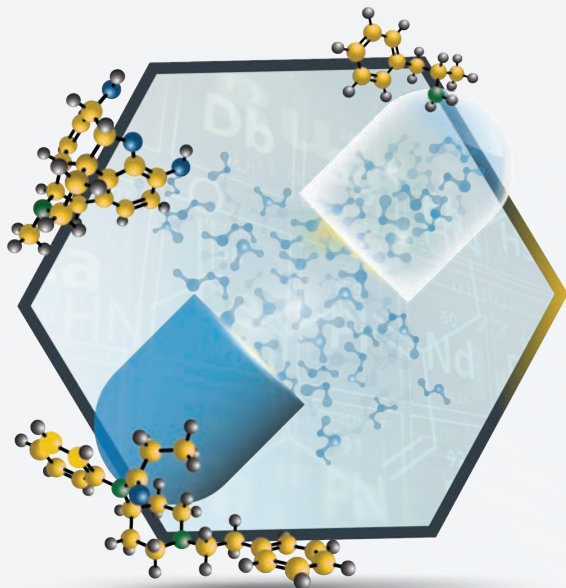# National Opioid and Emerging Drug Threats Policy and Practice Forum

Strengthening Forensic Response and Informing Public Safety and Health

July 18–19, 2019
Marriott Metro Center
Washington, DC

NIJ | National Institute of Justice
STRENGTHEN SCIENCE. ADVANCE JUSTICE.

Forensic Technology
CENTER OF EXCELLENCE

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NIJ is the federal government's lead agency for forensic science research and development as well as the administration of programs that facilitate training, improve laboratory efficiency, and reduce backlogs. The mission of NIJ's Office of Investigative and Forensic Sciences is to improve the quality and practice of forensic science through innovative solutions that support research and development, testing and evaluation, technology, information exchange, and the development of training resources for the criminal justice community.

Through the research, development, testing, and evaluation process, we provide direct support to crime laboratories and law enforcement agencies to increase their capacity to process high-volume cases and provide needed training in new technologies. With highly qualified personnel and strong ties to the community, NIJ's Office of Investigative and Forensic Sciences plays a leadership role in directing efforts to address the needs of our nation's forensic science community.

Forensic Technology CENTER OF EXCELLENCE
A program of the National Institute of Justice

RTI International and its academic- and community-based consortium of partnerships work to meet all tasks and objectives for the Forensic Technology Center of Excellence (FTCoE), put forward under the National Institute of Justice (NIJ) Cooperative Agreement No. 2016-MU-BX-K110.
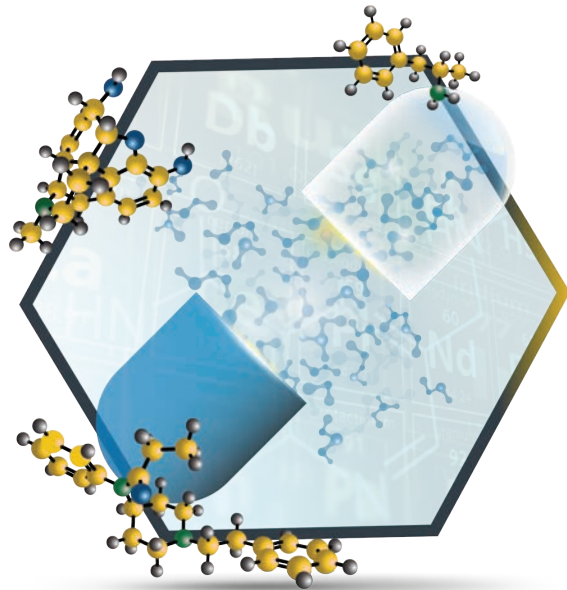
RTI INTERNATIONAL

The FTCoE is led by RTI International, a global research institute dedicated to improving the human condition by turning knowledge into practice. With a staff of close to 5,000 providing research and technical services to governments and businesses in more than 75 countries, RTI brings a global perspective. The FTCoE builds on RTI's expertise in forensic science, innovation, technology application, economics, DNA analytics, statistics, program evaluation, public health, and information science.

INTRODUCTION

Greetings,

We are pleased to welcome you to Washington, DC, and to the National Opioid and Emerging Drug Threats Policy and Practice Forum convened by the National Institute of Justice (NIJ), in partnership with the Forensic Technology Center of Excellence (FTCoE) at RTI International.

We hope this event will strengthen forensic response and inform public safety and health responses to the ongoing threats from opioids and emerging drugs. This forum will explore ways in which government agencies and programs, law enforcement officials, forensic laboratory personnel, medical examiners and coroners, researchers, and other experts can cooperate to respond to problems associated with drug abuse and misuse. Specific concerns will include crime laboratory caseloads that are rapidly expanding; workforce shortages and resiliency programs; analytical challenges associated with fentanyl analogs and drug mixtures; laboratory quality control; surveillance systems to inform response; and issues driving policy related to stakeholder, research, and resource constraints. This forum will

- Promote cooperative initiatives to leverage available funding as efficiently as possible.
- Identify and promote scientific research, best practices, and lessons learned for forensic science organizations and practitioners.
- Assess strategies to improve surveillance methodologies to encourage use and collaboration among existing programs—such as the Comprehensive Opioid Abuse Program, National Forensic Laboratory Information System, Prescription Drug Monitoring Program, and Centers for Disease Control Enhanced State Opioid Overdose Surveillance Program.
- Identify strategies for workforce development, casework efficiency, and issues related to increased caseloads in forensic science organizations.

We look forward to joining you during the next 2 days as we learn from each other and from our distinguished speakers. We encourage open discussion that will enable the formation of new collaborative opportunities with your fellow forum attendees, as the free exchange of ideas is truly an essential component for reflection and continued progress.

In closing, we want to thank each of you for attending our forum and fulfilling the vision of its intent. We look forward to meeting you!

Respectfully,

John S. Morgan, PhD
Director
Forensic Technology Center of Excellence
Center for Forensic Sciences, RTI International

David Muhlhausen, PhD
Director
National Institute of Justice

Directors

John S. Morgan

Dr. John Morgan is Senior Director of the Center for Forensic Sciences at RTI International. His scientific research interests have included optoelectronic materials, chemical/biological agent detection, and mass spectrometry. His background includes public service as a member of the Maryland House of Delegates and Congressional Science Fellow of the American Physical Society. He has served in the U.S. Department of Justice (DOJ) and the U.S. Department of Defense (DoD) as a Senior Executive managing programs that encompass scientific research, public safety, military technology, special operations, information systems, and standards. He received the 2007 Service to America Medal for his work to improve the nation's capacity to conduct DNA analysis. Dr. Morgan is internationally recognized for his work in forensics, body armor, special operations technology, and predictive policing.

David Muhlhausen

David B. Muhlhausen, PhD, leads the National Institute of Justice — the research, development, and evaluation agency of the U.S. Department of Justice. NIJ is dedicated to improving knowledge and understanding of crime and justice issues through science.

Muhlhausen, a former research fellow in empirical policy analysis at the Heritage Foundation, has championed using rigorous, empirical research to formulate and evaluate government policies. Muhlhausen has testified frequently before Congress on the efficiency and effectiveness of various federal programs. He has been called most often by the House and Senate Committees on the Judiciary to discuss how to improve policing strategies, prisoner reentry programs, and other important criminal justice programs. Muhlhausen joined Heritage in 1999 after serving on the staff for the Senate Judiciary Committee, where he specialized in crime and juvenile justice policies. Prior to that, he was a manager at a juvenile correctional facility in Baltimore, Maryland.

He holds a doctorate in public policy from the University of Maryland, Baltimore County and a bachelor's degree in political science and justice studies from Frostburg State University. For 11 years, Muhlhausen taught program evaluation and statistical methods to graduate students at George Mason University Schar School of Policy and Government.

AGENDA

Time	Session
8:00–8:15	**NIJ Opening Remarks and Overview of NIJ Portfolio for Opioids Research and Support Programs** Dr. David Muhlhausen, National Institute of Justice
8:15–8:30	**DOJ Remarks/National Opioid Coordinator** Ms. Amanda Liskamm, U.S. Department of Justice
8:30–9:00	**Opening Keynote: Identifying and Confronting the Nation's Emerging Drug Threats** Mr. Michael Gottlieb, Deputy Chief of Staff, White House Office of National Drug Control Policy Moderator: Dr. Jonathan McGrath, National Institute of Justice
9:00–10:15	**Panel Discussion 1: Caseloads and Operational Solutions** Moderator: Dr. Timothy Rohrig, Sedgwick County Kansas Regional Forensic Science Center **Multi-site and Centralized Forensic Services** Mr. Bruce Houlihan, Orange County Crime Lab, California **Medical Examiner, Toxicology, and Drug Analysis Caseloads** Dr. Kent Harshbarger, Montgomery County Ohio Coroner's Office **Medical Examiner and Autopsy Caseloads in Drug-Related Deaths** Dr. Carl Schmidt, Wayne County Medical Examiner's Office; University of Michigan **Opioid Crisis Econometrics and Lab Operations and the Forensic Workforce Calculator** Dr. Paul Speaker, West Virginia University
10:15–10:30—BREAK	
10:30–12:00	**Panel Discussion 2: Drug Surveillance Challenges and Analytical Response** Moderator: Dr. Jayne Morrow, Montana State University **CBP Laboratories, Scientific Services Directorate, and Interdiction Reach Back Program** Dr. Michael McCormick, U.S. Customs and Border Protection **Analytical Preparedness and Forensic Laboratory Partnerships** Ms. Emily Lockhart, Drug Enforcement Administration **Drug Potency and Public Health Communications** Dr. Michael Baumann, NIH National Institute on Drug Abuse **Developing Actionable Intelligence Using Forensic Laboratory and Field Data** Dr. Jenifer Smith, Washington DC Crime Lab **Analytical Strategies to Advance Forensic Operations** Dr. Edward Sisco, National Institute of Standards and Technology
12:00–1:30—LUNCH (on your own)	

