

Opioids & Other Drugs

Amy Hunter, MPH, PhD, School of Medicine, Department of Public Health Sciences, University of Connecticut Health Center, Farmington, CT

APHA 2022 Annual Meeting and Expo

Abstract

The Overdose Response Strategy: Building Strategic Public Health and Public Safety Partnerships to Combat the Nation's Overdose Crisis

Stephanie Gitukui, MPH, Ariana Lahijani, MPH, Kiersten Nicholson, MPH, Meghan Durr, MPH, James Cormier

APHA 2022 Annual Meeting and Expo

Background: In the United States, drug overdose fatalities have reached a historic high, which is largely driven by illicit fentanyl, methamphetamine and cocaine, often in combination or in adulterated forms. Effectively responding to this increasingly complex and worsening overdose crisis requires intentional multisector collaboration. The Overdose Response Strategy (ORS) is an unprecedented and unique national public health (PH) and public safety (PS) program designed to foster the multisector sharing of timely data, pertinent intelligence, and evidence-based and innovative strategies to prevent and respond to drug overdoses. The program is funded by the Centers for Disease Control and Prevention (CDC) and the Office of National Drug Control and Policy (ONDCP) and supported by the CDC Foundation and 33 High Intensity Drug Trafficking Areas (HIDTAs).

Methods: The ORS is implemented by teams made up of Public Health Analysts (PHA) and Drug Intelligence Officers (DIO), who work within and across sectors and jurisdictions to support overdose prevention and response strategies. With their PH and PS partners, ORS Teams share data systems to inform rapid and effective community overdose prevention efforts; support immediate, evidence-based response efforts that can directly reduce overdose deaths; design and use promising strategies at the intersection of public health and public safety; and use efficient primary prevention strategies that can reduce substance use and overdose long term. The CDC Foundation supports the ORS program by implementing strategic planning processes to forge PH and PS partnerships, staffing PHAs to build capacity for each jurisdiction's overdose response efforts and supporting training and technical assistance for internal and external ORS partners.

Outcomes: The evaluation of the ORS is based on two key frameworks: Collective Impact and Organizational Network Analysis. These frameworks provide a way to look at the strength of the relationship between PH and PS and the way the relationship is leveraged to advance program goals and objectives. National ORS impact will be showcased, and success stories of ORS teams implementing and adapting ORS goals and strategies within their jurisdictions will be highlighted.

Conclusion: By bringing these sectors together to combat the overdose epidemic, the CDC Foundation helps to increase communication and information-sharing, break down barriers and misconceptions across sectors and build trust to create sustainable partnerships for long-term change. This strategic PH and PS partnership model can serve as a solution for future emergency responses and provide tools for organizations as they navigate to build capacity for a multisector response.

Abstract

Developing an analytical platform for the rapid testing of drug paraphernalia residue at syringe service programs

Edward Sisco, PhD, Meghan Appley, PhD National Institute of Standards and Technology

APHA 2022 Annual Meeting and Expo

The rise of emerging drugs and illicit pharmaceuticals continues to fuel the overdose epidemic and challenge public health organizations. A major challenge with this epidemic is the speed at which the drug landscape in a region changes, driven by the influx of new drugs, changes to cutting agents, or inconsistencies in the dosing of drugs in samples. In order for public health organizations to be responsive to these changes they need to be able to monitor the drug landscape in near real-time. Unfortunately, there are limited resources available for this purpose since forensic and toxicological analyses often lag by weeks or months. To address this need, we have developed an analytical platform for the analysis of residues from used drug paraphernalia obtained at syringe service programs or safe use sites. This platform enables public health personnel to sample paraphernalia using wipes or swabs, mail the samples to the laboratory, and obtain a near-complete chemical profile (identifying both drugs and cutting agents) in less than 24 hours. A pilot study using this platform has been underway in the state of Maryland for the last several months and has provided public health and public safety professionals with invaluable information on what types of drugs and cuttings are on the streets – while highlighting important geographical and temporal differences that can be used to better tailor treatment services and be more responsive to potential overdose events.

This presentation will highlight the development of the analytical platform that unlocks this near real-time information. Utilizing ambient ionization mass spectrometry and custom-built data analysis tools enables the identification of over 1,100 compounds of interest in seconds. This screening process is coupled with a more in-depth, time-consuming confirmatory process of select samples containing new substances or substances not well characterized by the screening approach. To date this platform has been used to analyze over 500 samples from public health and public safety organizations across the state and has been used to monitor changes in drug supply, identify new synthetic cathinones, and better understand geographical differences in the drug landscape. In addition to discussing the development of the platform, the limitations of the techniques used, and the data obtained from the ongoing pilot study, the efforts to make this platform translatable to other agencies will also be presented.

Abstract

The Absence of Bystanders: An Investigation of Solitary Drug Overdose Deaths in Maryland, 2021

Ju Nyeong Park, Ph.D., M.H.S.¹, Himani Byregowda, MPH², Masoumeh Amin-Esmaili, MD, MPH², Ryoko Susukida, PhD², Cliff Mitchell, MD, MPH³, Georgette Lavetsky, MHS³, Taylor Parnham, MPH², Christine Boyd, MPH³, Renee Johnson, PhD, MPH² (1)Brown University, COBRE on Opioids and Overdose, Rhode Island Hospital, Lifespan, (2)Johns Hopkins Bloomberg School of Public Health, (3)Maryland Department of Health

APHA 2022 Annual Meeting and Expo

Background: In 2019, the CDC found that no bystanders were present at the scene of 68% of drug overdose deaths nationwide. Solitary drug use is a risk factor for death in the event of an overdose, because bystanders can reverse overdose with naloxone or call emergency medical personnel. We identified factors that distinguish decedents in Maryland with versus without bystanders at their overdose.

