Application for Approval of a Research Proposal Involving Human Subjects

Title: Evaluation of a Computer Prompts to Increase Prescription of Overdose Prevention Kits

Co-Investigator Information:

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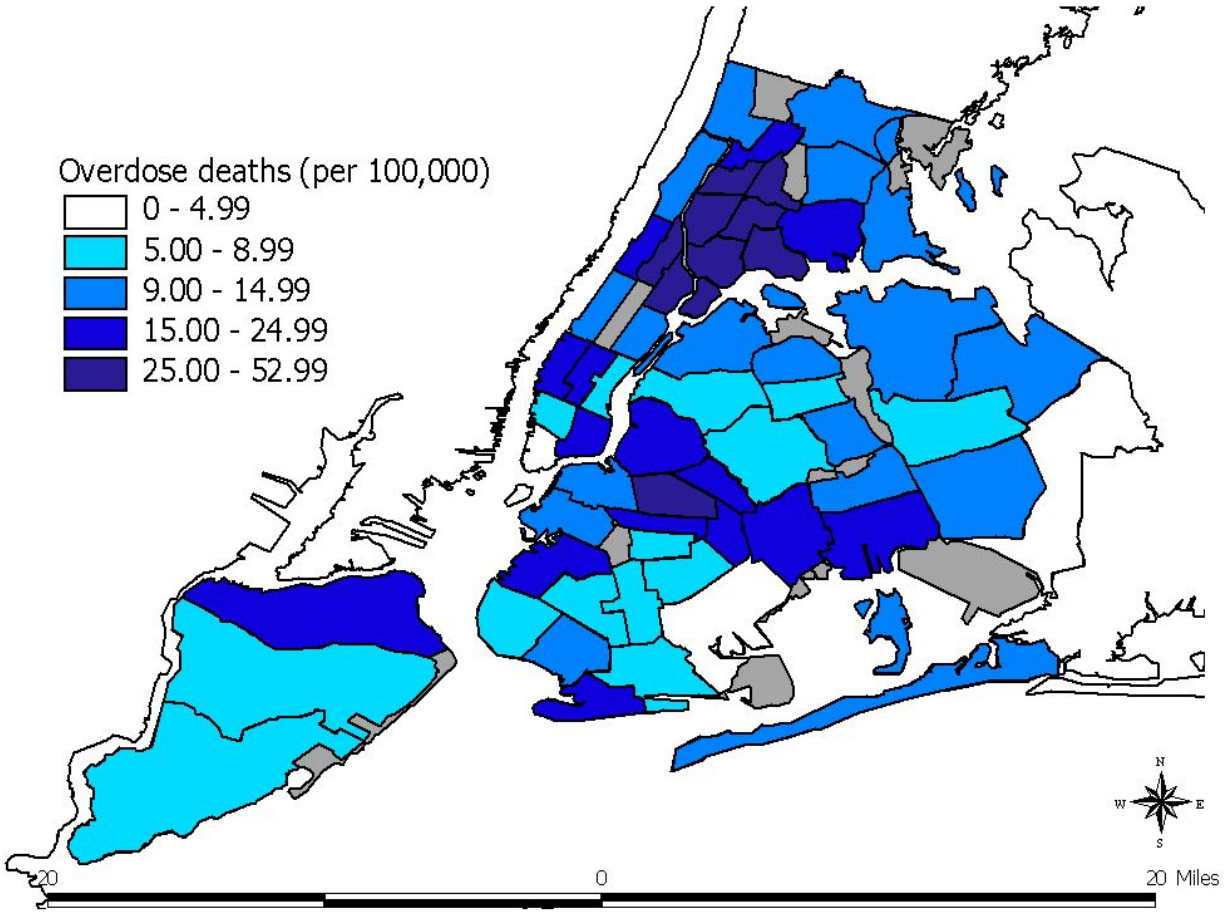
A. Study Purpose and Rationale

Utilization of new patient services by physicians and other providers may be prevented by several factors, including lack of knowledge and attention to more routine details of the patient encounter.(Roumie, Elasy et al. 2007) Limited data suggest that computer prompts can increase provision of prevention interventions. Prompts were modestly more effective than patient-carried cards at increasing provision of some health care maintenance from primary care physicians, with no increase for fecal occult blood testing but an 8% increase for mammograms. (Turner, Peden et al. 1994) A meta-analysis of 16 randomized trials identified an overall odds ratio of 1.77 (95% confidence interval = 1.38-2.27) for increased provision of preventive health among physician receiving computerized reminders compared to controls.(Shea, DuMouchel et al. 1996)

The Columbia-Presbyterian Medical Center (CPMC) Department of Internal Medicine (DOM) recently initiated an innovative program to prevent opiate overdose deaths involving prescription of take-home naloxone, the opiate overdose reversal agent (please see Appendix I-III for policies and procedures, regulations, and training materials). Drug poisoning is the second leading cause of accidental death among U.S. adults aged 15-64(2004) and over two-thirds of drug users report at least one non-fatal overdose in their lifetime(Darke, Ross et al. 1996). From 750 to 1,100 accidental drug overdose deaths occur each year in New York City (Coffin, Galea et al. 2003), with a substantial concentration in the CPMC cachement area (see Figure). Drug users rarely overdose while alone (Darke and Hall, 2003) and

death is rarely instantaneous (Zador et al., 1996), yet witnesses rarely call emergency medical services (Tracy, Piper et al. 2005), suggesting a role for lay administration of a safe and effective overdose reversal agent such as naloxone. This was codified in New York State law in 2005, establishing Overdose Prevention Programs (OPPs) to dispense naloxone in “kits” also including a small face mask, latex gloves, and alcohol swabs. The law protects OPP kit recipients from legal liability for administering naloxone to another in the case of a suspected overdose, expanding the range of appropriate recipients to include any patients at risk of experiencing or witnessing an opiate overdose. Supplies and logistic support for the CPMC OPP are provided by the New York State (NYS) and New York City (NYC) Departments of Health (DOHs). The NYCDOH is currently designing OPPs through all City-run methadone clinics, detoxification units, and hospitals, as well as Riker’s Island Correction Facility.