Time	Session
1:30–3:00	**Panel Discussion 3: Workforce Shortages and Innovative Solutions** Moderator: Dr. Roger Mitchell, DC Office of the Chief Medical Examiner **Medical Examiner/Coroner Workforce Shortages and Pipeline** Dr. Jonathan Arden, 2019 President, National Association of Medical Examiners **Fellowships, Student Loan Forgiveness, and J-1 Visas** Ms. M.J. Menendez, U.S. Department of Justice **Innovative Medical Examiner Workforce Practices Including Physician Assistance for Autopsy Programs** Dr. Carl Schmidt, Wayne County Medical Examiner's Office; University of Michigan **Researcher Perspectives on Advanced Imaging Technologies for Adjunct to Drug Investigations** Dr. Lauren Decker, New Mexico Office of the Medical Investigator; University of New Mexico **Laboratory Communications: Informing Policy and Justifying Workforce and Equipment Needs** Ms. Linda Jackson, Virginia Department of Forensic Sciences
3:00–3:25—BREAK	
3:25–4:25	**Panel Discussion 4: Forensic Workforce Safety and Resiliency** Moderator: Dr. Frances Scott, National Institute of Justice **Workforce Resiliency and Wellness Solutions** Mr. John Fudenberg, Clark County Las Vegas Coroner's Office **NIJ/ASCLD Stress, Trauma, and Workforce Resiliency Project** Dr. Andrew Levin, Columbia University **Laboratory and Law Enforcement Agency Survey for Stress** Ms. Selena McKay-Davis, Riverside California Police Department **NIJ/NIOSH Collaborations to Support MEC/First Responder and Laboratory Safety** CDR Jennifer Hornsby-Myers, Centers for Disease Control (CDC) National Institute for Occupational Safety and Health
4:25–4:30	**Closing Remarks** Dr. Jeri Ropero-Miller, RTI International

AGENDA

Friday, July 19: 8:00 a.m.–4:30 p.m.

8:00–8:05	**Opening Remarks** Dr. Jonathan McGrath, National Institute of Justice
8:05–8:35	**OPENING KEYNOTE: Community Impact** Mr. Donald Holman, Impacted Parent Mr. Thomas Synan, Newtown Police Department, Hamilton County, Ohio
8:35–9:50	**Panel Discussion 5: Policy and Practice** Moderator: Dr. Jeri Ropero-Miller, RTI International **New York City RxStat: Responding to Problem Drug Use at the Municipal and County Levels** Mr. Chauncey Parker, New York/New Jersey High-Intensity Drug Trafficking Programs **CDC Surveillance Strategies and Programs (NCIPC; ESOOS/Overdose Data to Action)** Dr. Puja Seth, CDC National Center for Injury Prevention and Control **Prevalence Alone Should Not Influence Policy** Lieutenant Colonel David Sartori, Medical Corps, United States Army Division of Forensic Toxicology, AFMES **The Collaborative Efforts of CBP and ONDCP to Support Law Enforcement** Mr. Stephen McConachie, U.S. Customs and Border Protection
9:50–10:15—BREAK	
10:15–11:30	**Panel Discussion 6: Research to Integrate Public Safety and Health Data for Forensic Response** Moderator: Ms. Emma Hall, Boulder County Colorado Coroner's Office **NYC OCME Drug Intelligence & Intervention Group and Real-Time ME Data Reporting** Dr. Jason Graham, NYC Office of the Chief Medical Examiner **The Role of Forensic Epidemiology in Medicolegal Death Investigations** Dr. Chikarlo Leak, DC Office of the Chief Medical Examiner **The CDC's Efforts on Public Health, Public Safety, and MDI Data Sharing and Integration** Ms. Paula Braun, CDC National Center for Health Statistics **State of Florida Prescription Drug Monitoring Programs (PDMPs)** Dr. Chris Delcher, University of Kentucky
11:30–1:00—LUNCH (on your own)	

Friday, July 19: 8:00 a.m.–4:30 p.m.

1:00–2:30	**Panel Discussion 7: Surveillance Systems to Inform Response** Moderator: Dr. Margaret Warner, CDC National Center for Health Statistics **Officer Field Drug Detection and Forensic Laboratory Reach Back** Ms. Nancy Crump, Phoenix Police Department Crime Lab **New Jersey's Drug Monitoring Initiative** DSFC Adam Polhemus, New Jersey State Police Drug Monitoring Initiative **A Commercial Forensic Laboratory's Efforts in National Drug Surveillance, Including NPS Early Response Network** Dr. Barry Logan, NMS Labs Center for Forensic Science Research **DEA National Forensic Laboratory Information System: Drug Chemistry Data and MDI/Toxicology Initiatives** Ms. DeMia Pressley, U.S. Drug Enforcement Administration **NIH/NIDA National Drug Early Warning System: Surveillance Projects and Hotspot Studies** Ms. Erin Artigiani, Center for Substance Abuse Research (CESAR), University of Maryland
2:30–2:45—BREAK	
2:45–4:15	**Panel Discussion 8: The Road to Policy and Practice** Moderator: Ms. Tara Kunkel, Bureau of Justice Assistance **Data Integration Efforts to Support Public Safety and Public Health Information-Sharing Collaborations** Ms. Tara Kunkel, Bureau of Justice Assistance **A Laboratory's Implementation of ODMAP Program** Ms. Cheryll Moore, Erie County New York **Law Enforcement and Public Safety Perspectives** Mr. Stephen McConachie, U.S. Borders and Customs Protection **State and Local Perspectives** Mr. Jeffrey Locke, National Governors Association
4:15–4:30	**Closing Remarks** Dr. Jonathan McGrath, National Institute of Justice

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THE FORENSIC TECHNOLOGY CENTER OF EXCELLENCE (FTCOE)

The FTCoE, led by RTI International, is supported through a Cooperative Agreement with the National Institute of Justice. We support the implementation of new forensic technology and best practices by end users and are dedicated to elevating the status of the forensic sciences. We work to bridge the gap between the scientific and justice communities by advancing technology, sharing knowledge, and addressing challenges.

The FTCOE Keeps You Informed on the Latest Opioids and Emerging Drug Research

According to FORESIGHT data reported at the American Society of Crime Laboratory Directors (ASCLD) Meeting in May of 2018 , crime laboratories expended more than $270 million between 2014 and 2015 to respond to the opioid crisis. The caseload of an average examiner of controlled substances nearly doubled during that time. The FTCOE is providing law enforcement, medical professionals, laboratories, and legal agencies the most up to date information so they can face this challenge directly. We provide a variety of resources, including:

Virtual Learning Opportunities
Workshop - Best Practices Guidance for Advancing Research Initiatives and Combatting the Synthetic Drug Initiative
Webinar Series - Opioid Crisis: A Public Health Enemy
Webinar - Identifying Seized Drugs using Mass Spectral Library Searching

Reports
Landscape Study of Field Portable Devices for Presumptive Drug Testing
Reports of Adverse Events Associated with Use of Novel Psychoactive Substances, 2013-2016: A Review

Podcasts
Just Throwing DARTs at the Opioid Crisis
Just Opioid Financial Burden on Crime Labs
Just Solving the Opioid Crisis

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PRESENTER BIOS

Jonathan L. Arden

Dr. Jonathan L. Arden is president of Arden Forensics, PC, which provides consultation and expert witness services in forensic pathology and medicine. He is also a part-time forensic pathologist with the Office of the Chief Medical Examiner for the state of West Virginia.

Dr. Arden has practiced forensic pathology for 35 years. He received his medical doctorate degree from the University of Michigan. He completed training in anatomic pathology at the New York University Langone Medical Center, and in forensic pathology at the Office of the Chief Medical Examiner for the state of Maryland. He was certified in both anatomic and forensic pathology by the American Board of Pathology. He has served as a medical examiner in Suffolk County, New York; the state of Delaware; and the New York City Office of Chief Medical Examiner, where he finished his tenure as the first deputy chief medical examiner. He also served as the chief medical examiner for the District of Columbia.

Dr. Arden is an active member of the National Association of Medical Examiners (NAME). He currently serves as its president and is a member of the NAME Board of Directors and Executive Committee. He also chairs the NAME By-Laws Committee.

Erin Artigiani

Erin Artigiani received her master's degree in sociology from the University of California, Los Angeles, and a bachelor's degree in sociology and psychology from Wellesley College. She is Deputy Director for Policy at the University of Maryland's Center for Substance Abuse Research (CESAR) where she has worked since 1997. Ms. Artigiani has more than 20 years of experience in substance abuse research and policy development. She is currently coinvestigator for the National Drug Early Warning System (NDEWS) funded by the National Institute on Drug Abuse (NIDA). NDEWS is a public health surveillance system designed to detect, monitor, and follow up on emerging drugs and drug use trends to inform state and local responses. For 14 years, she and the director of CESAR (Dr. Eric D. Wish) represented Maryland and Washington, D.C., on NIDA's predecessor to NDEWS, the national Community Epidemiology Work Group (CEWG). She has also managed a number of epidemiological work groups for Maryland and Washington, D.C., including the Substance Abuse and Mental Health Services Administration–funded Strategic Prevention Framework and the Opioid Misuse Prevention Program. She is also coinvestigator on the Community Drug Early Warning System/Drug Early Warning Signals project funded by the Office of National Drug Control Policy.

