

Substance Abuse

Assignment Description

The Bureau of Alcohol and Drug Use, Prevention, Care and Treatment (BADUPCT) will provide abundant opportunities for a Fellow to apply his/her epidemiological skills. BADUPCT approaches substance use as a public health issue, thus, conducts both drug-related morbidity and mortality studies.

Research/surveillance focuses on the burden of substance use and highlights the influence of environmental and contextual factors. The goal of our research is to reduce the negative health and social consequences of substance use. One of the primary objectives of the substance use related studies is to identify patterns of use and emerging trends, thereby providing opportunities for early warning and effective interventions. Morbidity studies include analysis of emergency department and hospital discharge data, as well as drug treatment data. Mortality research primarily focuses on unintentional drug poisoning, which involves data analysis from two linked sources, death certificates and medical examiner files.

Day-to-Day Activities

Activities will be dictated by the final agreement made with the Fellow; nevertheless, a typical day's activity would include the following: working with a large complex dataset, linking data sources, and running an analysis for a specific research project. He/she will become a skilled substance use researcher, who will become familiar with ICD-9 and ICD-10 classification systems and coding with a focus on the transition from ICD-9CM to ICD-10CM, develop and sharpen statistical analytic skills. He/she will gain experience with writing research protocols, preparing IRB applications, and securing data-source agreements. He/she will also have the opportunity to contribute to research designs, as well as providing significant input into data analysis planning. The Fellow will learn how to abstract data from medical examiner files, interpret data, write scientific reports, and articles for peer reviewed journals.

The Fellow will participate in drug-related overdose investigations detected from real-time surveillance systems. This includes the creation of data collection tools, completion of chart abstractions, management of data, and analysis including production of epidemiologic curves, data tables, and summary of findings. In addition, the Fellow, will be given ample opportunities to present data findings at meetings and conferences. He/she will be encouraged to form relationships with other public health professionals, of which there are numerous possibilities. The fellow will be encouraged to attend any of the myriad trainings sponsored by DOHMH, including SUDAAN and "GIS boot camp". He/she will attend New York State Department of Health's quarterly State Epidemiological Outcomes Workgroup meetings and monthly epidemiology grand rounds. Finally, the mentor's will introduce the Fellow to a range of substance use research and epidemiology experts in New York City.

Potential Projects

There are multiple project opportunities, including working with the morbidity and mortality data sources discussed above. Additionally, their 5 major projects:

Potential Projects:

1) Drug-related overdose investigations detected from real-time surveillance

The Fellow will work with a DOHMH analyst on the review of drug-related events detected through daily Syndromic Surveillance. The Fellow will evaluate the existing syndromic surveillance system. The Fellow will conduct daily data management of the drug-related events from the syndromic surveillance system. In addition, the Fellow will analyze drug-related event data with SAS software and write surveillance reports on a weekly basis. Reports will include the presentation of data with epidemiologic curves, data tables, and summary of findings. These reports will be presented bi-weekly at research staff meeting in the form of tables or Power-point slides. The Fellow will use the findings to highlight hospitals with drug overdose events that need public health investigation.

If a hospital(s) are selected for public health investigation, the Fellow will work with a DOHMH analyst to evaluate the current protocol for drug-related overdose investigations. The Fellow will evaluate past data collection forms and make new forms based on previous outcomes. The Fellow will create a database for data collection forms, participate in chart abstractions, and complete data entry. The Fellow will follow data cleaning protocols and complete data analysis with SAS software. The Fellow will interpret data and findings through tables and reports. Data will be shared at bi-weekly research staff meetings in the form of tables or oral presentation of Power-point slides.

The Fellow will summarize findings from public health investigations over a one year period in a report. The Fellow will work with Dr. Paone and Dr. Driver to draft recommendations on the frequency of drug-related investigations detected from syndromic surveillance. With supervisors' guidance and approval, outcomes from public health investigations can be presented in scientific posters, reports, or manuscripts.

2) Evaluate current drug and alcohol mortality surveillance activities in New York City (NYC)

The Fellow will work with DOHMH analysts to evaluate the current drug and alcohol mortality surveillance in New York City. The Fellow will be provided a review of the data collaboration between BADUPCT, Bureau of Vital Statistics, and the Office of the Chief Medical Examiner's (OCME) office to understand the essential public health functions of each office. The Fellow will be trained on BADUPCT surveillance activities, the primary activity being the collection of drug and alcohol-related mortality data from OCME files. The Fellow will assist DOHMH analysts on the evaluation of current data collection tools and assess if new fields should be added to forms. The Fellow will create mortality surveillance databases, participate in data entry, and create a system for data entry quality assurance.

