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Summary Overview of the HIDI Protocol and Recommendations for Law Enforcement

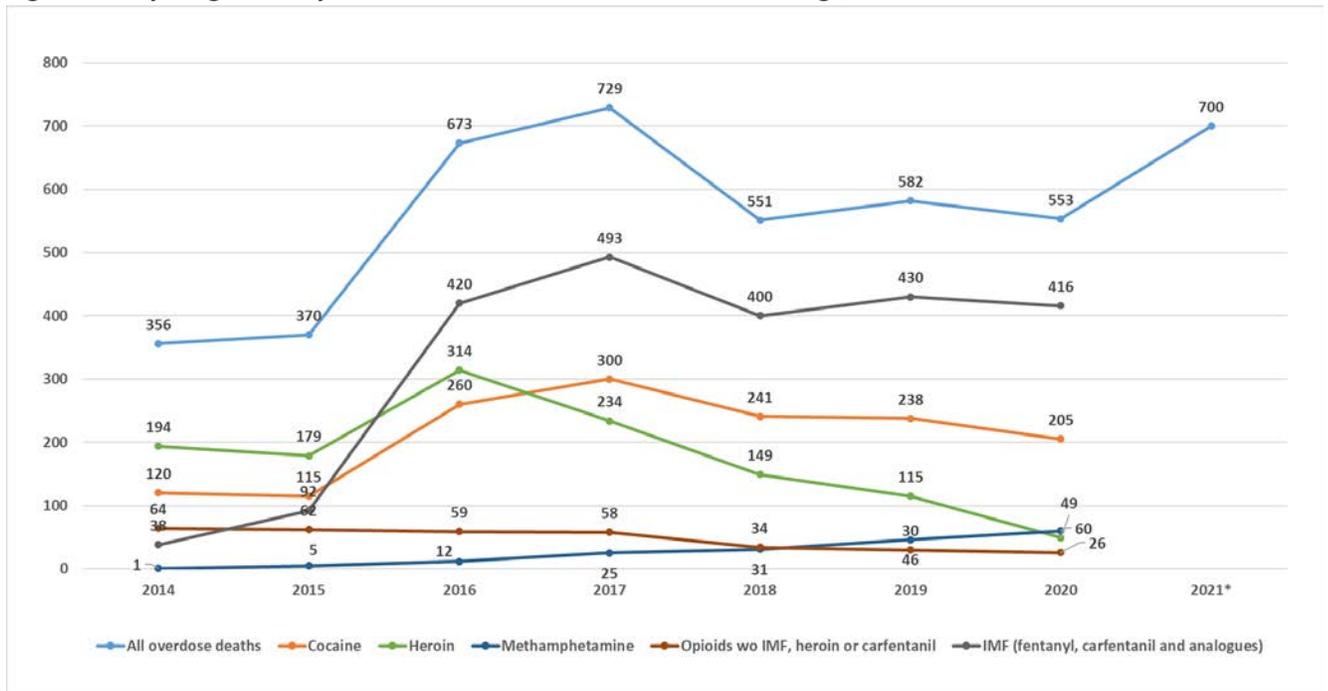
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The Cuyahoga County HIDI Alert System and Protocol for Investigations and Prosecutions of Overdose Deaths

The **Heroin Involved Death Investigation (HIDI) alert system and protocol** was developed in 2013 by the Cuyahoga County (Ohio) Medical Examiner’s Office (CCMEO) and Regional Forensic Science Laboratory in response to a substantial increase in opioid related overdose fatalities. As illustrated in Figure 1, overdose deaths have nearly doubled starting in 2016, with the majority of the increase being driven by fentanyl, fentanyl analogs and carfentanil. Predictions for 2021 indicate these levels are increasing after three years of lower rates. Additionally, the complex toxicologies in the cause of death, with approximately 2/3 of overdose victims having >2 drugs listed in the cause of death, require more complex investigations in building a prosecution case.

Figure 1. Cuyahoga County Overdose Fatalities: Cause of Death Drugs, 2014-2020



Note. Drug categories are not exclusive, i.e. one death may be due to more than one drug

*2021 total is estimated based on current numbers

Source: Cuyahoga County Medical Examiner, 2021

The HIDI protocol initiates and governs Heroin Early Alert (HEAT) emails sent by the CCMEO (commonly and hereafter referred to as the **HIDI alert**). These alerts give notice that the CCMEO has learned of (a) an active suspected opioid-overdose via a death scene presenting physical evidence of opioid misuse (e.g., syringes, straws, packaging) or through evidence provided by family/friends or medical personnel of the victim’s history of drug misuse; or (b) a suspected opioid-overdose death occurring at a hospital associated with what the alert identifies as “not an active scene.” Alerts are provided to professionals in the region’s public health and hospital systems as well as agencies including the Cleveland Division of Police (CDP), Cuyahoga County Sheriff’s Department (CCSD), and other county and federal agencies (e.g., DEA) investigating and prosecuting major drug traffickers. Law enforcement targets include wholesale-level drug distributors who buy and sell large amounts of drugs for others to sell down the chain to end users.