Michael H. Baumann

Dr. Michael H. Baumann is a staff scientist and facility head at the National Institute on Drug Abuse (NIDA), Intramural Research Program (IRP), in Baltimore, Maryland. Dr. Baumann has authored or co-authored more than 200 scientific publications and serves on the editorial boards of *European Journal of Pharmacology*, the journal *Neuropharmacology*, and the journal *Neuropsychopharmacology*. For more than 20 years, his research at the NIDA IRP has focused on the role of brain dopamine and serotonin systems in mediating the effects of therapeutic and abused stimulant drugs. In 2012, he established the Designer Drug Research Unit (DDRU); the DDRU's goal is to collect, analyze, and disseminate the most up-to-date information about the pharmacology and toxicology of newly emerging synthetic drugs of abuse, more formally known as new psychoactive substances (NPS). Working with partner organizations such as the Drug Enforcement Administration and the National Drug Early Warning System, Dr. Baumann is kept up to date about trends in NPS abuse. His research team has characterized the molecular mechanism of action and pharmacological effects for many of the "bath salts" cathinones and their replacement analogs. Ongoing research is aimed at determining the biological effects of emerging synthetic cannabinoids and opioids, which pose serious public health risks.

Paula Braun

Paula Braun is an entrepreneur-in-residence and special advisor on interoperability and innovation at the Centers for Disease Control (CDC). She is an internationally recognized expert on HL7's Fast Healthcare Interoperability standard, design thinking, and ways that advances in technology can help modernize public health and public safety reporting. She collaborates with colleagues from across CDC to develop proof-of-concept SMART-on-FHIR applications to improve public and population health.

Ms. Braun previously taught public health informatics in the Executive Master of Public Health program at Emory University and worked as a data scientist for Elder Research, a predictive analytics firm. Earlier in her career, she lived and worked for 2 years at the U.S. Embassies in Baghdad, Iraq, and Kabul, Afghanistan. She began her career as a presidential management fellow and was later selected by the American Association of University Women as a selected professions fellow to pursue a graduate degree in analytics at the Institute for Advanced Analytics at North Carolina State University.

Nancy Crump

Nancy Crump is an assistant crime laboratory administrator with the Phoenix Police Department Laboratory Services Bureau (LSB). She has held this position since November 2005. She has management oversight of the Firearms, Controlled Substances, Trace/Arson, and Latent Prints sections of the LSB. Since joining the Phoenix Police Department in 1998 as a civilian employee, she has worked as a criminalist and criminalist supervisor in the Controlled Substances section—with duties including performing drug analysis; providing expert testimony; and training police officers in drug recognition about the creation, implementation, expansion, and oversight of the Phoenix Police Department Field Identification program. This program was used as the model for a national program sponsored by the National Institute of Justice, which began implementation as a pilot program in November 2006.

Ms. Crump is a member of the Clandestine Laboratory Investigating Chemists Association, the Southwestern Association of Forensic Scientists, the American Academy of Forensic Sciences, and the American Society of Crime Laboratory Directors. She sat on the Board of Directors for the American Society of Crime Laboratory Directors from September 2009 to May 2013.

Lauren A. Decker

Dr. Lauren A. Decker received her undergraduate degree from the University of Illinois at Urbana-Champaign and her medical doctorate degree from the University of Illinois at Chicago. She completed a pathology residency at the University of New Mexico Health Sciences Center and a forensic pathology fellowship at the New Mexico Office of the Medical Investigator. Dr. Decker is board certified in anatomic and forensic pathology by the American Board of Pathology and is a current faculty member at the New Mexico Office of the Medical Investigator via the University of New Mexico. Her research interests have included the utility of computed tomography scans in a postmortem setting.

Chris Delcher

Dr. Chris Delcher is an epidemiologist and assistant professor in the Department of Pharmacy Practice and Science and the associate director of the Institute for Pharmaceutical Outcomes and Policy at the University of Kentucky. He received his master's degree from the University of North Carolina's Gillings School of Global Public Health and his doctoral degree from the University of Florida.

Prior to academics, he held positions as a state-level infectious disease epidemiologist at the Virginia Department of Health in Richmond, Virginia, and with the Ministry of Health in Haiti to operate the first national HIV surveillance system. His current research focuses on analyzing the epidemiology of prescription drug use from data obtained during medical and pharmacy encounters, understanding the intended and unintended consequences of drug policy and its effects on population health, and enhancing public health surveillance systems in high- and low-resource environments.

John Fudenberg

John Fudenberg is the coroner for the Clark County Office of the Coroner/Medical Examiner (CCOCME) and has been with the office since 2003. Mr. Fudenberg brings more than 25 years of law enforcement and public service experience to the position; he worked in Anoka County, Minnesota, and for the city of Las Vegas (Nevada) prior to continuing his career with Clark County. He is a diplomat with the American Board of Medicolegal Death Investigators. He previously served as president of the International Association of Coroner & Medical Examiners (IAC&ME) Board of Directors and is the secretary of the IAC&ME. Mr. Fudenberg is also a past commissioner of the National Commission on Forensic Science. He serves on the National Institute of Standards and Technology Organization of Scientific Area Committee and also serves as chairman of the Las Vegas Trauma Intervention Program.

The CCOCME was the primary agency for the fatality management of the October 1 incident and is also the agency that has the responsibility for family assistance center operations in Clark County.

Michael K. Gottlieb

Michael K. Gottlieb is Deputy Chief of Staff at the White House Office of National Drug Control Policy (ONDCP). ONDCP advises the President about drug-policy issues, coordinates drug-control activities across the federal government, and develops the administration's national drug control strategy.

Mr. Gottlieb has served in a variety of leadership posts at ONDCP. He has advised the Trump, Obama, and Bush administrations in prominent legal and management roles— including Associate Director of Programs, Deputy General Counsel, and Director of Intergovernmental Affairs.

Previously, Mr. Gottlieb served as Associate General Counsel at the U.S. Food and Drug Administration where he provided counsel to the Office of Criminal Investigations and the Center for Drug Evaluation and Research. Mr. Gottlieb began his legal career serving the Federal Judiciary as a law clerk for two senior U.S. district judges.

Jason Graham

Dr. Jason Graham serves as First Deputy Chief Medical Examiner of the city of New York. Dr. Graham joined the New York City Office of Chief Medical Examiner in 2006 as a city medical examiner and served as Deputy Chief Medical Examiner in charge of the borough of Manhattan before being appointed to his current position in 2013. He concurrently holds a faculty appointment as clinical associate professor in the Department of Forensic Medicine at the New York University School of Medicine.
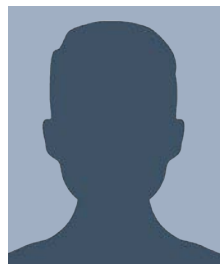
Emma R. Hall

Emma R. Hall is in her third term serving as the Boulder County Coroner in Colorado. She studied criminalistics at Metropolitan State University of Denver, Colorado, and interned with the Denver Police Department Crime Lab analyzing controlled substances. She started her career in death investigation at the Adams County Coroner's Office in Brighton, Colorado, where she was a death investigator, field training officer, and an autopsy assistant. She serves as a board member on the International Association of Coroners and Medical Examiners and is a past board member of the Colorado Coroners Association, serving as the chair of the marketing and conference planning committee. Within her local jurisdiction, she is the co-chair of the Elder Abuse Fatality Review Team; the president of the Advisory Board for the Boulder Valley School District, Arapahoe Ridge High School Forensics program; and the facilitator for the Boulder County Child Fatality Review Team. Ms. Hall's true passion in the field of death investigation is being able to provide answers to as many of the families' questions as possible in each investigation.

Kent Harshbarger

Dr. Kent Harshbarger received his medical doctorate degree from Southern Illinois University School of Medicine and his juris doctor degree from Southern Illinois University School of Law. He received his master of business administration (MBA) from Wright State University. He completed an anatomic and clinical pathology residency at Ball Memorial Hospital in Muncie, Indiana, and a forensic pathology fellowship at the Montgomery County Coroner's Office in Dayton, Ohio.

After training, Dr. Harshbarger worked for a short time as a forensic pathologist—serving the majority of central Illinois—and then returned to Dayton, Ohio, in 2002 to serve as a deputy coroner/forensic pathologist for Montgomery County. He currently serves as the Montgomery County Coroner. Dr. Harshbarger also serves as a colonel in the Army Reserve, assigned as a regional armed forces medical examiner. Dr. Harshbarger holds appointments as a clinical assistant professor in the Department of Pathology at Wright State University School of Medicine and in the Department of Specialty Medicine at the Ohio University College of Osteopathic Medicine.

Donald A. Holman

Donald A. Holman is a federal IT contractor supporting the U.S. Army. As a parent personally affected by loss, he is an advocate in the fight against the opioid crisis. His son, Garrett, passed away just 8 days before his 21st birthday in February 2017.

Mr. Holman's advocacy efforts have led to roundtables with former governor Chris Christie and first lady Mary Pat Christie; Mr. Holman has also attended a meeting for the President's Opioid Commission. He collaborates with the Office of National Drug Control Policy and is also close to the Department of Health and Human Services and the Surgeon General's Office. One of his areas of interest is synthetic opioids ordered online and shipped to the U.S. from China.
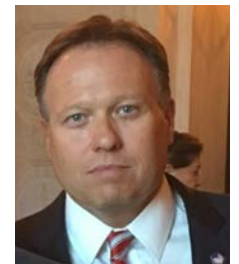
Bruce Houlihan

Bruce Houlihan is the Director of the Orange County Crime Laboratory (OCCL) in southern California, with 160 employees providing comprehensive forensic services. He has worked at the OCCL for almost 33 years. His early work at the OCCL included toxicology and controlled substance analyses, as well as method development and advancements in information processing within forensic science. He moved into leadership with the OCCL in the early 1990s and has served at both the supervisor and manager levels.