Methods: We used 2020 data from Maryland's State Unintentional Drug Overdose Reporting System (SUDORS) to examine factors in relation to the absence of bystanders. Logistic regression models assessed associations, clustering by county where the overdose occurred.

Results: Among drug overdose decedents (N=2,700), 72% were male, 56% were Non-Hispanic White, and 38% were Non-Hispanic Black. Nearly one-third (31.6%) did not have any bystanders. Decedents without a bystander were less likely to be younger (i.e., 41.2% were aged 18-44 and 53.1% were 45 or older, $P<0.001$), and partnered (12.2% v. 16.3, $p=0.006$) than those with a bystander. There were no significant differences by sex, race/ethnicity, educational attainment, or employment status. Almost all decedents had opioids as a cause of overdose death (93%, 2,499/2,700), most frequently fentanyl (2,129 of 2,499 death). Of decedents with fentanyl as a cause of death, 31.1% had no bystander. Of the 633 decedents with fentanyl and psychostimulants as the only two drugs contributing to death, 34.6% had no bystander. Regression models showed statistically significant differences in decedents with versus without a bystander. Solitary deaths were more common among older decedents (age>45, aOR:1.64, 95% CI 1.43-1.88, $p<0.001$), used fentanyl and psychostimulants (aOR=1.18, 95% CI 1.01-1.38, $p=0.038$) and where the death occurred in non-residential locations (aOR: 0.49, 95% CI 0.41-0.59, $p<0.001$).

Conclusions: Understanding the epidemiology of solitary drug overdose deaths can help to better target public health resources, particularly the delivery of naloxone. Our data show that solitary drug overdose deaths are prevalent and more likely among individuals who were older, and used fentanyl and psychostimulants, in non-residential locations. Given the protections afforded by bystanders, strategies to encourage people not to use drugs alone are needed.

Abstract

Opioid overdoses and opioid-related disorders in San Diego County: Trends in emergency department discharges, hospitalization discharges, and mortality, 2016-2019

Rachelle De Ocampo, MPH¹, Christopher O'Malley, MPH¹, Isabel Corcos, PhD, MPH¹, Maria Pena, MPH¹, Joanna Hutchinson, MPH¹, Vidya Purushothaman, MBBS, MAS, MPH¹, Darian Grisso, MPH¹, Hanna Marquez, MPH¹, Niki Quach, MPH¹, Galilea Patricio¹, Margaret Zhang¹, Wilma Wooten, MD, MPH²
(1)County of San Diego, Health and Human Services Agency, Public Health Services, CHSU, (2)County of San Diego, Health and Human Services Agency, Public Health Services

APHA 2022 Annual Meeting and Expo

Background/Purpose: Deaths due to opioid overdoses continue to increase in the U.S. and California, indicating a worsening opioid epidemic. Surveillance of mortality, emergency department (ED) and hospitalization discharges due to opioid overdoses and opioid-related disorders provides vital information towards overdose prevention efforts at the local level. This analysis describes the trends on the principal diagnosis of ED and hospitalization discharges, and multiple cause of death due to opioid overdoses and opioid-related disorders by sex, age, and race/ethnicity among San Diego County residents, from 2016 to 2019.

Methods: The ED and hospitalization discharges and mortality data from 2016 to 2019 were obtained from the California Office of Statewide Health Planning and Development data and California's Vital Records Intelligence Business System. Local population numbers, from the San Diego Association of Governments, were used to calculate the ED and hospitalization discharge rates for the principal diagnosis of opioid overdoses or opioid-related disorders in the discharge records. Mortality rates were calculated for the multiple cause of death (any mention) due to opioid overdoses or opioid-related disorders.

Results: From 2016 to 2019, ED discharge rates with a principal diagnosis of opioid overdose increased by 17.4%, and deaths due to opioid overdoses increased by 23.6% among San Diego County residents. Males trended higher than females for mortality rates due to any mention of opioid overdoses, with a 38.8% mortality rate increase among males from 2016 to 2019. For principal diagnosis of opioid overdoses, 25–44-year-olds had the highest ED discharge rate trend, and individuals 65 years and older had the highest hospitalization rates compared to other age groups. From 2016 to 2019, Blacks had the highest increase in ED discharge rate due to the principal diagnosis of opioid overdoses (37.6%), followed by the Hispanic population (31.6%), in San Diego County.

Deaths due to any mention of opioid-related disorders increased by 22.1%, and ED discharge rates, due to a principal diagnosis of opioid-related disorders, increased by 11.8% from 2016 to 2019. While individuals 45-64 years old had the highest mortality rate due to opioid-related disorders, from 2016 to 2018, individuals 25-44 years old had the highest mortality rate in 2019.

Conclusion: Longitudinal trends used to track opioid overdoses and opioid-related disorders can inform decision making and response efforts at the local level. Future surveillance efforts can focus on morbidity and mortality outcomes specific to prescription opioids, fentanyl, and heroin at the community level within the county.