Figure: Overdose death rate by neighborhood, New York City, 1996



Utilization of the CPMC OPP has been limited. Boxes with OPP kits are currently available at AIM clinic, at the Allen Pavilion, in the medication rooms of three wards (6GS, 7GS, 9GS) at Milstein Hospital, and at the Infectious Disease Clinic on the sixth floor of Harkness Pavilion. Over the past 9 months, only 26 kits have been prescribed, 50% by two providers, notwithstanding routine education at DOM conferences, morning rounds, and staff meetings. Anecdotal reports suggest opiate abusers are less frequently seen at CPMC compared to nearby facilities such as Harlem Hospital, thus a prompt may be necessary to aid providers in identifying candidates for an OPP kit. Efforts to improve physician management of substance abuse have included brief education coupled with computer prompting with modest success (e.g. one study demonstrated a 5-fold increase in tobacco cessation counseling with a non-significant odd ratio of 1.77 for tobacco abstinence at six months)(Unrod, Smith et al. 2007), but data are limited for the effectiveness of computer prompts in substance abuse management. Further, there are no data on prompting for novel initiatives such as the OPP.

B. Study Design and Statistical Analysis

A pre- and post- intervention cross-sectional analysis will be performed to evaluate the impact of adding computerized prompts on rates of OPP kit prescription to appropriate patients at Milstein Hospital. A small sample at the Allen Pavilion will serve as a control group.

HYPOTHESIS: Addition of computer prompts will increase prescription of OPP kits.

Primary objective: To demonstrate a 2-fold increase in the proportion of appropriate patients receiving OPP kits.

To evaluate coverage of those most likely to benefit from OPP kits, we will limit “appropriate” patients to those with a positive drug screen for opiates or methadone or a diagnosis of opiate dependence or opiate abuse within the past 5 years. The records of patients fitting these criteria will be limited to

those discharged from an Internal Medicine service at Milstein Hospital. Based on a preliminary query, approximately 300 patients fit these criteria. Records will be further evaluated for the following inclusion and exclusion criteria:

- Inclusion criteria (number of subjects not meeting criteria will be recorded):
    a. Any past or present history of suspected or documented opiate abuse, or
    b. History of any substance abuse and receiving opiates by prescription at any point in the past 1 year, or
    c. History of any substance abuse with current homelessness or marginal-housing (single room occupancy, HASA housing, living with friend, etc.), or
    d. Any history of drug overdose
- Exclusion criteria (reasons for exclusion will be recorded):
    a. Unstable psychiatric condition that may render receipt of a kit inappropriate (e.g. active psychotic disorder, homicidal intent)
    b. Evidence of violent behavior or thoughts in the setting of clinical care
    c. Severe physical or mental disability precluding reasonable ability to administer naloxone
    d. End-stage disease (oncologic or other with expected lifespan less than 6 months)
    e. Discharge to long-term care facility or any hospice care setting
    f. Discharge against medical advice / elopement
    g. Any reason documented by provider for not dispensing kit
    h. Receipt of OPP kit in any other setting (e.g. outpatient, prior admission, other site)

We estimate that 75% of patients will fit the final criteria, providing a sample size of 225 each for pre- and post-intervention analyses.

Preliminary evaluation suggests that kits have been provided to approximately 10% of appropriate candidates. Based on literature review, we hypothesize that the addition of computer prompts will increase prescription of OPP kits to 20% of appropriate candidates (Shea, DuMouchel et al. 1996).

Analysis of 222 candidates would provide 80% power to demonstrate coverage of 20%. Frequency and chi-square statistics will be used to evaluate for a change in prescription rate.

Secondary objectives:

1) To demonstrate an increase in the proportion of appropriate patients receiving OPP kits at the intervention site (Milstein Hospital) compared to a control site (Allen Pavilion).
    a. As this new service is likely to be utilized more merely with time, a control group will be important to determine if time and routine education alone are responsible for the increase in utilization.
    b. Approximately 225 candidates are seen at Milstein each year and an additional 50 at the Allen Pavilion.
    c. Chi-square will be used to compare the change in proportion of appropriate candidates to whom kits are prescribed at the intervention and control sites. Assuming prescription at both sites would increase by 3% without addition of the computer prompting, and given that the anticipated intervention sample size is 7 times greater than the control, samples of 438 from Milstein and 88 from the Allen would be required to provide 80% power to detect a 10% relative increase at the intervention site. Our expected sample size provides 80% power to detect a 16% relative increase at the intervention site, thus limiting the utility of negative findings.
    d. The expected sample size at the Allen would provide 80% power to detect a 15% increase in coverage at the control site. Thus a significant increase in coverage at the intervention site with no significant change at the control site would not be helpful in determining the effect of the intervention.
2) To demonstrate an increase in the number of providers dispensing OPP kits
    a. Based on preliminary evaluation, 8 providers have dispensed OPP kits. The number of providers directly responsible for DOM inpatients will be determined and the number providing OPP kits in the year prior to intervention will be compared to the number providing kits during the intervention. Medicine housestaff alone (N~125)

would provide 80% power to detect a 5% increase in the proportion of providers prescribing OPP kits.

3) To identify any differences between candidates for OPP kits who receive kits to those who do not receive kits.
    a. Demographics, substance abuse history, housing status, and psychiatric history will be evaluated to identify factors associated with OPP kit prescription.

