

## **Distinguishing signs of opioid overdose and indication for naloxone: an evaluation of six overdose training and naloxone distribution programs in the United States**

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### **APPENDIX: Key summary of six US-based naloxone distribution programs**

*Chicago* Chicago's overdose management training, conducted by the Chicago Recovery Alliance (CRA), has been in place since 2001 and informally since 1997. CRA staff or outreach workers who have completed a 4-hour training, demonstrated their participant training ability to senior staff, and passed a written overdose knowledge test conduct the trainings. People interested in being trained to respond to overdoses including naloxone administration come to the CRA van or to the drop-in center/needle exchange for trainings, or are patients enrolled in CRA's mobile methadone treatment program. Trainings are conducted in group, pairs or one-on-one, as needed. Prior to training, a medical history is collected on all participants. Thereafter, time, space, and materials permitting, participants are shown or may take home a ten-minute DVD which provides standardized curriculum on overdose and naloxone. The curriculum of the overdose program encompasses basic opioid neurophysiology, pharmacodynamics and pharmacokinetics of commonly used opioids, pharmacology and pharmacokinetics of naloxone and other opiate antagonists, risk factors and prevention techniques for opioid overdose, signs and symptoms for early recognition of opioid overdose, prevention of choking and aspiration in the unconscious patient, techniques of rescue breathing, routes of administration and dosing guidelines for naloxone, and protocols for follow up care. Overdose with non-opioid drugs is only discussed in the context of multi-drug use as a risk factor in opioid overdose; it is not

explicitly covered in the curriculum as separate phenomena requiring not naloxone administration but immediate medical attention. The DVD carefully illustrates rescue breathing techniques on a real person; a resuscitation dummy is not employed in the trainings. After viewing the DVD, the trainers also often review key training topics with the help of a checklist, and participants initial each topic to indicate their understanding of the material. In addition to or in lieu of viewing the DVD, trainers conduct a 15 to 20 minute training with participants, aided by the checklist and covering similar content as the DVD. Thereafter, the trainee receives a vial of naloxone, sterile syringes with which to administer it, a pocket-sized instruction card for overdose recognition and response, and a prescription to carry the medication. There is no remuneration for training completion. Approximately 6,200 10-dose vials of naloxone have been prescribed by CRA and 465 spontaneous reports of successful peer reversals have been received, with only one report of an unsuccessful reversal in a multi-drug overdose event [15].

*New York City* The Harm Reduction Coalition (HRC), an advocacy group that seeks to reduce drug-related harm, has been training peers in overdose recognition and response in sites throughout New York City since March 2005. Two sites utilizing similar training curricula and procedures were involved in this evaluation and are briefly overviewed here. First, the Positive Health Project (PHP) is a multi-service health facility exclusively for drug users, located in Midtown Manhattan. The site provides services such as needle exchange, mental and physical health care, and presently trainings such as overdose recognition and response. Trainings at PHP are conducted on-site in a small group setting, lasting about 30-45 minutes. The training procedure includes a didactic and hands-on training curriculum, a brief medical history, an individual meeting with a clinician, a check of overdose and naloxone knowledge, and

subsequent prescription and dispensing of naloxone in pre-filled syringes to trainees who pass the evaluation. The HRC approach follows a train-the trainer model, so staff and outreach workers from the respective sites conduct the trainings, with assistance from a clinician who attends the trainings and offers support and oversight of the content. Stimulant overdose is not discussed within the naloxone training programs, as the focus is opioid overdose recognition and response. A \$4 metro card is offered as compensation to participants for their time.

