

NIJ Forensic Technology Center of Excellence Opioids and Emerging Drug Threats

The FTCoe partners with fellow researchers and practitioners to develop resources to help transition technology into practice, bridging the gap between the scientific and the justice communities. Several resources specific to toxicology are available for download on the FTCoe website.

Reports and Tools

- Reports of Adverse Events Associated with Use of Novel Psychoactive Substances, 2013-2016: A Review
<https://forensiccoe.org/reports-of-adverse-events-associated-with-use-of-novel-psychoactive-substances-2013-2016-a-review/>
- The Novel Psychoactive Substances Validation Toolkit (Summer 2019)
- The Economic Impact from the Opioid Crisis and Short-Term Strategies for Crime Laboratories (Upcoming)

Online Workshop Series

- Best Practices Guidance for Advancing Research Initiatives and Combatting the Synthetic Drug Epidemic
<https://forensiccoe.org/webinar/best-practices-synthetic-drug-epidemic/>

Webinars

- Identifying Seized Drugs using Mass Spectral Library Searching
<https://forensiccoe.org/webinar/seized-drugs-mass-spectral-library/>
- Opioid Crisis – A Public Health Enemy Webinar Series
<https://forensiccoe.org/webinar/opioid-crisis-a-public-health-enemy-webinar-series/>
 - **Identify Synthetic Opioids using Ambient Ionization TOF-MS** | Sabra Botch Jones
 - **Opioids and the Drain on Laboratory Resources** | Paul Speaker
 - **Fentalogs: Pharmacology, Toxicology, and Analytical Approaches** | Barry Logan
 - **Opioid Substances: A Threat to Animal Welfare and Safety** | Martha Smith-Blackmore
 - **Dreamland: Sam Quinones Explores America's Opiate Epidemic** | Sam Quinones
 - **Opioids and Death Investigation: A “Perfect Storm”** | Andrew Baker
 - **Making the Case for Prevention: Fighting the Opioid Epidemic** | Phillip Graham and Elvira Elek
 - **Strategies and Considerations for Trace Detection of Fentalogs** | Ed Sisco
 - **The Opioid Overdose Epidemic in America: CDC Response** | John Halpin
 - **The Industry’s Role in Responding to the Opioid Crisis** | Donna Iula and Roxanne Franckowski
 - **The NC Statewide Medical Examiner System Laboratory Approach** | Ruth Winecker and Justin Brower
 - **Collaboration in the Fight Against Fentanyl** | M.J. Menendez and Victor Weedn
 - **Regional Fentanyl Trends, Safety, and Field Testing Technology** | Roger Schneider and Joshua Yohannan

Just Science Podcast Episodes

<https://forensiccoe.org/just-science-podcast/>

- Just Throwing DARTs at the Opioid Crisis
- Just Solving the Opioid Crisis
- Just Opioid Financial Burden on Crime Labs
- Just Classifying Emerging Compounds
- Just Fentanyl Lab Fads with ASCLD
- Just the State of Pathology

Events

- National Opioid and Emerging Drug Threats Policy and Practice Forum
Strengthening Forensic Response and Informing Public Health and Safety,
Marriott Metro Center, Washington, DC, July 17-18, 2019
- 2019 National Rx Drug Abuse & Heroin Summit. Special Session.
April 22-25, 2019, Atlanta, Georgia

Title: Data-driven responses to the opioid crisis (and beyond)

- American Academy of Forensic Sciences – Special Session February 18, 2019

Title: Next Generation Drug Surveillance in Public Health and Medicolegal Death Investigations

Moderators: Jeri D. Roper-Miller and DeMia Pressley

This 2-hour, multidisciplinary session will provide valuable information to the following Academy sections: criminalistics, general, jurisprudence, pathology/biology, and toxicology.

Abstract: Investigations of drug-related deaths in the United States is at an unsurpassed critical “breaking point” that calls for enhanced, integrated sentinel drug surveillance efforts. Many surveillance efforts at a federal and state level are progressively relying on multidisciplinary teams to evaluate emerging drug trends; historical, current and potential patterns of abuse; safety or dependence liability; public health risks and lethality, and analytical characteristics¹.

In 2015, nearly 2.5 million people died in the United States². Of these, approximately one million were referred to the nation’s medical examiner and coroner offices (MECs), which accepted about half of these cases³. MEC caseloads are at an all-time high because many of these deaths require a complex, in-depth investigation⁴. Drug overdose deaths require significant resources to investigate, and the exponential escalation of drug related deaths in the United States have led to national efforts to implement more effective and timely awareness of the epidemiology, drug statistics, and unprecedented challenges that burden MECs. In general, there is limited information about the state of the medicolegal death investigation (MDI) community on a national scale concerning drug surveillance.

¹ DEA, Controlled Substances Act, Section 201 (c), [21 U.S.C. § 811 (c), 2015.

² CDC WONDER, 2017.

³ National Science and Technology Council, 2016.

⁴ CDC NVSS, 2016.