C. Study Procedures

1) 30 days prior to the start date, a pre-intervention analysis will be conducted. Appropriate OPP patients will be identified by the following procedure:
    a. Mediated database query for drug screens positive for opiates or methadone OR diagnoses of opiate dependence or opiate abuse (ICD-9 340.0 and 292.0) in the past 5 years. Filter for those patients discharged from a Medicine service at Milstein Hospital or the Allen Pavilion within the past 1 year. (time: 2 days)
    b. Review each chart for to determine if OPP kit prescription would be appropriate based on the inclusion/exclusion criteria described above (time: 4 weeks):
    c. Assign a unique identifier (UI) to each of the selected patient records and generate a database including the following information (time: 2 weeks):
        i. Medical Record Number (MRN) – needed to identify patient charts and to match to OPP logs; will deleted following matching with OPP log
        ii. Secondary MRN (many patients have more than one MRN)
        iii. Tertiary MRN (many patients have more than one MRN)
        iv. Site of discharge from hospital (Milstein or Allen; in the expected rare case in which a patient has been discharged from both facilities in ways which maintained eligibility [i.e. not AMA or to a longterm facility], only the most recent discharge will be counted)
        v. Age
        vi. Sex

vii. Most recent date of discharge by CPMC DOM

viii. Results of last positive drug screen and date

ix. Major medical diagnoses

x. Substance abuse diagnoses

xi. Other active psychiatric diagnoses

xii. Receipt of prescription opiates during 1 year study period

xiii. Housing status

e. OPP logs include patient name, MRN, date kit prescribed, and provider name. Logs will be obtained. Each provider will be assigned a UI. A second database will then be generated from the logs including only patient MRN, date kit prescribed, and UI of provider; patient name will not be entered (time: 1 week). The sheet with provider UIs will then be destroyed. This process will be completed in one sitting to protect provider identity.

f. MRNs will then be manually matched and the "date kit prescribed" and "Provider UI" will be transferred to the first database. (time: 1 week)

g. Prior OPP logs will be reviewed to identify OPP kit recipients from other sites or from prior to the study period (who would be unlikely to receive a second kit). (time: 1 day; this step will only be required for the pre-intervention analysis if initiation of study is delayed)

h. MRNs will then be deleted from the database leaving no identifying information for analysis.

2) The intervention will include one experimental component in the setting of standard education:

a. Computer prompt when "discharge patient" order is activated in Eclypsis for patients being discharged from any Medicine at Milstein service reading "Consider prescribing an Overdose Prevention Project kit prior to discharge, contact Phillip Coffin MD with questions (pager 86543, E-mail: poc2@columbia.edu)."

b. Continuation of the following educational interventions in place prior to the study period:

i. In-service training available to all DOM housestaff, faculty, and NP/PA staff with regular discharging or outpatient duties (excluding, for example, cardiac/intensive care unit staff) on at least one occasion per year regarding appropriate use of the

OPP. In-service sites will include but not be limited to the following:

1. Housestaff noon conference (completed 2 times prior to intervention)
2. Allen Pavilion noon conference (completed 2 times prior to intervention)
3. Hospitalist weekly meeting (completed 1 time prior to intervention)
4. General Medicine Friday conference (completed 1 time prior to intervention)
5. ID Clinic Friday conference (completed 1 time prior to intervention)

i. In-service training available to all inpatient and outpatient social workers caring for patients of the DOM (completed 2 times prior to intervention)

ii. Email communication regarding utilization of the OPP to all DOM providers at the start of the intervention and at 6 months.

3) After 1 year of intervention, a post-intervention analysis will be conducted identical to the pre-intervention analysis described above.

4) Frequencies will then be generated to determine the proportion of potential recipients who were prescribed an OPP kit within the past year and the number of providers prescribing OPP kits. Chi-squares will be used as described above. Prescriptions will also be plotted on a timeline to informally evaluate any trends related to the timing of educational interventions. The remaining database data will be evaluated as covariates to prescription (time: 2 months).

5) Following the publication of results, research data will be destroyed after five years. OPP logs will be maintained independent of the research study per OPP/NYSDOH regulations.

6) The entire study is anticipated to run from 3/01/08 through 12/01/09. The anticipated timeline is:

d.	IRB approval	2/28/08
e.	Pre-intervention search	3/01/08
f.	Pre-intervention chart biopsy / data analysis	3/01/08-5/31/08
g.	Intervention	4/01/08

h. Post-intervention search 4/01/09

i. Post-intervention chart biopsy / data analysis 4/01/09-5/31/09

j. Preparation/publication of results 6/01/09-12/01/09

D. Study Drugs: N/A

E. Medical Device: N/A

F. Study Questionnaires: N/A

G: Study Subjects: Two groups of subjects will be evaluated in this study.

1) Providers who prescribe OPP kits will be evaluated in a purely aggregate format. A UI will be assigned to each provider prior to database entry and the code sheet will be immediately destroyed. The total number of providers prescribing kits will be tallied and compared pre- and post-intervention. The number of kits prescribed by each provider will also be tallied. As these data are routine program evaluation and do not involve the identification of any individual provider, there is no indication for informed consent. Only the OPP Project Director and Clinical Director will see the OPP logs.
2) Patients described by the above inclusion and exclusion criteria will be evaluated as to whether they are appropriate candidates for OPP kit prescription. As substance abusers are a vulnerable population, provisions will be taken to ensure strict confidentiality of all data.
    a. MRNs will be initially necessary to identify appropriate candidates and to match those candidates with OPP kit recipients. As soon as matching is complete, all MRNs will be deleted leaving no identifying information in the final pre- and post-intervention datasets.
    b. Chart biopsy will be necessary to identify several inclusion and exclusion criteria after the initial mediated computerized query. All HIPPA forms and regulations will be completed and strictly followed. Further, only one or both of the investigators will review all charts at

each stage of the study, thus limiting the exposure of confidential information (the second view of a chart may be necessary to adjudicate a potential OPP kit candidate).

c. All computerized data will be maintained in a password-protected dataset.
d. Any paperwork with confidential data, such as OPP logs, will be maintained in the locked research cabinet of Dr Gunderson.

H. Recruitment of Subjects: N/A

I. Confidentiality of Subject Data: As described above, a random unique identifier will be applied to each provider and to each potential OPP candidate identified. Once initial data collection is complete, all identifying data (MRNs) related to research will be destroyed. Of note, OPP logs will be maintained per OPP regulations but not utilized for further research without prior IRB approval.