Mr. Houlihan is currently serving on the American Society of Crime Laboratory Directors (ASCLD) governing board and the ASCLD Emerging Drugs/Opioids Task Force; he is also serving a 6-year term with the Organization of Scientific Area Committees, Quality Infrastructure Committee—a national organization with the mission to improve forensic science in the United States. Mr. Houlihan previously served as president and board member of the California Association of Crime Laboratory Directors. He is also a member of the national FORESIGHT laboratory metrics projects, with goals to improve processes and cost efficiency throughout forensic science.

Mr. Houlihan is a part-time adjunct instructor in chemistry and physics, has volunteered with disaster relief and charitable organizations, and was raised in central Japan. He lives in southern California with his wife and family.

Jennifer Hornsby-Myers

CDR Jennifer Hornsby-Myers, MS, CIH, is a senior industrial hygienist in the National Institute for Occupational Safety and Health (NIOSH) Emergency Preparedness and Response Office (EPRO) where she has served for more than 18 years. Before joining NIOSH, she served as an industrial hygienist for the Department of the Army in Frederick, Maryland, and has more than 30 years of public service. She has worked on many NIOSH health hazard evaluations, including several involving opioids and other illicit drugs. She currently serves as the EPRO Regional Operations Director and as the EPRO Deputy Director. CDR Hornsby-Myers is EPRO's subject matter expert for preparedness and response activities related to chemical, radiological, and nuclear events. She represents NIOSH on high-level interagency working groups such as the National Response Framework Worker Safety & Health Annex Cooperating Agency's Committee, the National Response Team's Worker Safety & Health Committee, and numerous White House National Security Council working groups. She served on the White House Interagency Working Group tasked to create whole-of-government recommendations for law enforcement officers so these workers can safely respond to protect both the public and themselves during the current opioid crisis. She is NIOSH's lead subject matter expert on recommendations to protect first responders from opioids and other illicit drugs in the course of their duties.

Linda Jackson

Linda Jackson has served as the Director of the Virginia Department of Forensic Science (DFS) since her initial appointment in 2013. Ms. Jackson has a bachelor of science degree in chemistry from Wake Forest University and a master of science in Chemistry from the University of North Carolina at Charlotte. She began her career with DFS in 1995 as a controlled substances examiner and then was promoted to mass spectrometer operator, section supervisor, controlled substances section chief, and chemistry program manager before assuming her current position. As chemistry program manager, she managed all technical aspects of the controlled substances, toxicology, and trace evidence disciplines.

Ms. Jackson currently serves as secretary for the Association of Crime Laboratory Directors (ASCLD) Board of Directors and is a member of the National Institute of Justice Forensic Laboratory Needs—Technology Working Group. She is a member of the American Academy of Forensic Sciences (AAFS), the international Scientific Working Group for the Analysis of Seized Drugs, the ASTM E-30 Committee on Forensic Science, and the Mid-Atlantic Association of Forensic Scientists. She served on the National Commission on Forensic Science during 2013–2017 and the White House Subcommittee on Forensic Sciences Interagency Working Group on Standards, Practices, and Protocols during 2009–2012.

Tara Kunkel

Tara Kunkel is presently on detail to the Department of Justice, Bureau of Justice Assistance through an interagency agreement serving as a senior drug policy advisor. Ms. Kunkel oversees BJA's Prescription Drug Monitoring program as well as the Comprehensive Opioid Abuse program. Ms. Kunkel graduated from Virginia Commonwealth University with a master's in social work and received her bachelor of arts degree in psychology from the University of Virginia.

Chikarlo R. Leak

Dr. Chikarlo R. Leak serves as the Supervisory Epidemiologist with the District of Columbia's Office of the Chief Medical Examiner (OCME). As the manager of OCME's Data Analysis Fusion Center, he is primarily responsible for conducting epidemiological research in support of OCME's public health surveillance initiative in an effort to reduce the incidence and prevalence of preventable fatalities in the District. Part of this initiative includes real-time analysis and reporting of mortality data to federal, state, and local entities for the purposes of detecting, investigating, and predicting trends to better support at-risk populations. In addition, Dr. Leak's work provides policymakers with neutral data that can be evaluated against larger social determinants of health and inequalities for the overall improvement of policies and services offered to individuals and communities. Prior to this position, Dr. Leak was a professor at California State University.

Dr. Leak earned his doctorate of public health from the Jonathan and Karin Fielding School of Public Health at the University of California, Los Angeles. He holds a master of public health from San Diego State University and a bachelor's degree in health science from Slippery Rock University

Andrew Levin

A graduate of the University of Pennsylvania School of Medicine, Dr. Andrew Levin received residency training and completed a National Institute of Mental Health research fellowship at the New York State Psychiatric Institute and the Department of Psychiatry, Columbia University Vagelos College of Physicians and Surgeons.

Following a decade of work with trauma survivors, Dr. Levin directed psychiatric care in community mental health services, providing supervision and consultation to social workers, psychologists, and psychiatrists while developing innovative delivery systems. Currently, he consults for Project ECHO (Extension for Community Healthcare Outcomes), enhancing the delivery of behavioral health in primary care; provides expert forensic consultation; maintains a practice focused on mood disorders and trauma; and teaches residents and forensic fellows at Columbia University and Albert Einstein College of Medicine. Dr. Levin is a member of the American Academy of Psychiatry and the Law, and he chairs the Trauma and Stress Committee. At present, he is collaborating with the American Society of Crime Laboratory Directors and the National Institute of Justice to perform a gap assessment of vicarious trauma in forensic professionals. Publications include work on personality, anxiety, eating disorders, trauma, dissociative disorders, sexual harassment, and vicarious trauma in legal professionals.

Amanda Liskamm

Amanda Liskamm is the Director of Opioid Enforcement and Prevention Efforts in the Office of the Deputy Attorney General at the Department of Justice (DOJ). She is responsible for assisting the Attorney General, Deputy Attorney General, and DOJ components in formulating and implementing DOJ initiatives, policies, grants, and programs related to opioids and for coordinating these efforts with law enforcement.

She previously served as Deputy Chief of Litigation in Narcotic and Dangerous Drug Section in the DOJ's Criminal Division. Most notably, Ms. Liskamm was the lead prosecutor for the Criminal Division in the trial of *U.S. v. Joaquin "el Chapo" Guzman* in the Eastern District of New York. In the Narcotic and Dangerous Drug section, she prosecuted Mexican and Guatemalan politicians who took bribes from cartels and major cartel heads. Ms. Liskamm began her career with the DOJ as an assistant U.S. attorney in the U.S. Attorney's Office in the Central District of California. There she prosecuted drug and violent crime cases and led the Santa Ana Gang Task Force in an 89-defendant Racketeer Influenced and Corrupt Organizations Act indictment and take down of Mexican Mafia gang members. Before joining the DOJ, Ms. Liskamm was an assistant district attorney, Philadelphia District Attorney's Office, where she tried hundreds of drug, assault, attempted murder, and firearms cases. Ms. Liskamm received her juris doctor degree from New York Law School and bachelor of arts from Georgetown University.

Jeffrey Locke

Dr. Jeffrey Locke serves as a program director for the National Governors Association (NGA) Center for Best Practices Homeland Security & Public Safety Division; as part of his role, he focuses on issues including adult criminal justice reform, opioids, stimulants, corrections, school safety, human trafficking, traffic safety, and juvenile justice. The criminal justice and public safety program supports governors and their staff in developing data-driven, evidence-based solutions to states' most pressing public safety challenges.

Over the last 4 years, Dr. Locke has co-directed NGA's opioid program, which has supported nearly all states with public health and public safety strategic planning, policy development, and implementation practices. Through this initiative, he has supported states through technical assistance opportunities on public safety responses to the epidemic and has helped to craft *Finding Solutions to the Prescription Opioid and Heroin Crisis: A Road Map for States* and the *Governors' Recommendations for Federal Action to End the Nation's Opioid Crisis*. He is a frequent commentator on strategies to address substance use disorders and justice-involved individuals, opioid emergency declarations, drug supply trends, and reentry frameworks. Dr. Locke holds a master's degree in public policy from Harvard Kennedy School and a juris doctor degree from Boston College Law School.

Emily Lockhart

Emily Lockhart is a senior forensic chemist at the U.S. Drug Enforcement Administration's (DEA) Special Testing and Research Laboratory in Dulles, Virginia. She earned her bachelor of science degrees in forensic science and chemistry from Virginia Commonwealth University and her master of science in forensic science from George Washington University.

She has been a member of the DEA's Emerging Trends program since its creation in 2011. She routinely performs forensic analysis of seized drug material and provides training to local, state, and federal law enforcement officers and forensic chemists. Her professional interests include the extraction of intelligence from forensic data, particularly with new and emerging drugs of abuse. She is certified in clandestine laboratory investigation and is a member of the Clandestine Laboratory Investigating Chemists (CLIC) Association.

Ms. Lockhart also has experience as an adjunct professor at Virginia Commonwealth University teaching Advanced Drug Analysis to master of science degree candidates in the Forensic Sciences program.

