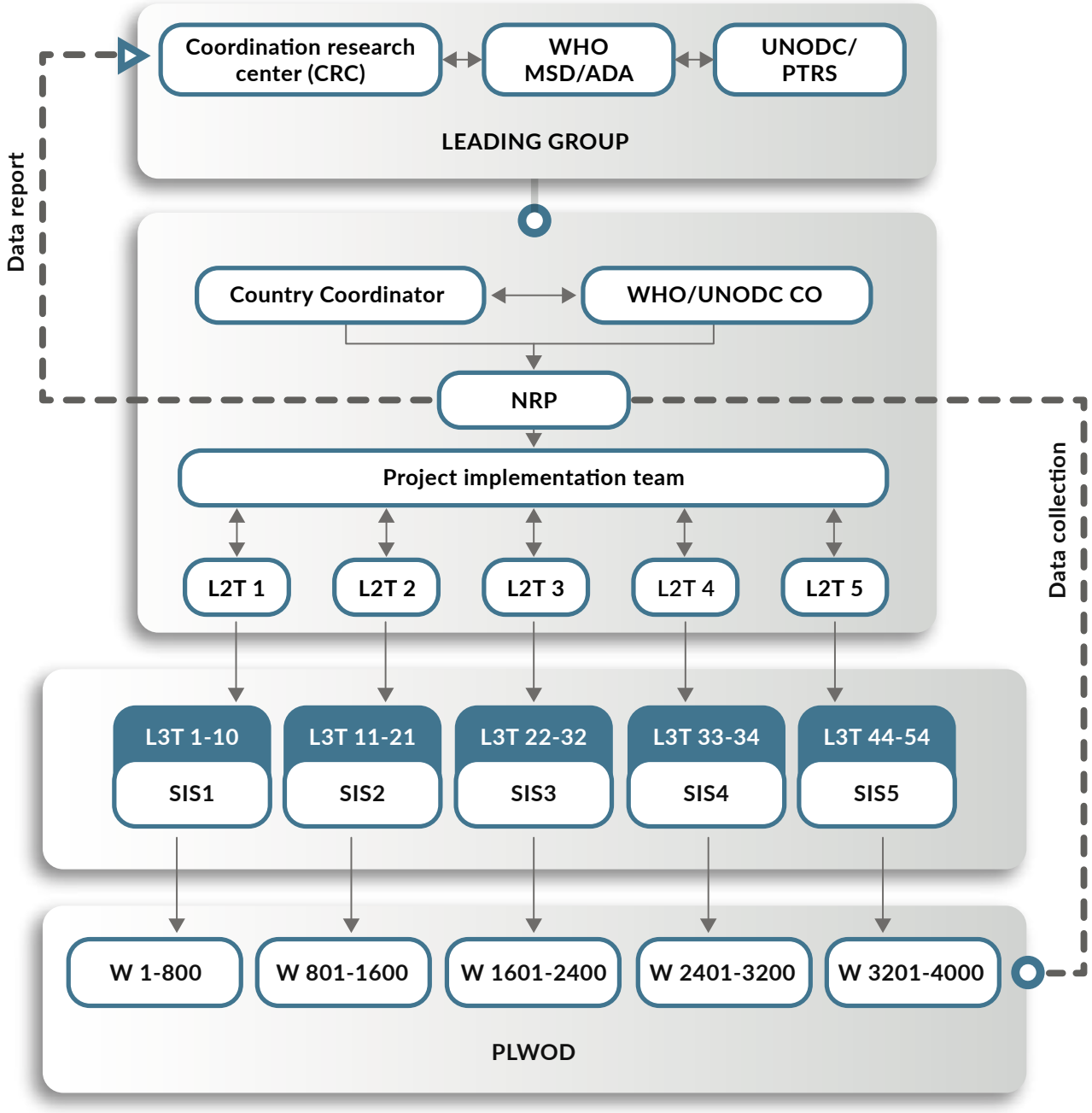
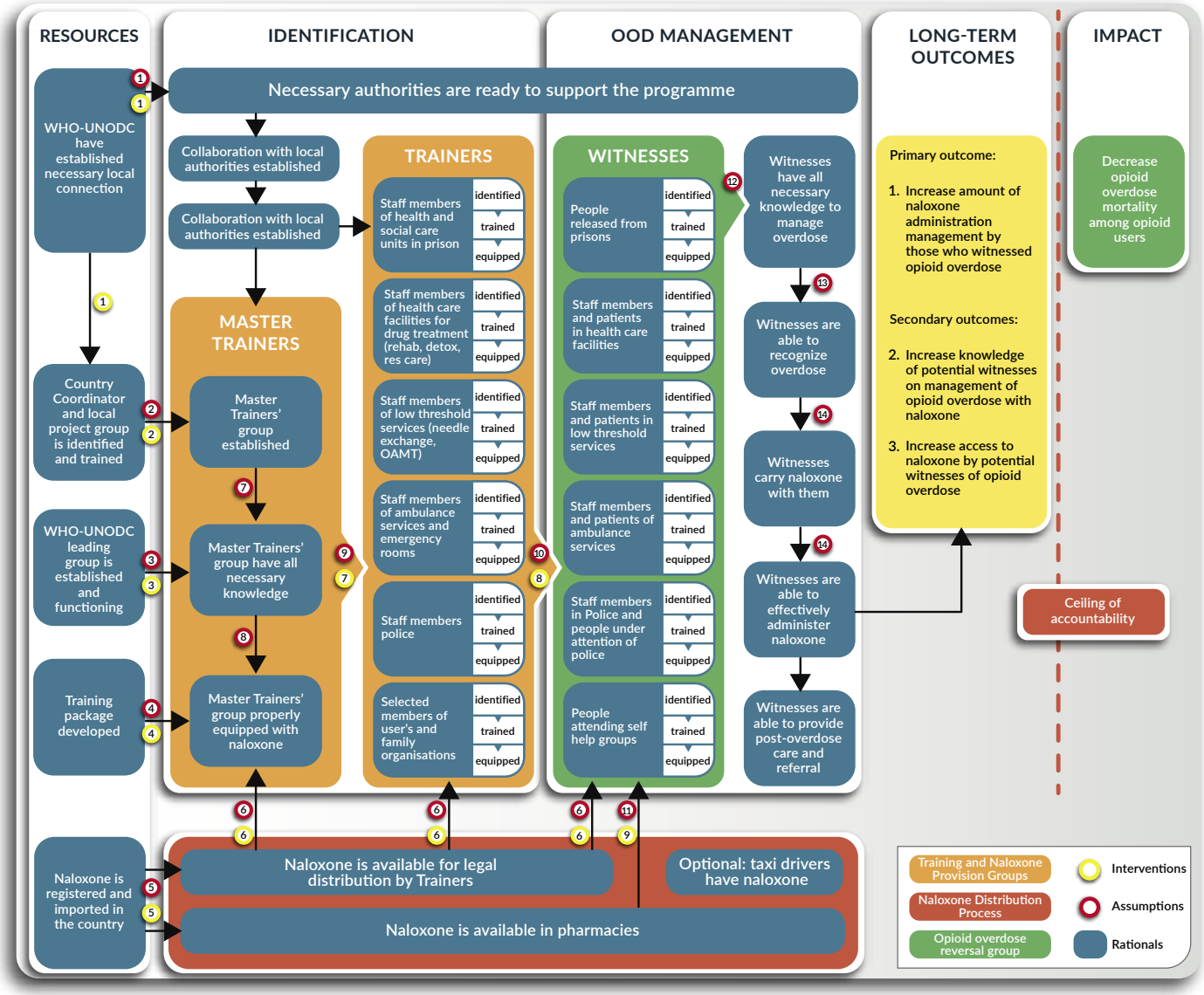
Annex 1. Organisational framework of the S-O-S study implementation