J. Conflicts of Interest: Investigators identify no conflicts of interest.

K. Location: The study will evaluate prescribing practices of inpatient Internal Medicine services. Computer prompts may also be observed by providers outside the scope of this study; any data resulting from such OPP interactions (e.g. prescriptions by providers in outpatient clinics) will be excluded from the evaluation.

L. Potential risks: Although there are no clear risks to computer prompts, such interventions can be an irritant in clinical care. Approval of hospital personnel managing information systems will be required prior to initiation of this intervention. The Eclypsis prompt will be a simple dialogue box that can be readily closed.

As the OPP is not being evaluated in this study, risks and benefits of naloxone provision will not be reviewed here. For a discussion of these issues, please see Appendix IV. To minimize the possibility of OPP kits interfering with clinical care, the Eclypsis prompt will occur at the time of discharge rather than

admission.

M. Potential Benefits: Increased OPP kit prescription may reduce the number of opiate overdose deaths in the CPMC catchment area. Prescription of kits may also improve the strained physician-patient relationship that exists between illicit drug users and healthcare providers. See Appendix IV.

N. Alternative Therapies: N/A

O. Compensation to subjects: None.

P. Cost to subjects: None.

Q. Minors: N/A

R. Radiation: N/A

References

(2004). "Unintentional and undetermined poisoning deaths--11 states, 1990-2001." MMWR Morb Mortal Wkly Rep **53**(11): 233-8.

Baca, C. T. and K. J. Grant (2005). "Take-home naloxone to reduce heroin death." Addiction **100**(12): 1823-31.

Clarke, S. and P. Dargan (2002). "Towards evidence based emergency medicine: best BETs from the Manchester Royal Infirmary. Discharge of patients who have taken an overdose of opioids." Emerg Med J **19**(3): 250-1.

Coffin, P. (2000). "Syringe availability as HIV prevention: a review of modalities." J Urban Health **77**(3): 306-30.

Coffin, P. O., C. Fuller, et al. (2003). "Preliminary evidence of health care provider support for naloxone prescription as overdose fatality prevention strategy in New York City." J Urban Health **80**(2): 288-90.

Coffin, P. O., S. Galea, et al. (2003). "Opiates, cocaine and alcohol combinations in accidental drug overdose deaths in New York City, 1990-98." Addiction **98**(6): 739-47.

Coffin, P. O., M. Latka, et al. (2006). "Safe syringe access is related to safe syringe disposal." AIDS and Behavior **In Press**.

Darke, S., R. P. Mattick, et al. (2003). "The ratio of non-fatal to fatal heroin overdose." Addiction **98**(8): 1169-71.

Darke, S., J. Ross, et al. (1996). "Overdose among heroin users in Sydney, Australia: I. Prevalence and correlates of non-fatal overdose." Addiction **91**(3): 405-11.

Davidson, P. J., R. L. McLean, et al. (2003). "Fatal heroin-related overdose in San Francisco, 1997-2000: a case for targeted intervention." J Urban Health **80**(2): 261-73.

Galea, S., J. Ahern, et al. (2005). "Urban built environment and depression: a multilevel analysis." J Epidemiol Community Health **59**(10): 822-7.

Galea, S., J. Ahern, et al. (2002). "Drugs and firearm deaths in New York City, 1990-1998." J Urban Health **79**(1): 70-86.

Galea, S., J. Ahern, et al. (2003). "Income distribution and risk of fatal drug overdose in New York City neighborhoods." Drug Alcohol Depend **70**(2): 139-48.

Galea, S., A. Nandi, et al. (2006). "Heroin and cocaine dependence and the risk of accidental non-fatal drug overdose." J Addict Dis **In Press**.

Galea, S., N. Worthington, et al. (2006). "Provision of naloxone to injection drug users as an overdose prevention strategy: Early evidence from a pilot study in New York City." Addict Behav **31**(5): 907-912.

Maxwell, S., D. Bigg, et al. (2006). "Prescribing naloxone to actively injecting heroin users: a program to reduce heroin overdose deaths." J Addict Dis **25**(3): 89-96.

Osterwalder, J. J. (1996). "Naloxone--for intoxications with intravenous heroin and heroin mixtures--harmless or hazardous? A prospective clinical study." J Toxicol Clin Toxicol **34**(4): 409-16.

Prevention, C. f. D. C. a. (2006). Expedited Partner Therapy in the Management of Sexually Transmitted Diseases. Atlanta, GA, US Department of Health and Human Services**:** 52.

Roumie, C. L., T. A. Elasy, et al. (2007). "Clinical inertia: a common barrier to changing provider prescribing behavior." Jt Comm J Qual Patient Saf **33**(5): 277-85.

Scott Burris, J. N., Brian R. Edlin (2001). "Legal aspects of providing naloxone to heroin users in the United States " International Journal of Drug Policy **12**: 237-248.

Seal, K. H., M. Downing, et al. (2003). "Attitudes about prescribing take-home naloxone to injection drug users for the management of heroin overdose: a survey of street-recruited injectors in the San Francisco Bay Area." J Urban Health **80**(2): 291-301.

Shea, S., W. DuMouchel, et al. (1996). "A meta-analysis of 16 randomized controlled trials to evaluate computer-based clinical reminder systems for preventive care in the ambulatory setting." J Am Med Inform Assoc **3**(6): 399-409.

Tracy, M., T. M. Piper, et al. (2005). "Circumstances of witnessed drug overdose in New York City: implications for intervention." Drug Alcohol Depend **79**(2): 181-90.

Turner, R. C., J. G. Peden, Jr., et al. (1994). "Patient-carried card prompts vs computer-generated prompts to remind private practice physicians to perform health maintenance measures." Arch Intern Med **154**(17): 1957-60.

Unrod, M., M. Smith, et al. (2007). "Randomized controlled trial of a computer-based, tailored intervention to increase smoking cessation counseling by primary care physicians." J Gen Intern Med **22**(4): 478-84.
Vilke, G. M., C. Sloane, et al. (2003). "Assessment for deaths in out-of-hospital heroin overdose patients treated with naloxone who refuse transport." Acad Emerg Med **10**(8): 893-6.
Worthington, N., T. Markham Piper, et al. (2006). "Opiate users' knowledge about overdose prevention and naloxone in New York City:
a focus group study." Harm Reduct J **5**(3): 19.

