



*American Academy of Forensic Sciences  
American Society of Crime Laboratory Directors  
International Association for Identification  
International Association of Forensic Nurses  
National Association of Medical Examiners  
Society of Forensic Toxicologists/ American Board of  
Forensic Toxicology*

## FORENSIC OPIOID RESPONSE MEASURES

Drug overdose deaths in America have reached crisis proportions. The surge in deaths since 2013 has particularly been due to the synthetic opioid fentanyl and its derivatives. While fentanyl has been well-known for years, new unfamiliar or unknown fentanyl derivatives are being introduced at an alarming rate. Similarly, new synthetic cannabinoids, bath salts, and other drugs are also constantly introduced, which have not been seen before. Collectively these dangerous new drugs are known as “designer drugs” or more formally known as Novel Psychoactive Substances (NPS).

The Federal Government has responded with prevention, interdiction, and treatment, but has not addressed the forensic element of the prevention or law enforcement aspect of the crisis. In particular, the forensic science community is being forced to absorb the massive increase of cases that are now overwhelming the nation’s federal, state, and local crime labs and medical examiners. The issue of how to equip the forensic community to respond is quite complex and requires more than just funding.

### I. OPERATIONAL ISSUES

#### **A. MEDICAL EXAMINERS AND CORONERS**

##### BACKGROUND:

Forensic pathologists, who work in medicolegal death investigation offices such as medical examiner offices or coroner offices, should investigate and autopsy every single drug overdose death and certify the cause of death. Currently pathologists are unable to autopsy every death case because the caseload far exceeds the capacity of their offices. Pathologists have a maximum number of autopsies they can perform in a given time-frame to keep their accreditation and their work product at a high level. Because of the sheer number of autopsies these offices are being forced to work, many are losing their accreditation. Many of the overdose related death cases are not having autopsies performed. Much of the toxicology work that these offices rely on to make a death determination is either not being performed at all or is not being performed in a timely manner. When the medical examiner and coroner offices cannot perform a full analysis of the body and body fluids from the body, the CDC is not able to analyze the powerful data on drug overdoses which the federal government relies on to monitor the problem and determine the appropriate response.

##### NEEDS:

- The greatest impediment to being able to meet the increased need is the lack of personnel to perform autopsies. More forensic pathologists need to be trained and available for hire.
- More coordination with federal partners such as the CDC.

### SOLUTIONS:

- The federal government can help this situation by offering loan forgiveness for forensic pathologists.
- The number of seats in federally subsidized medical schools should be increased for students pursuing pathology fellowships.
- Establishment of an Office of Forensic Medicine at CDC to coordinate state and local coroner and medical examiners with federal efforts.

## **B. CRIME LABORATORIES**

### BACKGROUND:

The forensic science laboratories are being heavily impacted by the current drug crisis. Labs primarily have to deal with two different issues related to this crisis. First, they must develop and implement appropriate personnel and laboratory safety measures. Second, they must absorb an influx of new cases. Labs receive evidence from drug seizures that require analysis by drug chemists to identify the substance. In some instances fingerprint examiners, questioned documents examiners, or other forensic scientists are used to link the substance to a dealer or distributor. In toxicology laboratories the epidemic is just as severe with thousand percent increases in submissions of opioid cases. In toxicology laboratories the samples are generally blood or urine collected when a driver or individual is suspected of being under the influence of one or more of these substances. With a fixed number of cases that can be processed by a single analyst and limited run capacity on instrumentation, the nation's laboratories do not have the capacity to meet current demand. As a result the cases become backlogged and the courts experience significant delays to their workload. The defendants must wait longer for their day in court and sometimes the cases are even dismissed because the cases cannot be worked for the deadlines. Perhaps more importantly, many labs lack the ability to detect all of the novel substances being introduced into society. Labs desperately need new and more sensitive equipment to detect these drugs. The instrumentation is extremely expensive to perform toxicology analysis. When labs can fund the instrumentation, new methods must be developed and validated to test for these NPS. This new instrumentation requires more training and continuing education for scientists and more scientists to interpret the data and testify in court. This impact is beyond the state and local capacity to handle it.

### NEEDS:

- New instruments, training on the instruments, and validation studies of the instrumentation and protocols.
- Hiring, training, and continuing education of additional forensic drug chemists and toxicologists to be able to analyze the samples and testify in court related to their findings.
- Federal coordination and leadership to coordinate development of new protocols, identification of new drugs and metabolites, and authentication of new standards for use in the methods. Federal laboratories and research

efforts will help avoid future forensic crisis by anticipating the needs of the community prior to it reaching crisis stage. Funding is needed to expand the scope of drugs tested (e.g., fentanyl analogs, other synthetic opioids) and improve the timeliness of reporting these data.

#### SOLUTIONS:

- Federal grant programs at DOJ and other federal agencies should be immediately diverted to address this national crisis.
- A federal training program at the DEA or another federal agency to assist in the onboarding training of new state and local laboratory analysts.
- Federal research programs should be increased to deal with identification of new drugs and better information sharing networks set up between local, state, and federal laboratories.