The second site, Citiwide Harm Reduction, is located in the South Bronx, where the highest number of fatal overdoses in New York City occurs. The curriculum, compensation, train-the-trainer model, provider involvement, evaluation of overdose and naloxone knowledge, and naloxone kit are similar to that of PHP. However, the trainings may occur in different settings: at the Citiwide drop-in center, on the street, or in hotel rooms, and therefore range in attendance (from 1 to 10 people), format (classroom or one-on-one), length (15 to 60 minutes, depending on setting), and degree of interactivity. The range of locations allows for flexibility. For example, practicing rescue breathing is more easily accommodated by trainings held in hotel rooms and at the drop-in center than those conducted on the street, though the one-on-one trainings performed in the street permit tailoring of the training to the trainee's skill level. Uniquely, the Citiwide program offers trainings in all settings in Spanish. While upper/stimulant overdose is mentioned in the training, since cocaine is commonly injected both alone and as a speedball (heroin and cocaine together) among the population of IDUs who access Citiwide, though its identification and response is not a focus. Trainees are encouraged to call 9-1-1 in such circumstances.

An estimated 1550 people have been trained in the HRC program thus far, and more than 100 reversals have been reported. An evaluation of the HRC program in summer of 2005 reported that of the 389 participants trained, 24 of 28 who witnessed an overdose used naloxone to reverse it.

*New Mexico* Opioid overdose prevention and response trainings in New Mexico (NM) began in 2001. The curriculum used is similar to that of the Harm Reduction Coalition and Chicago Recovery Alliance but tailored to and communicated in settings appropriate for drug users in NM. A significant amount of drug use in NM occurs in rural areas, where access to needle exchanges and drop-in centers for drug users is limited. In response to the overdose epidemic in their state, the NM Department of Health formally provided support for an overdose response program, purchasing the opioid antagonist and funding state-wide trainings for drug using peers and others interested. The State has extended coverage of overdose prevention trainings to rural areas by renting space for trainings in targeted areas of NM (Figure 1), coordinating with needle exchanges, methadone providers, churches, and local community clinics, and even conducting overdose recognition and response trainings in people's homes. Trained outreach workers perform the one-on-one and classroom-based trainings, which last anywhere from 20 (for street-based efforts) to 120 (for classroom-based sessions) minutes. Classroom-based sessions are interactive, and include the use of dummies for practicing rescue breathing techniques. Clinicians provide the prescription for pre-filled syringes of naloxone and dispense the antagonist to trainees. There is no formal evaluation of the trainee prior to dispensing naloxone but participants are compensated anywhere from \$5 to \$10 for attending the trainings, which

may promote attendance at initial and booster sessions. As of June 2005, there were 700 participants enrolled in the naloxone program with 200 reported reversals.