APPENDIX I: CUMC Overdose Prevention Program Proposed Policy and Procedures

Personnel

Project director (referred to as "Program Director" in the regulations)
The Project director will
- Identify a clinical director to oversee clinical aspects of program affiliated prescribers and overdose prevention trainers;
- Cooperate with the Clinical Director in establishing the content of the program
- Select and identify trained overdose responders;
- Issue certificates of completion to trained overdose responders who have completed the training program;
- Maintain program records, including a list of Trained Overdose Responders (TORs) and a record of all reports of overdoses
- Maintain inventories of program supplies and materials;
- Ensure that all trained overdose responders successfully complete all components of training program;
- Assist clinical director with review of reports of all overdose responses\
- Report all administrations of opioid antagonist on forms prescribed by the Department

Clinical Director
The Clinical Director, a physician, nurse practitioner or physician assistant will:
- Provide clinical consultation, expertise and oversight of medical issues related to program
- Adapt training program content and protocols as needed.
- Ensure that all trained overdose responders are properly trained through approval and supervision of trainers.
- Approve of affiliated prescribers.
- Review reports of all administrations of an opioid antagonist with the project director

Trainers: Trainers will generally be affiliated prescribers but may be any staff, peers, or volunteers. Trainers may be trained by program staff or at TOTs held by other agencies. Each trainer must be approved by the Project director.

Affiliated prescribers: Affiliated prescribers may be any physician, nurse practitioner or physician assistant who has agreed to provide this service on site or from their own practice setting. Their name and license must be registered with the DOH. All affiliated prescribers must be approved of by the Clinical Director.

Procedures

Selection of trained overdose responders
All adults who are interested are eligible to be trained as trained overdose responders (TORs). If a participant appears to be intoxicated or unable to understand the instruction they will be invited to return another time.

Training protocol
All trainings will address:
Prevention/ understanding risk factor:
- Loss of tolerance
- Mixing drugs
- Using alone

Recognizing an overdose
- Sternal rub

Action
- Call 911
- Rescue breathing
- Rescue position
- Using naloxone

At the conclusion of training each participant will receive a certificate of completion with date and name.

Refresher course
Certification is valid for 2 years at which time participants will be required to take a refresher training in order to receive a new certificate. Training records will be checked when TORs request a new kit for loss, use or expiration date.

Medical encounter
Each TOR will see the medical provider who will maintain the patient's medical history. The medical provider will provide a naloxone kit and a prescription to each TOR. The provider will maintain a record of the training which will be stored by the clinical director in a locked area. Medical records will be maintained per routine at CUMC.

Naloxone kits: The kits will include, at minimum, 1 face mask for mouth to mouth resuscitation, 2 alcohol swabs and a pair of gloves. The prescription will be for: two 0.4mg/1cc prefilled syringes/needles.

Instruction for follow up- Participants will be asked to report all uses or losses of the kit to the project director or a designee.

Refill protocol: Participants requiring refills will be informed of the hours when a prescriber is available to dispense the medication and of pharmacies who have naloxone in stock. The TOR's training record will be reviewed and a refresher training will be offered when 2 years have elapsed

Storage of materials: The project director will ensure that kits are stored safely and maintain an inventory.

Record keeping: The project director will maintain a log of all TORs with the date trained. The Project director will keep a list of all persons who are designated trainers. S/he will ensure that the registration is kept up to date with the DOH. S/he will also collect all reports of overdose reversals.

Overdose reversals All overdose reversals will be recorded on the form supplied by the NYSDOH and reviewed immediately by the Project director. The reports will be reviewed at least monthly with the Clinical Director. Copies of these reports will be sent to the NYSDOH.

APPENDIX II: Overdose Prevention Program NYS Regulations

Proposed Rule Making:
Addition of new Section 80.138 to Part 80 of Title 10
(Opioid Overdose Prevention Programs)
Publication Date: 11/01/2006
Comment Period Expiration: 12/18/2006**Proposed Text and Statements:**
Pursuant to the authority vested in the Commissioner by Public Health Law Section 3309(1), Part 80 of Title 10 (Health) of the Official Compilation of Codes, Rules and Regulations of the State of New York, is amended by adding a new section 80.138 to be effective upon publication of a Notice of Adoption in the New York State Register, to read as follows:
The Table of Contents for Part 80 of Title 10 NYCRR is amended to read as follows:
PART 80
RULES AND REGULATIONS ON CONTROLLED SUBSTANCES
(Statutory authority: Public Health Law, Sections 338, 3300, 3305, 3307, 3308,
3309, 3381, 3701(1), (6), art. 33)