The Fellow will assist DOHMH analysts with the data analysis of drug and alcohol mortality surveillance. The Fellow will follow data cleaning protocols and complete data analysis with SAS software. The Fellow will interpret data and findings through tables and reports. The Fellow will participate in Arc GIS training through DOHMH and will work with DOHMH analyst to create map(s) for drug and alcohol mortality surveillance. Data will be shared at bi-weekly research staff meetings in the form of tables or oral presentation of Power-point slides.

The Fellow will assist DOHMH analysts in dissemination of annual BADUPCT surveillance report through an Epi Data Brief. Epi Data Briefs are short publications that highlight data findings from varying Health Department programs and projects. The Fellow will understand the basics of health risk communication and will learn to communicate drug and/or alcohol-related mortality surveillance findings to the lay public. With supervisors' guidance and approval, outcomes from public health surveillance can be presented in scientific posters, reports, or manuscripts.

3) Evaluate the relationship between opioid analgesic prescription patterns and the drug poisoning mortality in New York City (NYC)

The Fellow will work with a DOHMH analyst on the evaluation of opioid analgesic prescriptions patterns and drug poisoning mortality in NYC. The Fellow will be required to complete Collaborative Institutional Training Initiative (CITI) for DOHMH related modules on human subject protection, health information privacy and security, and research. The Fellow will participate in the analytic match-merge process of identified prescription data with decedents of drug poisoning mortality. The match-merge process includes the evaluation of exact and partial matches of prescription data to decedent information on criteria such as name, date of birth, address, gender. As the Fellow will be accessing patient health information from the Prescription Monitoring Program, the Fellow will follow the guidelines set forth by the Health Insurance Portability and Accountability Act of 1996, when accessing the data and during all analysis.

The Fellow will be trained on data cleaning and data analysis protocols for Prescription Monitoring Program data and mortality data. The Fellow will assist in the analysis and characterization of the epidemiological data using SAS software. The Fellow will have the opportunity to conduct analysis which includes determining the proportion of opioid analgesic involved deaths linked to a legitimate prescription. The Fellow will participate in the design of the epidemiologic study surrounding the relationship of overdose deaths associated with prescription opioids and having an opioid prescription. The Fellow will assist in discussions of policy recommendations resulting from findings such as recommendations to providers on prescribing practices, increased overdose prevention trainings with naloxone, opioid dose reduction, or treatment for opioid dependence. Results of these analyses will help guide public health recommendations and policies related to opioid analgesics moving forward.

4) Evaluate current drug poisoning hospitalization surveillance in New York City (NYC)

The Fellow will work with DOHMH analysts to evaluate the current drug and alcohol morbidity surveillance in New York City. The Fellow will receive training for DOHMH SPARCS data and will be

trained on current BADUPCT data analysis protocols. The Fellow will participate in a project that focuses specifically on the transition coding from ICD-9 to ICD-10, specifically codes related to drugs and alcohol. The Fellow will evaluate which ICD-9 codes can be re-defined using ICD-10.

The Fellow will use SAS software to analyze SPARCS data using the new ICD-10 codes definitions, and compare to previous ICD-9 coding results. The Fellow will interpret data and findings through tables and reports. Data will be shared at bi-weekly research staff meetings in the form of tables or oral presentation of Power-point slides. The Fellow will work with supervisors to draft recommendations on the ICD-10 codes that provide a seamless transition from ICD-9 code for BADUPCT drug and alcohol morbidity surveillance. With supervisors' guidance and approval, outcomes from the evaluation of the surveillance system can be presented in scientific posters, reports, or manuscripts.

5) Research and summarize current drug and alcohol-related public health laws, policies, and/or publications.

The Fellow will work on researching current drug and alcohol-related public health laws, policies, and/or publications. By reviewing public health laws and policies, the Fellow will gain understanding of the local, state, and federal public health agencies. The Fellow will create a database of findings, and will create a protocol on frequency of collection, update of database, and guidance for database access by other members of BADUCPT. The Fellow will summarize findings on a weekly basis, providing key summary points by topic. Findings will be presented in brief reports and via oral presentation at bi-weekly research and surveillance unit meetings. The Fellow will have the opportunity to write background summaries for topics presented in scientific posters, reports, or manuscripts.

Preparedness Role

The fellow will be encouraged to participate in any training and exercises sponsored by the DOHMH Bureau of Emergency Preparedness. NYC DOHMH has responded to a number of citywide emergencies and epidemics including a meningitis outbreak in 2006, for which Dr. Paone was asked to work on the response team. In the case of an emergency the Fellow may have the opportunity to work on a response team.

Assignment Location: New York City Department of Health and Mental Hygiene
New York, New York

Primary Mentor: Denise Paone, BS, MS, EdD
Director of Research and Surveillance

Secondary Mentor: Cynthia Driver, AA, BA, MPH, DrPH
Senior Epidemiologist