Barry K. Logan

Dr. Barry K. Logan is Chief Scientist at NMS Labs, and Executive Director at the Center for Forensic Science Research and Education at the Fredric Rieders Family Foundation in Willow Grove, Pennsylvania. Dr. Logan is a fellow of the American Board of Forensic Toxicologists; he has more than 120 publications and more than 500 presentations in forensic toxicology and analytical chemistry, including work on the effects of methamphetamine, cocaine, and marijuana on drivers, as well as drug-caused and drug-related death. His recent work has focused on the analytical and interpretive toxicology of novel psychoactive substances. Dr. Logan's other appointments include Executive Director of the Robert F. Borkenstein course at Indiana University, and at Thomas Jefferson University in Philadelphia and Arcadia University. In recognition of his work and contributions, Dr. Logan has received numerous national and international awards. He served as president of the American Academy of Forensic Sciences during 2013–2014.

Stephen McConachie

Stephen McConachie is a chief operations manager at U.S. Customs and Border Protection headquarters in Washington, D.C. He manages programs involving counternarcotics and illicit trafficking, gangs and transnational organized crime, weapons of mass destruction, and medical countermeasures. He also serves as the senior liaison to the Office of National Drug Control Policy. Previously, Mr. McConachie served as a hazardous materials specialist and special mission planner with the FBI. He is a Federal Emergency Management Agency–certified master exercise practitioner and has a bachelor of science in physics from West Liberty University.

Michael M. McCormick

Dr. Michael M. McCormick is a science officer for U.S. Customs and Border Protection Laboratories and Scientific Services Directorate (LSSD) and a liaison to the National Heroin Coordination Group within the Office of National Drug Control Policy. Dr. McCormick graduated summa cum laude with his bachelor's degree in chemistry from Michigan Technological University. He received his doctoral degree from the University of Virginia, where he synthesized new anti-cancer drugs and synthesized chemicals that make fireflies emit red light.

After a brief post-doctorate at the University of Utah, Dr. McCormick spent 4 years teaching organic chemistry and general chemistry at Boise State University while continuing to research anti-cancer drugs and perform research in the area of chemical education. Discouraged by the lack of financial incentives in academia, he joined the federal government as a narcotics chemist and digital forensics scientist at LSSD's Chicago field laboratory.

After a few years, Dr. McCormick relocated to LSSD headquarters in Washington, D.C., where his primary responsibilities are program management for LSSD's designer drug program; pharmaceutical safeguard program; and remote narcotics triage program, which he designed and developed. When not on the job, Dr. McCormick enjoys fishing, cycling, and breaking clays with his wife.

Jonathan McGrath

Dr. Jonathan McGrath serves as a senior policy analyst with the U.S. Department of Justice (DOJ) National Institute of Justice (NIJ) in the Office of Investigative and Forensic Sciences located in Washington, D.C. He supports the NIJ Forensic Technology Center of Excellence program, the DOJ Needs Assessment of Forensic Laboratories and Medical Examiner and Coroner Offices, the NIJ Forensic Laboratory Needs Technology Working Group, and the NIJ Drug and Crime Program; he also serves as a vice co-chair for the Federal Medicolegal Death Investigation Working Group. Prior to joining NIJ in 2015, he served as a forensic scientist with the U.S. Customs and Border Protection's Laboratories and Scientific Services Directorate (CBP LSSD) in Houston, Texas, from 2007 to 2011. He worked at the CBP LSSD headquarters office in Washington, D.C., where he supported CBP's trade, forensic, and weapons of mass destruction operations programs during 2011–2015. Dr. McGrath holds a doctoral degree in analytical chemistry from Georgia Tech, a master of science in forensic science from the University of Illinois at Chicago, and bachelor of science in chemistry from the University of Dallas.

Selena McKay-Davis

Selena McKay-Davis has provided 18 years of forensics-related crime scene processing services, community member training, and educational instruction to institutions ranging from elementary to bachelor's level. Her professional experience includes operating for 2 years as a coroner technician at the Riverside County Sheriff-Coroner and 16 years as a forensic specialist for the Riverside Police Department. As a senior forensic specialist, Ms. McKay-Davis has processed all types of complex crimes scenes—including robberies, sexual assaults, child abuse, kidnappings, homicides, officer-involved shootings, and line-of-duty deaths. Her position primarily requires duties that include photography, videography, diverse evidence collection, shooting documentation, diagramming, impression evidence, latent print development, and expert witness testimony. Ms. McKay-Davis is a member of the American Society of Crime Laboratory Directors Trauma and Stress Working Group and the International Association for Identification. She earned a bachelor of arts degree in biology from California State University, San Bernardino, and a master of forensic sciences from National University.

M.J. Menendez

Dr. M.J. Menendez is the Heroin/Fentanyl Projects Coordinator for the Department of Justice's Organized Crime Drug Enforcement Task Forces (OCDETF). She earned her juris doctor degree from the University of Colorado in 1991 and is currently on detail to OCDETF from the United States Attorney's Office in Colorado where she has served for 12 years. Dr. Menendez has also served as a state district court judge in Colorado and a long-time state court prosecutor. Dr. Menendez currently serves on the National Institute of Justice's Medicolegal Death Investigation Working Group where she chairs the subcommittee on forensic pathology and toxicology workforce shortages. She received the President's Award for Distinguished Service from the National Association of Medical Examiners in October 2018, an organization of which she is a member. Dr. Menendez is also a member of the American Academy of Forensic Sciences.

Roger A. Mitchell, Jr.

Dr. Roger A. Mitchell, Jr., is board certified in anatomic and forensic pathology by the American Board of Pathology and a fellow with the National Association of Medical Examiners (NAME). Dr. Mitchell is the new chair of the Strategic Planning Subcommittee for NAME and is the immediate past chair for the Deaths in Custody Subcommittee. Dr. Mitchell has recently served as the national co-chair for the National Medical Association's (NMA) Working Group on Gun Violence and Police Use of Force. He is a graduate of Howard University, Washington, D.C., and New Jersey Medical School in Newark. Dr. Mitchell is licensed to practice medicine in Washington, D.C. He has performed more than 1,400 autopsy examinations in his career and has testified as an expert for numerous cases.

He began studying forensic science and violence prevention as a forensic biologist for the FBI—DNA Unit in January 1997. As the Chief Medical Examiner of a major city, Dr. Mitchell is uniquely positioned to understand the social determinants that lead to the violence affecting our most vulnerable communities. He has a great interest in violence as a public health issue and has recently co-authored position papers such as *The Violence Epidemic in the African American Community: A Call by the National Medical Association for Comprehensive Reform* for the NMA and *Recommendations for the Definition, Investigation, Postmortem Examination, and Reporting of Deaths in Custody* for NAME. Dr. Mitchell recently served on the Forensic Science Standards Board for the National Institute of Science and Technology. The Centers for Disease Control, the U. S. Department of Justice, and the National Institute of Justice frequently seek his expertise about subjects such as violence, death investigation, and mass fatality management. Dr. Mitchell has lectured for the governments of cities located in India, Egypt, Bangladesh, Belize, and Liberia—as well as for the International Coroners Conference in London, England. Lastly, Dr. Mitchell is a licensed minister serving as a mentor in his local community. He often shares how drugs and violence have shaped his own life. He is a husband to his wife of 17 years and a father to his three children. Dr. Mitchell has pledged his professional career and personal time to the service of others.

Cheryll Moore

Cheryll Moore is the Medical Care Administrator for the Erie County Department of Health (ECDOH); she has spent the past 20 years working at the ECDOH in various roles. In her current position, she is responsible for community health assessment, Article 6 reporting, grant writing, community facilitation, and advocacy activities. Additionally, she developed and manages the Erie County Opiate Epidemic Task Force; she is also involved in multiple local, state, and federal grant-funded projects. Ms. Moore earned her bachelor of science in nursing and CHN degrees from D'Youville College.
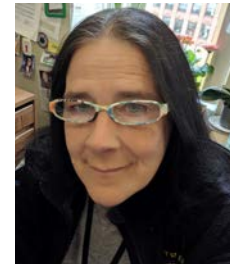
Jayne Morrow

Dr. Jayne Morrow is an accomplished professional with a broad portfolio of research program and science policy development expertise relevant to a range of priorities in the United States and abroad. She has demonstrated a career working across stakeholders to foster engagement, create strategic vision, and build consensus on a range of technical program and public policy areas—including national security, environmental health, public health, and safety and law enforcement. She has mobilized research and policy expertise to address dynamic technical and policy challenges presented by the biosurveillance and biological threat response communities. Building on these experiences, she recently worked across federal agencies to assess data needs and knowledge gaps to enable confident decision-making founded on scientific evidence for analytical characterization and surveillance of the opioid epidemic. Dr. Morrow formerly led national science and technology strategic policy development as the Executive Director of the National Science and Technology Council in the Executive Office of the President during the Obama Administration. Prior to that position, she led biothreat response and metrology for biological science programs at the National Institute of Standards and Technology. She recently joined Montana State University (MSU), working to develop stronger connections in science, technology, and research among academia, industry, and government agencies. At MSU, she serves as the Assistant Vice President of Research and Economic Development—a position created to strategically grow MSU's research portfolio. She has a bachelor of science degree in civil engineering from MSU; she earned her master of science and doctoral degrees in environmental engineering with a specialty in molecular and microbiology from the University of Connecticut.

Chauncey Parker

Chauncey Parker serves as the Director of the New York/New Jersey High-Intensity Drug Trafficking Area, a federally funded program that invests in partnerships to build safe and healthy communities. He also serves as Executive Assistant District Attorney in the Manhattan District Attorney's Office. A veteran of more than 30 years in criminal justice, he began his career in the Manhattan District Attorney's Office in 1986, where he served for 5 years. He next served for 10 years as an assistant U.S. attorney for the Southern District of New York. In 2002, former governor George Pataki appointed him to serve as the Director of Criminal Justice for New York state, where he oversaw all state criminal justice agencies for 5 years. Mr. Parker serves as a board member for the National Rx Drug Abuse & Heroin Summit Advisory Board and the Joyful Heart Foundation.