Sec.
GENERAL PROVISIONS
* * *
80.138. Opioid Overdose Prevention Programs
A new Section 80.138 is added as follows:
Section 80.138. Opioid Overdose Prevention Programs.
(a) Definitions.
(1) "Clinical Director" means a physician, physician assistant or nurse practitioner who provides oversight of the clinical aspects of the Opioid Overdose Prevention Program. This oversight includes serving as a clinical advisor and liaison concerning medical issues related to the Opioid Overdose Prevention Program, providing consultation on training and reviewing reports of all administrations of an opioid antagonist.
(2) "Opioid" means an opiate as defined in section 3302 of the public health law.
(3) "Opioid antagonist" means an FDA-approved drug that, when administered, negates or neutralizes in whole or in part the pharmacological effects of an opioid in the body. The opioid antagonist is limited to naloxone or other medications approved by the Department for this purpose.
(4) "Opioid Overdose Prevention Program" means a program the purpose of which is to train individuals to prevent a fatal opioid overdose in accordance with these regulations.
(5) "Opioid Overdose Prevention Training Program" means a training program offered by an authorized Opioid Overdose Prevention Program which instructs a person to prevent opioid overdoses, including by providing resuscitation, contacting emergency medical services and administering an opioid antagonist.
(6) "Person" means an individual other than a licensed health care professional, law enforcement personnel, and first responders otherwise permitted by law to administer an opioid antagonist.
(7) "Program Director" means an individual who is identified to manage and have overall responsibility for the Opioid Overdose Prevention Program.
(8) "Registered provider" for the purposes of this section shall mean any of the following that have registered with the Department pursuant to subsection (b):
(i) a health care facility licensed under the public health law;
(ii) a physician, physician assistant, or nurse practitioner who is authorized to prescribe the use of an opioid antagonist;
(iii) a drug treatment program licensed under the mental hygiene law;
(iv) a not-for-profit community-based organization incorporated under the not-for-profit corporation law and having the services of a Clinical Director;
(v) a local health department.
(9) "Trained Overdose Responder" means a person who has successfully completed an authorized Opioid Overdose Prevention Training Program offered by an authorized Opioid Overdose Prevention Program within the past two years and has been authorized by a Registered Provider to possess the opioid antagonist.
(b) Registration.
(1) Registered providers may operate an Opioid Overdose Prevention Program if they obtain a certificate of approval from the Department authorizing them to operate an Opioid Overdose Prevention Program and otherwise comply with the provisions of this section.
(2) Providers eligible to register to operate an Opioid Overdose Prevention Program that are in good standing may apply to the Department to operate an Opioid Overdose Prevention Program on forms prescribed by the Department which must include, at a minimum, the following information:
(i) the provider name, address, operating certificate or license number where appropriate, telephone number, fax number, e-mail address, Program Director and Clinical Director;
(ii) the name, license type and license number of the affiliated prescriber(s);
(iii) the name and location of the site(s) at which the Opioid Overdose Prevention Program will be conducted;
(iv) a description of the targeted population to be served and recruitment strategies to be employed by the Opioid Overdose Prevention Program; and
(v) the addresses, telephone numbers, fax numbers, e-mail addresses and signatures of the Program Director and Clinical Director.
(c) Program Operation.
(1) Each Opioid Overdose Prevention Program shall have a Program Director who is responsible for managing the Opioid Overdose Prevention Program and shall, at a minimum:
(i) identify a Clinical Director to oversee the clinical aspects of the Opioid Overdose Prevention Program;
(ii) establish the content of the training program, which meets the approval of the Department;

(iii) identify and train other program staff;
(iv) select and identify persons as Trained Overdose Responders;
(v) issue certificates of completion to Trained Overdose Responders who have completed the prescribed program;
(vi) maintain Opioid Overdose Prevention Program records including Trained Overdose Responder training records, Opioid Overdose Prevention Program usage records and inventories of Opioid Overdose Prevention Program supplies and materials;
(vii) ensure that all Trained Overdose Responders successfully complete all components of Opioid Overdose Prevention Training Program;
(viii) provide liaison with local emergency medical services and emergency dispatch agencies, where appropriate;
(ix) assist the Clinical Director with review of reports of all overdose responses, particularly those including opioid antagonist administration; and
(x) report all administrations of an opioid antagonist on forms prescribed by the Department.
(2) Each Opioid Overdose Prevention Program shall have a Clinical Director who is responsible for clinical oversight and liaison concerning medical issues related to the Opioid Overdose Prevention Program and, at a minimum, shall:
(i) provide clinical consultation, expertise, and oversight;
(ii) serve as a clinical advisor and liaison concerning medical issues related to the Opioid Overdose Prevention Program;
(iii) provide consultation to ensure that all Trained Overdose Responders are properly trained;
(iv) adapt and approve training program content and protocols; and
(v) review reports of all administrations of an opioid antagonist.
(3) The Trained Overdose Responders shall:
(i) complete an initial Opioid Overdose Prevention Training Program;
(ii) complete a refresher Opioid Overdose Prevention Training program at least every two (2) years;
(iii) contact the emergency medical system during any response to a victim of suspected drug overdose and advise if an opioid antagonist is being used;
(iv) comply with protocols for response to victims of suspected drug overdose; and
(v) report all responses to victims of suspected drug overdose to the Opioid Overdose Prevention Program Director.
(4) The opioid antagonist shall be dispensed to the Trained Overdose Responder in accordance with all applicable laws, rules and regulations.
(5) The Opioid Overdose Prevention Program will maintain and provide response supplies including: latex gloves, mask or other barrier for use during rescue breathing, and agent to prepare skin before injection.
(6) The Opioid Overdose Prevention Program will establish and maintain a record keeping system that will include, at a minimum, the following information:

(i) list of Trained Overdose Responders, including dates of completion of training;
(ii) a log of Opioid Overdose Prevention Trainings which have been conducted;
(iii) copies of program policies and procedures;
(iv) copy of the contract/agreement with the Clinical Director, if appropriate;
(v) opioid antagonist administration usage reports and forms; and
(vi) documentation of review of administration of an opioid antagonist.
(7) The Opioid Overdose Prevention Program will establish a procedure by which any administration of Opioid Antagonist to another individual by a Trained Overdose Responder affiliated with an Opioid Overdose Prevention Program, shall be reported on forms prescribed by the Department.
(8) Approval obtained pursuant to this section shall consist of a certificate of approval provided by the Department that shall remain in effect for two years or until receipt by the authorized provider of a written notice of termination of the program from the Department, whichever shall first occur. The Department may renew a certificate of approval for a subsequent two-year period if the registered provider is in good standing with all applicable state and federal licensing agencies and such provider is found to have complied with the requirements of this section and has submitted a request for renewal.
(9) Pursuant to Public Health Law Section 3309(2) the purchase, acquisition, possession or use of an opioid antagonist by an Opioid Overdose Prevention Program or a Trained Overdose Responder in accordance with this section and the training provided by an authorized Opioid Overdose Prevention Program shall not constitute the unlawful practice of a professional or other violation under title eight of the education law or article 33 of the public health law.

APPENDIX III: Provider Overdose Training (copies will be in the supply box)

Introduction

Overdose is a preventable cause of death in the majority of cases because it usually:

happens to experienced users.
happens over 1-2 hours, not instantly.
is witnessed by other users or others in the users social network.
can be treated effectively with naloxone (Narcan).