## II. SCIENTIFIC ISSUES TO THE UNDERSTANDINGS OF NOVEL PSYCHOACTIVE SUBSTANCES

Drug use in America was at one time single known drugs, but then later involved multiple known drugs, and now involves multiple known and unknown drugs. The federal bureaucracy has not yet adapted the introduction of the new unknown drugs, but instead is acting as if all drugs used are well-known. Federal labs and resources cannot keep up with the illicit chemists that alter the substances quickly to skirt federal scheduling legislation and put together dangerous cocktails for adventurous drug users.

We face a profound lack of fundamental knowledge about many of these NPS. The necessary research to create this knowledge is simply not being accomplished. Worse, the need to understand these substances is assumed or is overlooked. Some pharmaceutical data is available on some NPS, but not on others. To properly respond to the drug crisis, we must know something about these new drugs. Specifically, we need to know the chemical identity, the metabolism, and the physiologic and cognitive effects of these NPSs. This information is needed for public safety as well as health purposes.

#### CONTROLLED SUBSTANCES BACKGROUND

The Department of Justice's (DOJ's) Drug Enforcement Agency (DEA) seizes these substances and performs chemical identification on them. In fact, the DEA has a substantial backlog of substances that they have yet to identify. However, they do not conduct the analyses on the toxicity, pharmacology, or effects of these substances, instead that research is left to the Health and Human Services' (HHS') National Institute of Drug Abuse (NIDA)—which is one of the National Institutes of Health (NIH). Unfortunately, NIDA is not producing the scientific information on these NPS despite being required by the Controlled Substances Act. Without this information it becomes difficult to schedule and control these substances and impossible to prosecute.

The framework set up by Congress, through the Controlled Substances Act (CSA) and the Federal Analogue Act, requires this information to justify scheduling, charges, and prosecution. Under the CSA, the DEA and the Food and Drug Administration (FDA) determine the scheduling of substances, but they rely on data from NIDA on the safety (dangerousness) and efficacy of the “drug”. Under this infrastructure, substances “not fit for human consumption” (and thus not “drugs”) may be controlled as “illegal drugs”. Emergency temporary scheduling can be ordered to avoid an imminent hazard to public safety. Such emergency scheduling at the federal level takes approximately 2 years. The emergency scheduling lasts for one year, but can be extended for an additional 6 months. Permanent scheduling requires information on the safety and efficacy of the drug. Currently, only approximately 1/3 of the fentanyl derivatives are federally scheduled, and of those scheduled many are scheduled on an emergency temporary basis only. Under the Analogue Act, an analogue must be shown to be “substantially similar” to the scheduled drug in order for the act to be applicable. On the state level the problem is even worse because most states wait to see federal scheduling before they will act to control a substance and many jurisdictions have laws to prohibit the use of the federal analogue act.

#### FORENSIC TOXICOLOGY BACKGROUND

Forensic toxicology analyses rely on information on the metabolic breakdown products of drugs for toxicology testing when the parent drug has been metabolized in the body. For instance, heroin is immediately broken down in the body into morphine and 6-monoacetyl morphine (6-MAM).

Forensic toxicologists and forensic pathologists need information on the toxicity of the drug, information on its metabolites to interpret the drug level and to determine if it is a cause of death, and information on its cognitive effects to prosecutions for driving under the influence.

#### MEDICAL BACKGROUND

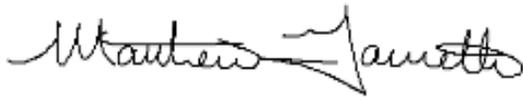
Information on toxicity, pharmacokinetics, and physiologic and cognitive effects are important for medical care and treatment of these NPSs. Furthermore, the creation of antidotes or other new drugs to counteract the effects of the NPSs require an understanding of the actions of the drugs.

#### NEEDS

- Faster permanent scheduling.
- An infrastructure to rapidly characterize NPS must be established. NIDA and its research partners must create the protocols to test the substances. The production of PhD-level forensic toxicologists has fallen to near zero at a time that they are needed most.
- There needs to be greater information exchange between federal agencies and state and local partners to ensure that the emerging drugs are dealt with expeditiously.

## SOLUTIONS

- The federal government must provide the personnel and other resources at the DEA and NIDA to make permanent scheduling a quicker process.
- An Office of Forensic Science at DOJ to serve as a proper communication medium with state and local forensic science practitioner technical working groups for information sharing and problem solving between federal, state, and local partners.
- Workforce development. Federal agencies must partner with universities for the production of properly trained B.S., M.S., and especially PhD-level forensic toxicologists and pharmacologists. NIDA must fund centers internally and externally, with training and educational components, to perform the pharmacology, toxicology, and physiological and cognitive effects studies that are needed on NPS. These centers should offer free training to state and local toxicologists for both initial training and continuing education needs.

A handwritten signature in black ink that reads "Matthew Gamette". The signature is written in a cursive style with a large, stylized initial "M" and "G".

Matthew Gamette M.S., C.P.M.  
Chair,  
Consortium of Forensic Science Organizations