Adam Polhemus

DSFC Adam Polhemus has been a New Jersey state police trooper for 15 years. He began his career as a trooper at South Jersey general road stations and the Garden State Parkway. He was selected to join the School and Traffic Safety Unit, where he served for 4 years as a school resource trooper (SRT). As an SRT, he provided hundreds of presentations to school students, parents, and administrators across New Jersey. DSFC Polhemus began providing security assessments and critical infrastructure checks across the state. He was promoted to Patrol Supervisor at Kingwood Station before transferring to the New Jersey Regional Operations and Intelligence Center's Fusion Liaison Intelligence and Training Unit. In December 2013, he became a founding member of the Drug Monitoring Initiative (DMI). Nearly 6 years later, this growing initiative is the nation's premiere drug collection and intelligence capability for law enforcement and public health partners. DSFC Polhemus supervises DMI day-to-day operations managers, data analysis and production systems, investigative law enforcement support, and outreach and training capabilities. He has provided hundreds of presentations across the nation about the DMI Concept of Operations; drug recognition and environment overviews; public health and forensic laboratory analysis collaboration; and data collection, analysis, and intelligence production.

DeMia Pressley

DeMia Pressley joined the Drug Enforcement Administration's Diversion Control Division in 2006. She is the Program Officer for the National Forensic Laboratory Information Management System and has been influential in expanding the program from its focus on drug exhibits to collecting data to antemortem and postmortem toxicology. Ms. Pressley works with local, federal, and international partners to improve data quality and foster data sharing among various stakeholders. Prior to her work with the Diversion Control Division, Ms. Pressley was a forensic chemist with the DEA laboratory system and a presidential management fellow. She is a member of the American Academy of Forensic Sciences and serves on the federal Medicolegal Death Investigation Working Group.

Timothy Rohrig

Dr. Timothy Rohrig is the Director of the Sedgwick County Regional Forensic Science Center, a combination medical examiner's office and crime laboratory. His previous roles include Director of Laboratories—Center for Forensic Sciences, Onondaga County, New York; Vice President-Toxicology of Osborn Laboratories; and Chief Toxicologist—Laboratory Director for the Office of the Chief Medical Examiner, State of Oklahoma.

Dr. Rohrig has held or currently holds several academic positions in the U.S. and has a visiting professorship in forensic toxicology at the University of Lincoln in the United Kingdom. He holds a bachelor of science degree in chemistry and a doctorate in pharmaceutical sciences, with an emphasis in pharmacology/toxicology; he is board certified by the American Board of Forensic Toxicology. Dr. Rohrig has given numerous scientific oral presentations in the field of toxicology and authored more than 25 papers and several book chapters.

Dr. Rohrig received the Rolla N. Harger Award for outstanding contributions to the field of forensic toxicology. Dr. Rohrig is a fellow of the American Academy of Forensic Sciences and past chairman and secretary of the AAFS Toxicology Section. Dr. Rohrig has held other leadership positions in several professional societies—including president of the Southwestern Association of Toxicologists and president of the Society of Forensic Toxicologists; he is also a member of these and several other professional organizations, including the International Association of Forensic Toxicologists.

Dr. Rohrig's current research interests include postmortem distribution of drugs, interpretive postmortem toxicology, oral fluid drug analyses, and the effects of drugs on human performance.

Jeri D. Ropero-Miller

Dr. Jeri D. Ropero-Miller is the Chief Scientist in the Applied Justice Research Division at RTI International. With expertise in the areas of forensic toxicology and criminal justice research, she has published on topics of postmortem drug studies, emerging drugs, hair drug studies, drug surveillance and intelligence, program evaluation, and technology evaluation and adoption. She supports several ongoing projects, including the National Institute of Justice's Forensic Technology Center of Excellence and its Criminal Justice Technology and Evaluation Consortium, the Drug Enforcement Administration–funded National Forensic Laboratory Information System, the Bureau of Justice Statistics (BJS)–funded 2018 Census of Medical Examiners/Coroners' Offices, and the BJS-funded 2019 Census of Publicly Funded Forensic Crime Laboratories. She is certified by the American Board of Forensic Toxicology; is currently the president-elect for the American Academy of Forensic Sciences; and serves on the Toxicology Subcommittee of the National Institute of Standards and Technology, Organization of Scientific Area Committees. She received her doctorate in clinical chemistry and forensic toxicology from the University of Florida College of Medicine. Her work has been extensively published, and she is recognized nationally and internationally for her work in criminal justice research.

David A. Sartori

Lieutenant Colonel David A. Sartori, PhD, attended Allegheny College in Meadville, Pennsylvania, and graduated with a bachelor of science degree in chemistry in 1993. He then attended Montana State University in Bozeman, Montana, and obtained his doctorate in chemistry in 1998. He also completed a post-doctoral research fellowship at Virginia Commonwealth University in 1999 and a clinical chemistry fellowship at the Johns Hopkins Medical Institutes in 2015. Lieutenant Colonel Sartori was commissioned as a First Lieutenant in the U.S. Army Reserves in July 2010 before joining the active duty force as a Captain in 2011.

His assignments include Deputy Command and Technical Director, Forensic Toxicology Drug Testing Laboratory, Fort Meade, Maryland (December 2001–December 2005); Deputy Chief, Core Laboratory and Chief, Central Operations, Landstuhl Regional Medical Center, Germany; Commander Forensic Toxicology Drug Testing Laboratory, Tripler Army Medical Center, Hawaii; Science Programs Advisor, U.S. Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, Maryland; and Chief, Core Laboratory, Madigan Army Medical Center, Joint Base Lewis-McChord, Washington.

Lieutenant Colonel Sartori offers toxicology consultation to the Armed Forces Medical Examiner System pathology staff, among other federal and military agencies. He also serves as the Chairperson of the Department of Defense Biological Testing Advisory Board that supports the military readiness Drug Demand Reduction Program.

Carl Schmidt

Dr. Carl Schmidt is a forensic pathologist and a clinical professor in the Department of Pathology at the University of Michigan. He is also the Chief Medical Examiner for Wayne County, Michigan, and has 25 years of experience in forensic pathology. His main interests are in forensic toxicology; child abuse; and more recently, the postmortem microbiome as a tool for public health surveillance. Another interest is how drug policy affects medical examiner caseloads in large urban environments, such as in southeastern Michigan where the number of drug deaths has doubled over the past 4 years and the impact this has had on the workforce and resources of medicolegal environments.

Frances Scott

Dr. Frances Scott is a physical scientist at the National Institute of Justice, where she manages the Controlled Substances and Forensic Toxicology research and development portfolios under the General Forensics portfolio; she also co-manages the Paul Coverdell Forensic Science Improvement Grants program and the Research for Publicly Funded Labs program. Dr. Scott received a bachelor of science in chemistry from the University of California at Davis and a doctoral degree in physical chemistry from the George Washington University.

Puja Seth

Dr. Puja Seth is the Overdose Epidemiology and Surveillance Lead in the Division of Unintentional Injury Prevention (DUIP) at the Centers for Disease Control and Prevention (CDC). She oversees the conceptualization and implementation of the Enhanced State Opioid Overdose Surveillance program, which includes efforts such as collecting morbidity and mortality data on opioid-involved overdoses, providing technical assistance to states, ensuring data quality, and disseminating data rapidly. She has served in this capacity since February 2016 and has been at CDC since 2009. She also is a licensed psychologist and an adjunct faculty member in the Rollins School of Public Health at Emory University. Prior to joining DUIP, Dr. Seth worked in the Division of Global HIV/AIDS and Tuberculosis and the Division of HIV/AIDS Prevention at CDC on international and domestic HIV research and programmatic efforts. She specifically focused on HIV testing and HIV service delivery to persons living with HIV, prevention, and program evaluation; additional focus areas included conducting multi-country randomized controlled trials and providing technical assistance to states and countries. She has her doctorate in clinical psychology from the University of Georgia and her master's degree from the University of North Carolina at Wilmington. She has more than 70 publications in peer-reviewed journals, Morbidity and Mortality Weekly Reports, book chapters, and government reports; she also has given or contributed to more than 100 presentations.

Ed Sisco

Dr. Ed Sisco is a research chemist at the National Institute of Standards and Technology within the Surface and Trace Chemical Analysis group. His areas of active research include developing advanced mass spectrometry and ambient ionization mass spectrometry systems for forensic and homeland security purposes, addressing critical forensic chemistry measurement science needs, and developing rapid qualitative and quantitative tools for a range of analytes. Dr. Sisco has a number of ongoing projects in the spaces of opioid detection, development of novel approaches for drug chemistry analysis, chemical backgrounds, trace narcotics and explosives detection, and development of optimized methods for ignitable liquid residue analysis. He is also a member of the Overseas Security Advisory Council and ASTM International.

Jenifer Smith

On July 17, 2015, Mayor Muriel Bowser named Dr. Jenifer Smith to lead the Department of Forensic Sciences (DFS). Dr. Smith is a nationally recognized leader in forensic science, with experience working at the highest levels of the federal government. Dr. Smith's background combines strong scientific knowledge of forensics, as well as experience in law enforcement and as an expert witness on forensic findings.

Dr. Jenifer Smith retired from the FBI after a 23-year career as a special agent. Dr. Smith oversaw DNA analysis at the FBI Laboratory, where she implemented numerous methods and testified in hundreds of cases. Dr. Smith was a member of the U.S. Government Senior Executive Service and supervised the FBI's Weapons of Mass Destruction Intelligence Analysis section. During 2002–2006, Dr. Smith led the CIA's Biological Technology Center; during 1995–2002, she served as the Unit Chief of the DNA Analysis Unit at the FBI Laboratory.