Opioids and overdose – what are opioids?

Opioids include:

- heroin, morphine, codeine, methadone, oxycodone (Oxycontin, Percodan, Percocet), hydrocodone (Vicodin) fentanyl (Duragesic), and hydromorphone (Dilaudid)

Naloxone does not work for-

- Non-opioid sedatives: Valium, Xanax, Clonopin, Clonidine, Elavil, alcohol
- Stimulants: cocaine, amphetamines

What are risk factors for overdose?

Major risks

- **Loss of Tolerance:** Regular use of opioids leads to tolerance- more is needed to achieve the same effect (same high). Overdoses occur when people start to use again, following a period of abstinence such as incarceration, detox or "drug free" drug treatment.
- **Mixing Drugs**: Mixing opioids with other drugs, especially depressants such as benzodiazepines (Xanax, Clonopin) or alcohol. They are "synergistic"- the effect of taking mixed drugs is greater than the effect one would expect if taking the drugs separately or together. Cocaine is a stimulant but in high doses it can also depress the urge to breath.
- **Using alone:** When using drugs alone there is no one present to see signs of overdose. As noted above, users are at greater risk of overdosing if recently abstinent or mixing drugs and should try to avoid doing that when alone.
- **Variation in strength of 'street' drugs** Street drugs may vary in strength and effect based on the purity of the heroin (or other opioid) and the amount of other ingredients used to cut the drug. Users can use small amounts of new batches or inject slowly enough to get a feel of the quality.
- **Serious illness including:** AIDS, liver disease, diabetes and heart disease.

What does an overdose look like?

Users can check in with each other for responsiveness. Overdose is more likely 1-2 hours after using rather than just after injection

Signs:

- Deep, slow snoring or gurgling
- **Heavy nod, not responsive to stimulation – teach sternal rub (rub breastbone hard with knuckles)**
- Slowed breathing
- Cyanotic- bluish lips and nail beds

Understanding naloxone

Naloxone (Narcan) reverses an opioid overdose by blocking opioid receptors in the brain. It wakes a person who is overdosing in 3-5 minutes and is active for about 30 – 90 minutes at which point the effect of opioids can return. This 30-90 window is usually enough to prevent death even if the overdoser does not get medical services. Naloxone has no other effects and cannot be used to get high; it will cause no harm if the person is not having an overdose.

Responding to an Opioid Overdose

- **Stimulation**
- Call their name and shake
- Sternal rub

- **Call for Help**
- Call 911 say: "I can't wake my friend up" or "My friend isn't breathing".
- If leaving the person alone, place them in the **Recovery Position** – positioned on the side. This will help to keep the airway clear and prevent them from choking on vomit.

What is next? If the overdoser is not breathing start with a few breaths and then administer naloxone. If still breathing but unresponsive then the responder should administer naloxone first.

3) Administer Naloxone

- Inject 1cc of naloxone into a large muscle such as the upper arm or thigh

- Repeat in 3-5 minutes with a new needle and vial if no response **If 911 has not yet been called, it is vital to do so now.**
- Continue rescue breathing as needed.

4) If not breathing Perform Rescue Breathing

- Tip the head back with one hand under the neck, the other holding the nose
- Make a seal over the mouth with your mouth and give 2 quick breaths then one every five seconds.

- Keep it up until the person breaths on his/her own.

5) Evaluation and Support

- Monitor the overdose survivor reassuring them that the drug withdrawal will decrease in about one hour, and more drugs should not be used now.
- Inform EMS of what happened and how much naloxone was given.
- Encourage survivor to go to the hospital.

Common questions:

What about salt or milk shots? Many users believe that injecting salt water or milk will revive an overdose victim. There is no medical reason why this works and it can be dangerous as it wastes time. Some people are certain that they work, explain that naloxone is definitely effective so salt shots are unnecessary.
What about walking someone around? If the overdoser can walk this is good and they don't need naloxone. Dragging someone around doesn't help.
What about ice? Like the sternal rub, ice can wake someone in a heavy nod. The sternal rub is easier.
How bad does getting naloxone feel? Naloxone puts an opioid dependent person into withdrawal. This program recommends starting with 0.4mg. Emergency Medical Services often give 1.2-1.6mg and precipitate much more severe withdrawal.
Can one take naloxone and give a clean urine? No, the naloxone only blocks the opioid for a little while; it is still in the body.
What if I hit a vein instead of the muscle? Naloxone is effective intramuscularly (in the muscle), intravenously (in the vein) and subcutaneously (skin popping). Intramuscularly is the quickest and easiest way.
What if someone is pregnant or taking medications- is it dangerous to administer naloxone? Remember naloxone is only to be given if you think someone is dying.
What about methadone and overdose? Even if people continue to use heroin while on methadone or buprenorphine they are unlikely to overdose on heroin. Tolerance to opioids occurs with daily use of methadone or buprenorphine so it is hard feel high from heroin- and very hard to take enough to overdose. But overdoses can occur when mixing methadone or buprenorphine with benzodiazepines.

APPENDIX IV: Risks and Benefits of Overdose Prevention Program (from OPP proposal)

Prescription of naloxone would be expected to save the lives of illicit opiates users and possibly increase safety for home users of large quantities of opiates for pain control. Lay naloxone administration also may decrease the time spent unconsciousness and hypoxic during nonfatal overdose, thus reducing morbidity from non-fatal overdose. Naloxone prescription may decrease costs of patient transport as patients may be revived on ambulance arrival. Survey data suggest naloxone would not change frequency of calling EMS in the event of an overdose(Seal, Downing et al. 2003), yet patients effectively revived with naloxone may not require transport to hospital in select cases. As syringe exchange has acted as a conduit for drug treatment(Coffin 2000), prescription of naloxone may aid development of a trusting relationship between provider and patient leading to future acceptance of treatment recommendations.