Notes: NRP – national research partner; L2T – Level II trainer; L3T – Level III Trainer; SIS – study implementation sites; W/PLWOD -people likely to witness opioid overdose; WHO MSD/ADA – Alcohol, Drugs and Addictive Behaviours unit, Department of Mental Health and Substance Use, World Health Organization; UNODC/PTRS –Prevention, Treatment and Rehabilitation Section, United Nations Office on Drugs and Crime.

Annex 2. Theory of change map of the S-O-S study implementation



Annex 3. One to One Naloxone Training Checklist

One to One Naloxone Training Checklist

The most common drugs identified in a drug-related death (heroin, methadone, benzodiazepines & alcohol – all CNS depressants) **and the physical effects these drugs have** (slow, shallow, irregular breathing, slow heart rate, feeling less alert, unconsciousness, poor memory, not feeling pain, lower body temp)	**Trainer notes:** The main drugs may differ slightly geographically and should be amended as required. Globally, opioids remain one of the main drugs. Explain very briefly what opioids do to the body.
Main risk factors of drug overdose (low tolerance, polydrug use, using too much, injecting drug use, purity levels)	**Trainer notes:** Check the person knows that tolerance reduces within a few days. Emphasise long and short acting drugs and how this may lead to mixing drugs. For instance, if someone used a lot of benzodiazepines (which have a long half-life) then 2 days later they use heroin (short half-life) they would technically still be mixing drugs.
High risk times (release from prison, leaving rehab or hospital, recent detox, recent relapse, poor physical or mental health, recent life events, cash windfall, longer-term drug use, festive periods, weekends or holidays)	**Trainer notes:** it is not necessary to discuss all of the high-risk times but emphasise why they would be risky – times when tolerance is lowered of mixing drugs/using more than usual is more likely.
Signs and symptoms of suspected opioid overdose (pinpoint pupils, unarousable, pale skin, blue lips, shallow/slow breathing, snoring/rasping breaths)	**Trainer notes:** important to emphasise the fine line between someone being heavily intoxicated (would still respond) and having an overdose (completely unresponsive). Highlight that rasping breathing is often mistaken for snoring, leading to many preventable deaths.
The common myths – WHAT DOES NOT HELP in case of overdose (inflict pain, give other psychoactive substances e.g. stimulants, put in bath/shower, walk person around, leave person on own)	**Trainer notes:** this area should be dealt with sensitively as many people will have tried these strategies unsuccessfully. It may also be the case that these strategies have appeared to work, with the person experiencing a non-fatal overdose. Myths should be discussed with an explanation of why they wouldn't be effective to give more context.
Knows when to call for an ambulance (when person won't wake with shout/shake, status of person and location)	**Trainer notes:** naloxone does not replace calling an ambulance, it is there to buy time until it arrives.
Knows about the recovery position (person on side, airways open)	**Trainer notes:** it may not always be possible to practice this but can be useful to have some visual materials to show it.

One to One Naloxone Training Checklist continued

Knows about rescue breathing and CPR (30 compressions, 2 breaths – one cycle)	**Trainer notes:** it is unlikely you will always have a resus mannequin to demonstrate so this can be talked through.
Knows when and how to administer naloxone (unconscious but breathing – admin when in recovery position then every 2-3mins. Unconscious but NOT breathing – admin after one cycle of CPR then after every three cycles of CPR. Dose – 0.4 mg into outer thigh muscle. Assembly of syringe)	**Trainer notes:** if possible, allow the person to practice with a sample kit. If not, use of visual images can be helpful.
Knows that naloxone is short acting (the effects of naloxone wear off after 20-30 mins, possible that overdose may return)	**Trainer notes:** opiates have not left the body, they will reattach to receptors and it is possible, although unlikely, that the overdose will return. If the person is experiencing withdrawal, this is when they will start to feel better.
Knows the importance of staying with the person (do not let the person use any other drugs if they gain consciousness)	**Trainer notes:** be firm with the person who has overdosed when they wake up. If they use further opioids straight away, it is highly likely they will overdose again when the naloxone wears off.
Content and use of the SOS-THN-Kit (SOS-Take-Home-Naloxone-Kit) and disposal strategy	**Trainer notes:** present the SOS-THN-Kit (SOS-Take-Home-Naloxone-Kit) consisting of 1 plastic box with sliding covers that safely accommodate: 2 naloxone ampules (Sol Naloxone hydrochloride 0.4 mg/ml-1ml); 2 muscle syringes with pre-attached needles (2,5ml 23G 0,6 x 30mm); 1 alcohol pad; 1 pair of gloves; 1 small leaflet. Mention the disposal strategy: pack needles, syringes and broken ampules back into the KIT and return to healthcare facility or NGO.

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