Following retirement, she became the principal of BioForensic Consulting and in 2010, she joined the faculty at Penn State University as a professor in the Forensic Science program in the Eberly College of Science. She left this position in 2015 to become the DFS Director. She is currently a member of the American Society of Crime Laboratory Directors and of the Scientific Working Group on DNA Analysis Methods. Dr. Smith holds a bachelor of science in biochemistry from Pennsylvania State University and a doctoral degree in physiological chemistry from Ohio State University; she participated in post-doctorate research at Harvard University.

Paul J. Speaker

Paul J. Speaker is a professor in the Finance Department of the John Chambers College of Business and Economics at West Virginia University. He holds a doctoral degree and a master of science degree from Purdue University and a bachelor of arts from La Salle University. Dr. Speaker also is the Chief Executive Officer of Forensic Science Management Consultants, LLC—a firm that specializes in the business of forensics using the forensics of business. Dr. Speaker is the Principal Investigator for Project FORESIGHT, a business-guided analysis of forensic science laboratories.

Thomas Synan, Jr.

Chief Thomas Synan, Jr., is a U.S. Marine Corps veteran. He has been in law enforcement for 26 years, serving 10 years on Special Weapons and Tactics. He is currently the Police Chief with the Newtown Police Department.

In 2014, he saw the last person of an entire family die from drugs; the last two individuals died from heroin. After this happened, Chief Synan met with other members in Hamilton County and helped form the Hamilton County Heroin Coalition; he sits on the Steering Committee and Chair Interdiction. Chief Synan coordinates law enforcement efforts to reduce supply and works with other members to help reduce demand.

Chief Synan was asked to testify at the U.S. Senate Homeland Security Committee about the impact synthetic opiates have had on the country. As a speaker with former president Clinton and other distinguished panelists for the Clinton Foundation, he discussed the opioid crisis. Chief Synan's career and work with the opiate epidemic has been archived in the National Law Enforcement Museum. His work with the Hamilton County Heroin Coalition has been used in national and international media outlets. Chief Synan has spoken internationally about the heroin issue; he has been able to see all the ways that addiction touches lives and the efforts needed to help individuals, families, and communities.

Margaret Warner

Dr. Margaret Warner is an injury epidemiologist at the Centers for Disease Control and Prevention, National Center for Health Statistics, Division of Vital Statistics, Mortality Statistics branch. Dr. Warner's research focuses on fatal injury, poisoning, and sudden death. Currently, she is working to improve national mortality data quality using multiple cause of death data from the National Vital Statistics System, free text from death certificates, and death investigation data from medical examiners and coroners. Dr. Warner received her doctorate from the Johns Hopkins School of Public Health and studied injury epidemiology on a Fulbright Fellowship at the University of Otago in New Zealand.

NATIONAL INSTITUTE OF JUSTICE
NIJ's Role in the Strategy to Combat Heroin and Other Opioids: 2018 Update
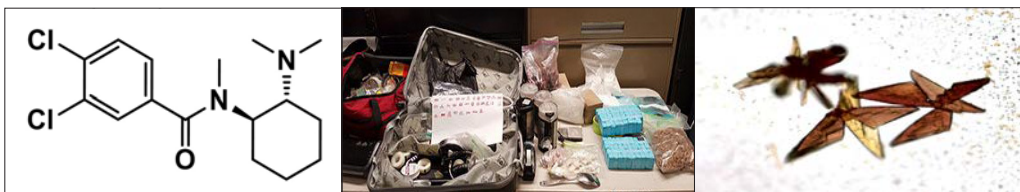
As the research, development, and evaluation agency of the Department of Justice, the National Institute of Justice (NIJ) plays an important role in the Administration's efforts to combat the epidemic of heroin and other opioid abuse. The following provides an updated overview of NIJ's Drugs and Crime Research Portfolio that addresses drug trafficking, markets, and use of illegal drugs including prescription drug diversion through research and capacity building for law enforcement, forensic laboratories, medical examiners and coroners, prosecutors, and other public safety and public health stakeholders.

NIJ's Drugs and Crime Research Portfolio

NIJ furthers DOJ's priorities to combat the Nation's opioid epidemic, and reduce violent and other drug-related crime, through research that promotes effective law enforcement, court, and corrections responses to illegal drug markets. This includes research on ways to deter, investigate, and disrupt drug markets, as well as to prevent or reduce drug-related crime and violence. The current drug priority is heroin and other opioids such as fentanyl, diverted pharmaceuticals, synthetic drugs, and analogues.

For more information on this portfolio, visit NIJ's website at https://www.nij.gov/topics/drugs/Pages/welcome.aspx

Photo Sources: Emerging synthetic opioid U-47700, ©Keck Graduate Institute; Example of law enforcement seizure of opioid drugs and paraphernalia,©DEA.gov; Triangular crystals resulting from a positive microcrystal test for codeine using Fulton's C-3 reagent, ©McCrone Research Institute, Chicago

NIJ Drugs & Crime Research

The portfolio studies crime reduction through:

• Epidemiology – patterns among drugs, violence, and crime to inform communities and service providers.

• Prevention and Intervention – policies and programs to prevent or reduce drug-related crime and violence.

• Drug Markets – drug production and distribution information to support law enforcement.

• Market Disruption – drug interdiction and other strategies to disrupt or deter markets.

• Forensic Science – drug recognition and detection, and support of medicolegal death investigation.

Research on Illegal Prescription Drug Market Interventions

Collaborations across NIJ science offices have produced research on deterrence, investigation, and disruption of illegal prescription drug markets:

• Strategies and Resources for High Intensity Drug Trafficking Areas

• Using the North Carolina Controlled Substances Reporting System to Identify Providers Manifesting Unusual Prescribing Practices

• Optimizing Prescription Drug Monitoring Programs (PDMPs) to Support Law Enforcement Activities

• Policy Analysis of Florida House Bill 7095 for Diversion of Psychoactive Prescription Drugs

For more on this research, visit NIJ's webpage at https://www.nij.gov/topics/drugs/Pages/illegal-prescription-drug-markets.aspx

Drug Recognition and Impairment Research Meeting

Partnering with the National Highway Traffic Safety Administration and the National Institute of Drug Abuse, NIJ led a 2015 meeting on drug recognition and impairment research. The meeting allowed dissemination of information on projects to active practitioners, an exchange of information with other agencies, and an opportunity to solicit feedback. This informs federal plans for future research that are responsive to the field's information and practice needs. Discussion topics were detection of illegal drugs, including quantitation (purity) of drug seizures; forensic toxicology post-use; reliable measurement of drug impairment; investigative leads for case building; collection and submission of drug evidence for laboratory analysis; tools for drug detection in the field; expert witness/testimony; confirmation of toxicological and chemical analysis; and protocols for prosecution and court case management.

For more on this meeting, visit NIJ's webpage at https://www.nij.gov/topics/drugs/Pages/drug-recognition-and-impairment-research-meeting.aspx

NIJ Research on Heroin and Other Opioids

NIJ currently supports research on evidence-based tools, protocols, and policies for state, local, and tribal law enforcement and other criminal justice agencies, including:

Narcotics Law Enforcement and Prosecution

• Using Artificial Intelligence Technologies to Expose Darknet Opioid Traffickers

• Building Drug Intelligence Networks to Combat the Opioid Crisis in Rural Communities: A Collaborative Intelligence-Led Policing Strategy

• Heroin and Crime Initiative: Informing the Investigation and Prosecution of Heroin-Related Overdose

Controlled Substances and Forensic Toxicology

• High Resolution Mass Spectrometry Screening in Forensic Toxicology: Cost Benefit Analysis

• Structural Characterization of Emerging Synthetic Drugs

• The Use of Gas Chromatography With Tandem Ultra Violet and Mass Spectrometric Detection for the Analysis of Emerging Drugs Application to Synthetic Cathinones and Fentanyl Analogs

• Novel Quantitation Workflow for Improved Drug Surveillance

• Toxicological Time Travel: Retrospective Datamining of Analytical Time-of-Flight Mass Spectrometry Data for Evaluating the Rise and Fall of Novel Opioid and Fentanyl Analog Use in the United States

• Signature Profiling of Illicit Fentanyl

Drug Intelligence and Community Surveillance

• Delaware Opioid Metric Intelligence Project

• Identifying and Informing Strategies for Disrupting Drug Distribution Networks: An Application to Opiate Flows in Pennsylvania

Corrections

• Evaluation of Using Telehealth for Opioid Use Disorders in a Correctional Setting

Your Data Can Make a Difference in National Drug Control Efforts

U.S. Department of Justice
Drug Enforcement Administration

Have any ideas to share with DEA regarding the NFLIS-MEC surveillance system?

Contact
DeMia Pressley
Drug Enforcement Administration
202-307-7183

More information may be found on the NFLIS website: **https://www.nflis.deadiversion.usdoj.gov/**.

What are the next steps to participate?
1-888-966-3547 or DEANFLIS@rti.org

As a medical examiner or coroner (MEC) office, you provide valuable information about the impacts that drugs and substance use have on public health.

By participating in NFLIS-MEC, your office will be contributing to an important national data collection that supports DEA drug scheduling and informs drug policy.

DEA may provide assistance for MEC participation.