Concerns about naloxone prescription or distribution include:

1) *Would the availability of naloxone increase the amount of opiates used due to the "safety net" provided by naloxone?* As observed in clinical practice, naloxone administration results in symptoms that are dreaded by habitual opiate users. In fact, the survey by Seal, et al., also did not support this supposition but instead raised the concern that some opiate users may choose not to carry naloxone because they don't want to cause those symptoms in a friend.(Seal, Downing et al. 2003)

2) *Naloxone may not be effective in some circumstances.* First, mixed overdose or non-opiate use may not be resolved with naloxone administration but there is no evidence to suggest the patient would be harmed by naloxone administration (unlike reversing an overdose on benzodiazepines with flumazenil). Second, naloxone may be insufficient to revive the overdosing individual, who may require cardiopulmonary resuscitation or rescue breathing; as with other treatments for toxic ingestions, patients prescribed naloxone would be advised to always call x911. Third, the half-life of naloxone is shorter than heroin and most other opiates, raising the concern that a recipient could face respiratory depression after naloxone administration. Naloxone recipients will always be advised to contact 911 and, moreover, several studies suggest that brief observation is usually adequate following revival from an opiate overdose. Overdose victims in New South Wales are usually treated at the site of the overdose and only 0.004% of fatalities occurred in patients who had received naloxone(Darke, Mattick et al. 2003). A U.S. study found no related deaths among patients treated by ambulance personnel in the field with naloxone who refused transport to the hospital.(Vilke, Sloane et al. 2003). An extensive literature review concluded that an otherwise well overdose victim can safely be discharged after one hour(Clarke and Dargan 2002). Fourth, some have suggested that fentanyl-related overdoses "with the needle still in the arm", which thus far have been rare in NYC compared to other major cities, might require more naloxone. Nonetheless, the rapid on-site response of lay naloxone administration may be critical in saving lives, especially if this type of overdose is so rapid.

3) *Complications following resuscitation, such as physical injuries, aspiration-related lung injury and infections, seizures, and peripheral neuropathy, may infrequently require hospital care.* If patients are revived without contact with medical services, these problems may not be addressed in a timely fashion. The concern that witnesses would not call 911 were naloxone available was not supported by surveys of drug users in San Francisco (Seal, Downing et al. 2003) and was not raised in a series of focus groups about naloxone prescription and overdose training with injection drug users in New York City(Worthington, Markham Piper et al. 2006). Moreover, this concern must be considered in the context of a lifesaving intervention.

4) *Although naloxone is among the safest drugs in the U.S. pharmacopeia, there have been case reports of side effects*, most cited from a study by Osterwalder(Osterwalder 1996). An episode of pulmonary edema noted is easily explained by heroin overdose itself. One case of asystole occurred in a patient with severe acidosis. Three episodes of convulsions also could be explained by respiratory depression and cerebral hypoxia and a case of violent behavior could be consistent with sudden withdrawal(Baca and Grant 2005). Of note, a review for adverse effects in the Chicago naloxone program found none(Maxwell, Bigg et al. 2006). Thus most of the rare side effects associated with naloxone are probably due to heroin consumption and overdose per se.

5) *Mortality from injecting without anyone else present will be unaffected by naloxone prescription.* As noted in a study geocoding overdose deaths, most deaths in San Francisco occurred in single room occupancy units, where injection drug users often face social isolation and use drugs alone(Davidson, McLean et al. 2003). Naloxone distribution has been paired with overdose education to address this population, but naloxone may remain useful in these settings to prevent the further delay of EMS arrival. In addition, alerting recipients to the hazards of overdose while providing a management tool may help to empower drug users, a psychological attribute often associated with improved risk behaviors.(Coffin, Latka et al. 2006). Overall, the benefit of streamlimed naloxone precription as proposed here is probably less than a more comprehensive education program but superior to no intervention.

6) *Does it have to be an injection?* Intranasal naloxone is now available but cannot yet be recommended due to inadequate data on effectiveness, particularly among patients who may not have intact nasal mucosa. For now, NYS and most providers recommend prescribing two Mini-Jets, each with 0.4mg of naloxone. If one dose is not effective, the second is administered. Individual administrations also avoids the risk of HCV transmission that is present in multi-dose vials.

7) *The target of the prescription may include not only the recipient but also individuals at risk of overdose within the social network of the patient and, if administered to the patient, a person for whom the drug was not prescribed would be the administrator.* These concerns are the most pressing from a medico-legal standpoint. New York State has addressed these concerns with a law protecting naloxone recipients from liability for attempting to reverse an overdose with naloxone obtained under the regulations. Even without this law, there is a good case for naloxone prescription. The Centers for Disease Control and Prevention now recommend partner therapy for sexually transmitted diseases without a medical evaluation(Prevention 2006). Glucagon is prescribed to patients with diabetes to be administered by bystanders if the patient suffers a severe insulin reaction and epinephrine is prescribed to patients with severe allergies but may be administered by bystanders. To make its prescription more widespread, New Mexico has limited liability of prescribers of take-home naloxone (Huffman 2001). New York State took a different approach by immunizing naloxone handlers from liability and explicitly encouraging naloxone prescription.

8) *Is naloxone prescription legal?* A legal analysis by S. Burris, et al., from Temple Law School, of prescribing naloxone prior to the passage of the NYS law concluded that: “Prescribing of naloxone in the USA is fully consistent with state and federal laws regulating drug prescribing. The risks of malpractice liability are consistent with those generally associated with providing healthcare.”(Scott Burris 2001). Active naloxone prescription to injection drug users has been underway since at least 1998 in Chicago and San Francisco and has become more common under formal auspices each year. Nonetheless, a medical training program must have a high standard for medicolegal safety to protect physicians early in their careers. New York State has provided such protection with the State law immunizing naloxone recipients from liability for aiding an overdose victim. The OPP is approved and supported by the New York State Department of Health, supported by the New York City Department of Health, and approved by Columbia University and New York Presbyterian Hospital departments of risk management.

In sum, the likely benefits of participating in the New York State law supporting naloxone prescription far outweigh the hypothetical risks.