Several national MDI stakeholder meetings have focused on multiple federal and state agency efforts within the MDI community. It is important to highlight what these agencies are doing, how their work ties together and how they are collaborating, and how MDI practitioners are finding value in and implementing better practices using data from these efforts. This 2-hour, multidisciplinary session will provide valuable information from agency representatives (CDC, DEA, BJS, ONDCP, OCDETF, NGA) and MDI practitioners. Topics include:

The High Intensity Drug Trafficking Areas

Office of National Drug Control Policy, Kemp Chester, Associate Director

Data Sharing Systems at the State and National Level for Opioids and other NPS

OCDETF, USDOJ

MJ Menendez, JD, National Opioid Coordinator

Governors' Priorities for Addressing the Crisis Beginning with Opioids

National Governors Association, Center for Best Practices

Kelly Murphy, Program Director

National Forensic Laboratory Information System MDI Expansion

Drug Enforcement Administration, Diversion Control Division

DeMia Pressley, NFLIS Project Officer

Providing Statistical Information for the Nation's Criminal Justice Systems

Bureau of Justice Statistics, Connor Brooks, Program Manager

Strengthening the Mortality Data Infrastructure

Centers for Disease Control and Prevention, National Center for Health Statistics

Margaret Warner, PhD

The Challenge of Investigating Drug-Related Fatalities—A Chief Medical Examiner's Perspective

Hennepin, Dakota, Scott Counties—Minneapolis, MN Medical Examiner's Office

Andrew M. Baker, MD, Chief Medical Examiner

Next Generation Drug Surveillance—A Forensic Toxicologist's Perspective

Center for Forensic Science Research and Education and NMS Labs

Barry Logan, PhD

Executive Director of CFSRE, VP of Forensic Science Initiatives, NMS

In summary, this special session will discuss the needs, progress, and current programs that will assist the forensic community in achieving the next generational advancement of drug surveillance in medicolegal death investigations.

Educational Objectives: After attending this presentation, attendees will gain an understanding of federal and state level efforts to enhance and implement drug surveillance programs to strengthen investigations involving drug-related deaths in the United States and promulgate information about the needs of the MDI community to facilitate their work. Attendees will also have evidence-based knowledge regarding infrastructure-related challenges faced by medical examiner, coroners, and their forensic laboratory services, acquire perspectives about lessons learned from local, state, and federal efforts working with and

within the MDI community, and learn about resources that are in place to overcome some of these obstacles, including tangible resources, changing laws, and advances in technology, science, and availability of key data.

Impact Statement: This presentation will impact the forensic science community by demonstrating how these national and state-wide data can improve our understanding of the state of medicolegal death investigation systems, highlighting valuable tools for public safety and public health, and sharing of these analytical data can facilitate comprehensive public health and death investigation efforts.

- Society of Forensic Toxicologists – Presentation October 7-12, 2018

Title: The Economic Impact of the Opioid Crisis on Forensic Laboratories

AUTHOR(S): Jeri D. Roper-Miller, RTI International, Research Triangle Park, NC, Paul J. Speaker, College of Business & Economics, West Virginia University, Morgantown, West Virginia

ABSTRACT:

Background/Introduction:

West Virginia University's Project FORESIGHT is a self-evaluation of U.S. crime laboratories. Laboratories voluntarily participate by providing laboratory casework, personnel, and budget costs data which is used to calculate their average cost per case, cost per test and other metrics that help leverage resources and understanding of laboratory efficiency. The Bureau of Justice Statistics' Census of Publicly Funded Forensic Crime Laboratories provides a complimentary resource in understanding the costs associated with completing casework in the forensic laboratories. With the increase in opioid related crimes and deaths, a better understanding of forensic laboratory cost analysis is needed.

This research provides laboratories with a means to document the increased financial burden associated with the increase in opioid related crimes and deaths. Prior to November 2017, the magnitude of the national opioid crisis was estimated to cost nearly 0.33% of Gross Domestic Product (GDP). However, the release of the White House report (The Council of Economic Advisers, 2017) on the opioid crisis suggests that indirect costs, not previously considered, increase annual cost estimates by 597% to an annual cost of \$504 billion, or 2.2% of annual GDP (Florence, Zhou, Luo, & Xu, 2016). When those considerations are examined at the individual state level, the "crisis" states (i.e., the states with the highest per capita overdose deaths) experience a cost approaching 15% of Gross State Product. This report offers a "20,000-foot view" of the societal costs from opioid abuse. The costs include medical care, substance abuse treatment, workplace costs, criminal justice costs, and opportunity costs from preventable deaths.

Objective:

Project FORESIGHT data combined with the 2014 Census of Publicly Funded Forensic Crime Laboratories data were evaluated to identify the magnitude of the ongoing U.S. drug problem and identify trends with productivity, turnaround time, backlogs, queuing elasticities of demand (supply and demand models), and related econometric calculations.

Method:

Following discussion of the White House report, this presentation will provide an overview of data available to estimate costs of forensic laboratories in the justice system. Additionally, it will provide a brief overview of relevant work in criminal justice support systems, cost structure, economies of scale, policy implications, elasticities, and other items relevant to updating apportionment estimations. Some trends can be

investigated at a jurisdictional level to better address local and national policy. A view of nationwide trends compared to jurisdictional trends, specifically in jurisdictions most severely impacted by the opioid crisis will be discussed. Since the White House report details a single year, the analysis takes a static view of this dynamic, growing problem. The resources required to address the opioid crisis must be aimed at a moving target, rather than focused and addressed retrospectively.

Results:

The dynamics show a growing national trend in “opioid” states, representing ten states with the highest per opioid overdose deaths. Further, efforts to reduce turnaround time in the laboratory have shown that requests for analysis outpace capacity. This presentation will discuss the dynamic trends in opioid costs such as time series, a “National” vs “Opioid states” picture, complexities of “hitting” the moving target, and queuing the elasticities of demand.

Conclusion/Discussion:

The estimated cost for the criminal justice system to deal with the opioid crisis is approximately \$78 billion. However, the foundations for the criminal justice system costs are rough approximations of system-wide costs; they offer little advice at the jurisdictional level to manage scarce resources dealing with the crisis. Additionally, the White House Report cost estimates do not consider the indirect costs borne by individual forensic laboratories. This research provides a more accurate societal costs impact that can better reflect the economic impact beyond previously calculated estimates.