K42   Using Medical Examiner Case Narratives to Improve Opioid Overdose Surveillance

Emily Hurstak, MD, UCSF/ZSFG, Box 1364, San Francisco, CA 94143; Phillip O. Coffin, MD, SF Department of Public Health, 25 Van Ness Avenue, Ste 500, San Francisco, CA 94102; and Nikolas P. Lemos, PhD*, University of California - San Francisco, 333 E Amado Road, Box 217, Palm Springs, CA 92262-6451

After attending this presentation, attendees will appreciate how using additional sources of information to classify opioid overdose cases can result in increases in the number of heroin-related classified deaths and in the identification of non-heroin, injection-related opioid analgesic deaths.

This presentation will impact the forensic science community by offering new tools for the characterization of opioid overdose deaths and the identification of meaningful subgroups of opioid users who can be targeted by public health programming.

Opioid overdose is a leading cause of death in the United States. While opioid analgesics were responsible for the rapid increase in overdose mortality during the 2000s, deaths due to heroin and fentanyl have increased sharply in recent years. Surveillance of the national opioid overdose epidemic demonstrate that the types of opioids causing overdose are evolving. For example, fentanyl mixed with or sold as heroin or other prescription opioids increases the risk of overdose death and complicates interpretation of postmortem toxicology. Opioid overdose surveillance systems report rates and counts classified by the type of opioid involved. Opioid types are extracted from the International Classification of Diseases (ICD) codes on death certificates, which may result in under-estimation or misclassification of specific opioid types.[1] Up to one-quarter of death certificates with drug overdose listed as the cause of death do not include the specific drugs implicated. Failure to include opioid type can result in substantially underestimated counts of overdose deaths involving opioid analgesics. Current opioid overdose mortality surveillance methods do not capture the complexity of the overdose epidemic. Most rely on death certificates which may underestimate heroin overdose deaths. In addition, categorizing deaths using characteristics beyond the type of opioid implicated in the overdose, such as the route of administration, can provide information to design and evaluate targeted public health interventions.

Methods: This study reviewed California Electronic Death Reporting System designations of cause of death and San Francisco Office of the Chief Medical Examiner postmortem toxicology reports and investigative case narratives for all unintentional deaths attributed to opioids occurring in the county of San Francisco from 2006 to 2012. Using these data sources, this study created enhanced classification systems for heroin-related and injection-related opioid overdose deaths and compared demographic, death scene, and postmortem toxicology characteristics between these groups.

Results: This retrospective analysis resulted in the identification of 816 unintentional opioid overdose deaths during the time period of interest. This study classified 152 of these deaths (19%) as "standard" heroin deaths (designated by the case medical examiner or confirmed by the presence of 6–monoacetylmorphine). An "expanded" classification of heroin deaths using data from postmortem toxicology reports and case narratives added 20 additional heroin deaths (+13% increase), accounting for 21% of all opioid deaths. Based on case narratives, 205 deaths (25%) were injection-related, 60% of which were attributed to heroin. A combined classification of enhanced heroin and injection-related deaths accounted for 31% of opioid overdose deaths during this period.

Conclusions: Using additional sources of information to classify opioid overdose cases resulted in a modest increase in the count of heroin-related deaths, but identified a substantial number of non-heroin injection-related opioid analgesic deaths that would otherwise have gone amiss. This current study reveals that including the route of administration in the characterization of opioid overdose deaths will identify meaningful subgroups of opioid users who can be targeted by public health programming.

This study was supported by a National Institute on Drug Abuse (NIDA) grant.

Reference(s):
1.   CDC. International Classification of Diseases. Centers for Disease Control and Prevention, ICD-10.

Opioid Overdose, Injection Drug Use, Heroin

*Presenting Author