**Figure 1**

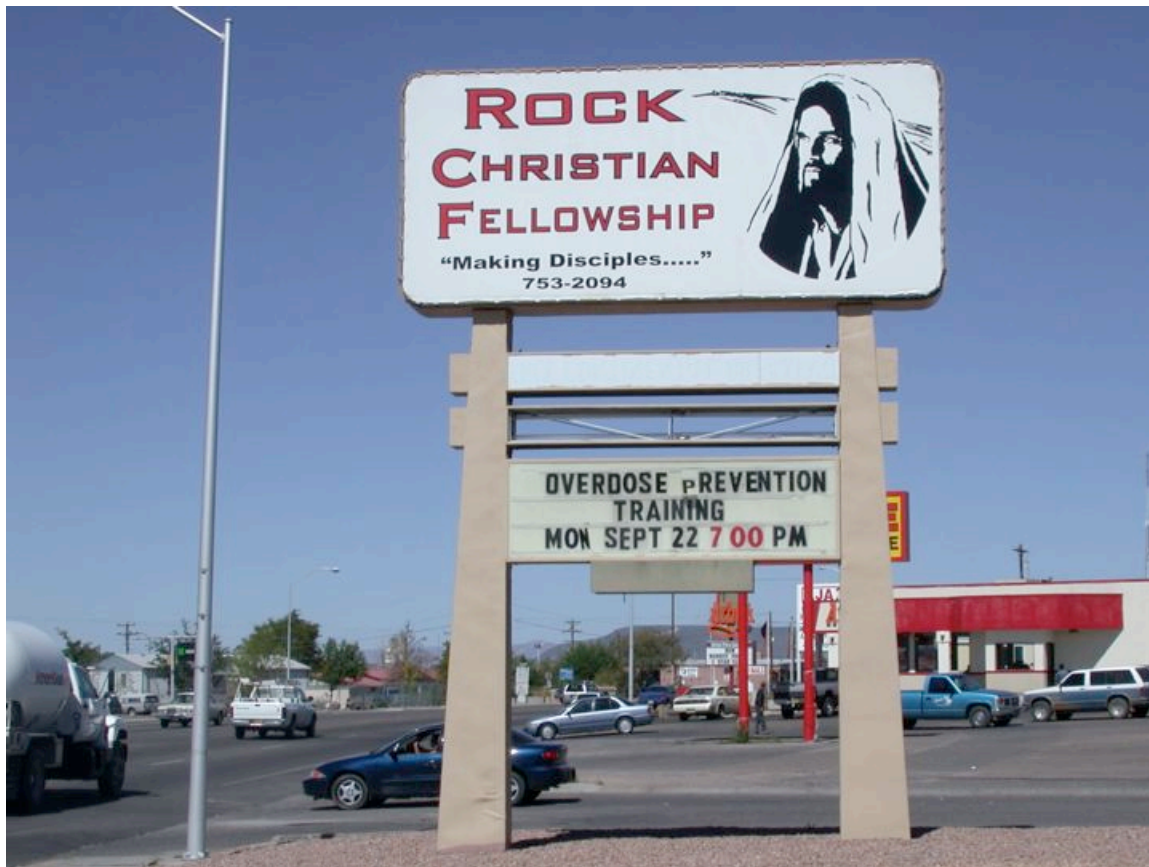


Photo courtesy of Philip Fiuty

*San Francisco* The Drug Overdose Prevention and Education (DOPE) Project began training peers in opioid overdose recognition and response in San Francisco in 2001, and later extended their efforts to include naloxone prescription in collaboration with the San Francisco Public Health Department in 2003. Naloxone prescription primarily occurs at syringe exchange sites. Data suggested that half of the fatal overdoses occurring in San Francisco took place in single room occupancy hotels; therefore, the overdose prevention and response programs expanded

their trainings to include these sites. People are recruited for trainings through fliers distributed at various sites that provide support services for drug users, by word-of-mouth, and at syringe exchanges the day of the training. Monetary incentives are not extended. The procedure for the DOPE Project's trainings follows the format of peer outreach worker-led trainings conducted either one-on-one or in a small group, followed by administration of a short questionnaire for medical intake and dispensing of naloxone with a prescription from a nurse practitioner. Upper/stimulant overdose is explicitly covered in the curriculum, though not a major focus. The DOPE Project training lasts about 15 minutes and involves didactic and interactive (i.e., demonstration and/or practice with resuscitation dummies) components. Since May 2006, 700 people have been trained by the DOPE Project, using over 1300 prescribed pre-filled syringes resulting in 160 reported reversals of overdose in the community.

*Baltimore* The Staying Alive Drug Overdose Prevention Program was launched in Baltimore in April of 2004, sponsored by the Baltimore City Health Department and the Open Society Institute. Trainings first occurred in 5 different centers in the city using a classroom-based model with small groups (4-15) and are now also offered on a van adjacent to the needle exchange program. Peer outreach workers who have been specially trained conduct the classes. To facilitate attendance, the programs provide transportation to the training site and lunch for the trainees but no monetary incentive. The curriculum covers the definition of overdose, risk factors for overdose, symptoms and signs of cocaine overdose, symptoms and signs of opioid overdose, myths about responses and how to appropriately respond to an opioid overdose. As part of the classroom training, rescue breathing is demonstrated by the trainers and practiced by participants. Finally, trainers administer a post-training evaluation, which must be answered 80%

correctly to receive a naloxone prescription. A clinician completes a medical intake (comprised of a general health assessment, inquiry of prior experience with naloxone, and assessment of any other health needs) with each person, then prescribes and dispenses a naloxone kit to them. The kit contains 3 syringes and a 10 ml vial of naloxone. As of June 2006, the program had trained more than 942 persons, and spontaneous reports of over 114 reversals had been documented by the Baltimore City Health Department. Recruitment for the trainings occurs through the needle exchange, street and community outreach, from drug treatment programs, and word-of-mouth from trained peers.