The NFLIS-MEC program strives to minimize burden to participating MEC offices. The program works closely with information management syste____ ____-house data systems to assist with data extraction r____ ____ta items. On a case-by-case basis, com____ ____ assistance may be provided ____

As a NFLIS-MEC participant, you can influence a greater national understanding of the following:

Drug mortality

Drug frequency trends

Novel psychoactive substances

Levels of drugs involved in cause of death

Toxicology testing practices of MEC offices

Receive assistance from DEA to easily extract approximately 15 NFLIS-MEC data items:

Information Management System Support

Computer hardware and software

Data entry support

Enable DEA to compile national drug trend data on the following:

Case ID/unique identifier
Cause of death
Manner of death
Age
Sex
Date of death
Drug(s) and metabolite(s) confirmed

Contribute to national statistics and gain access to aggregated data.

NFLIS
2017 Medical Examiner/Coroner Office Survey Report

Your Data Can Make a Difference in National Drug Control Efforts

U.S. Department of Justice
Drug Enforcement Administration

What are the next steps to participate?
1-888-966-3547 or DEANFLIS@rti.org

As a toxicology laboratory, you provide valuable information about the impacts that drugs and substance use have on public health.

By participating in NFLIS-Tox, your office will be contributing to an important national data collection that supports DEA drug scheduling and informs drug policy.

DEA may provide assistance for toxicology laboratory participation.

The NFLIS-Tox program strives to minimize burden to participating laboratories. The program works closely with information management systems and in-house data systems to assist with data extraction requests and data items. On a case-by-case basis, computer hardware and software assistance may be provided for reporting.

As a NFLIS-Tox participant, you can influence a greater national understanding of the following:

Drug frequency trends

New drug trends

Toxicology testing practices

Receive assistance from DEA to easily extract approximately 10 NFLIS-Tox data items:

Information Management System Support

Computer hardware and software

Data entry support

Enable DEA to compile national drug trend data on the following:

Case ID/unique identifier

Requesting office type or agency

Case type

Requesting office/agency location

Date of case submission

Date of case completion

Drug(s) and metabolite(s) confirmed

Contribute to national statistics and gain access to aggregated data.

2017 Toxicology Laboratory Survey Report

DRUG

NFLIS-Drug Data Query System (DQS)

The NFLIS-Drug Data Query System (DQS) is accessible via the NFLIS website (https://www.nflis.deadiversion.usdoj.gov/) and provides users with the ability to analyze NFLIS-Drug data at the national, regional, State, or local level.

Participation and Database Content

NFLIS is a program of the Drug Enforcement Administration (DEA), Diversion Control Division. NFLIS-Drug systematically collects drug identification results and associated information from drug cases submitted to and analyzed by Federal, State, and local forensic laboratories. These laboratories analyze controlled and noncontrolled substances secured in law enforcement operations across the country. This information supports drug regulatory and scheduling efforts and informs drug policy and enforcement initiatives.

Key Features of the NFLIS-Drug DQS

The DQS is a distinct resource for NFLIS-Drug reporting laboratories to run customizable queries on their own case-level data and on aggregated metropolitan, State, regional, and national data.

The system has a number of features, including the following:

- **Secure –** Only participating laboratories and other DEA-approved entities are granted access to the NFLIS-Drug DQS. The NFLIS website uses the industry standard communications protocol, HTTPS, to establish secure, encrypted connections to the DQS.

- **Timely –** Results can be analyzed in near real-time and reflect data reported by laboratories on a monthly or quarterly basis (a few laboratories report to NFLIS quarterly).

- **Detailed –** Data can be analyzed for specific drugs or drug categories at the case or report level.

- **Geographically diverse –** The NFLIS-Drug DQS includes data from 50 State systems and 104 local or municipal laboratories/laboratory systems, representing a total of 283 individual laboratories.

- **Flexible and easy to use –** Data can be analyzed by drug type or drug category, date (date submitted to or date analyzed by the laboratory), laboratory type, laboratory location, and other factors. Laboratory users can analyze their own data at the case or report level and make aggregate-level comparisons with other laboratories at a State, regional, or national level.

- **Powerful and fast –** The system is supported by a large-scale relational database, providing an efficient environment to analyze large volumes of NFLIS-Drug data.

- **Cost free –** The NFLIS-Drug DQS is provided free of cost to all users and can be used by laboratories to augment other productivity analysis and reporting tools with respect to reported drug analyses.
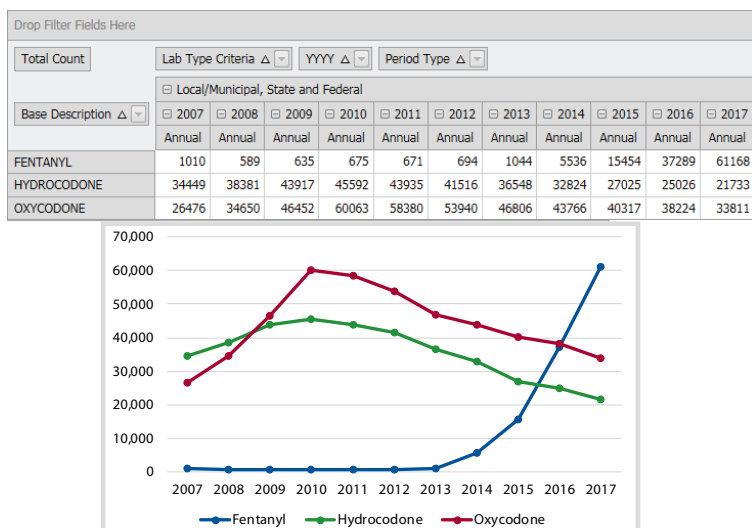
NFLIS-Drug Data Query System (DQS)

The analysis of NFLIS-Drug DQS data can have a number of benefits, including
• In-depth analysis of data for your own laboratory
• Comparisons with national, regional, and State numbers
• Identification and tracking of emerging drugs, including those in adjacent jurisdictions and States

ANALYSIS

NFLIS-Drug DQS Queries

The NFLIS-Drug DQS can generate useful data sets aggregated and filtered across multiple variables of the NFLIS-Drug data. Data can either be analyzed ad hoc or use predefined analysis queries and reports.

Analysis types include the following:

• All drugs selected individually or by drug group(s)
• Top 25 drugs reported to NFLIS-Drug
• Individual base drugs
• Drug categories (e.g., synthetic cannabinoids)

Query results are rendered in a separate browser window in a customizable Microsoft Excel-like grid format. Users can hide unneeded columns or move other columns, such as "time period being reported," to create a cross-tab of the original data set. Once the data are shaped to the user's preferences, they can then be exported and downloaded in either Excel or text formats and used to support the user's objectives.

Future Direction with the NFLIS-Drug DQS

The NFLIS-Drug DQS is designed to provide the DEA and other Federal, State, and local laboratories participating in NFLIS-Drug with an analytic tool that can provide timely and detailed results on the types, prevalence, and location of emerging and other diverted drugs. The information can, in turn, inform drug control and drug scheduling policies and efforts across the country. Moving forward, the DEA intends to continue to enhance the NFLIS-Drug DQS and its usefulness to participating NFLIS-Drug laboratories.

For More Information, Contact:

NFLIS Program Officer, NFLIS@usdoj.gov
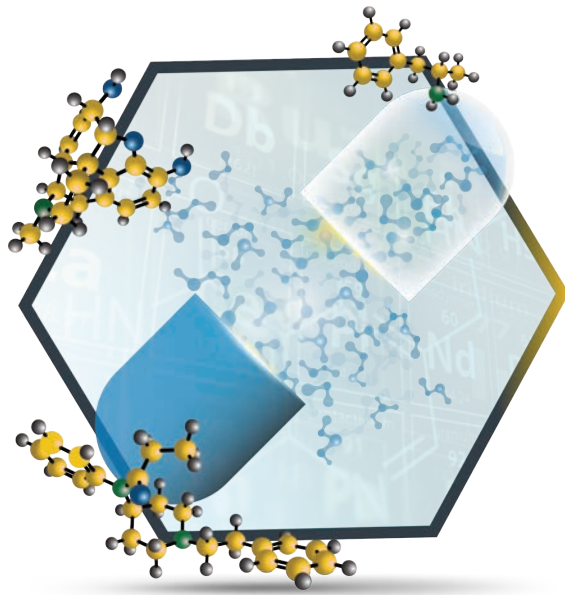NFLIS Webmaster, nflissupport@rti.org

NFLIS Expansion

The DEA is expanding the NFLIS program to include (1) medical examiner and coroner office (NFLIS-MEC) data regarding deaths in which drugs were identified and (2) public and private toxicology laboratory (NFLIS-Tox) data on toxicological findings from postmortem and antemortem testing. These two continuous data collection programs complement NFLIS-Drug and further support the DEA's drug regulatory and scheduling efforts. As these two NFLIS components mature, DEA will develop similar DQS capabilities for participants.

Suggested Citation for a NFLIS-Drug DQS Data Analysis:
U.S. Drug Enforcement Administration, Diversion Control Division. (Year, month, and day that analysis was run). *Type of analysis that was run* [NFLIS-Drug Data Query System analysis]. Retrieved from https://www.nflis.deadiversion.usdoj.gov/

Drop Filter Fields Here

Total Count	Lab Type Criteria △ ▽	YYYY △ ▽	Period Type △ ▽

					⊟ Local/Municipal, State and Federal						
Base Description △ ▽	⊟ 2007	⊟ 2008	⊟ 2009	⊟ 2010	⊟ 2011	⊟ 2012	⊟ 2013	⊟ 2014	⊟ 2015	⊟ 2016	⊟ 2017
	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual
FENTANYL	1010	589	635	675	671	694	1044	5536	15454	37289	61168
HYDROCODONE	34449	38381	43917	45592	43935	41516	36548	32824	27025	25026	21733
OXYCODONE	26476	34650	46452	60063	58380	53940	46806	43766	40317	38224	33811