The **HIDI protocol** governs chain of custody and laboratory testing submissions of items found on the body at the scene, assigning those functions to law enforcement, and guides the sequence of laboratory testing submissions (e.g., requests for DNA or fingerprint processing prior to drug chemistry – as drug product and packaging offers an opportunity to link evidence to retail street dealers using fingerprints or “touch DNA” analyses). It also informs law enforcement of the common elapsed times between laboratory testing submissions and the reporting of findings for drug chemistry analysis (2 days), preliminary toxicology screen (7 days), and fully certified toxicology report (4 to 6 weeks), as well as cause of death ruling (14 days) and fully certified autopsy report and verdict (2 to 2.5 months). The HIDI protocol acknowledges that not all opioid-overdose deaths are apparent at active scenes and, conversely, that not all HIDI alerts to a scene subsequently result in an opioid related death ruling.

The HIDI protocol is designed to support a **safe, coordinated, and rapid** response to an active scene by alerting investigators to potential dangers (e.g., lethal drugs) and facilitating the timely protection of the scene and collection of evidence. The protocol calls for the CCMEO to respond to such

scenes with an investigator certified by the American Board of Medicolegal Death Investigators (ABMDI; <https://abmdi.org>) whose sole jurisdiction is the victim's body and everything on it (e.g., syringe in arm, packaging in pockets). Although not all districts in Ohio require ABMDI-certified investigators, the jurisdiction of the medical examiner's investigator is dictated by state statute in Ohio. Additionally, law enforcement agencies in Cuyahoga County respond to such scenes with dedicated HIDI squad detectives (e.g., CDP, CCSD) or other investigators whose sole jurisdiction is everything at the scene excluding the victim's body and everything on it (excluding what is under the purview of the CCMEO). In best-case scenarios, a HIDI response will help to protect, photograph, and document an active scene, as well as to improve the collection of evidence methodology necessary for successful prosecution (scene integrity). Suggested prioritization of drug distributors and traffickers higher up in the drug supply chain resulted in moving away from those who share drugs or sell only to support their own addiction.¹ Evidentiary benefits of such a safe, coordinated, and rapid response include:

- Investigators arrive quickly, before potential witnesses at the scene clean up or disperse, allowing investigators to identify and interview those who may know of the victim's drug use and perhaps even have participated in or witnessed the drug exchange itself.
- If the victim's cell phone is found at the scene, investigators may find text exchanges, among the last of which are often with the retail street dealer of the drugs causing the fatality. The phone can provide evidence in text or voice messages or social media communications; and it can allow investigators, posing as the victim, to make a controlled buy, making known the supplier's identity and collecting a potential sample of the lethal drug. Through subsequent chemical analysis and comparison, a match may be found between the drug sample and the

¹ Department of Justice, Executive Office for the United States Attorneys. Addressing the Heroin and Opioid Crisis. *United States Attorneys' Bulletin*. 2016;64(5):1-91. Available at <https://www.justice.gov/usao/file/895091/download>. Accessed on January 24, 2022.

- drug that caused the death thus establishing the “but for causation” necessary for successful prosecution. (The medical examiner’s fully certified autopsy report and verdict complete the documentation of this “but for causation,” listing the drug or combination of drugs that, without which, the person could have lived.)
- Other evidence obtained from an active scene can result in matches between the retail street dealer and DNA and/or fingerprint evidence found on forensic paraphernalia. Examples from both Federal and State cases included
 - a case where the DNA found on the packaging turned out to belong to the defendant;
 - a case developed a suspect profile based on DNA extracted from drug packaging evidence at the scene, and then a confidential drug buy was arranged with the defendant using a phone number on the cell recovered on scene. The drugs delivered for the drug buy had the same type of envelope that the heroin was packaged in as that found in the decedent’s hotel room, and the DNA obtained in the drug buy matched the DNA extracted from drug packaging evidence taken from the death scene.
 - Once the connection has been made between the victim and the offender, data from the latter’s phone may identify other phone numbers and/or lead to cell phone tower mapping which can establish evidence of physical proximity between the victim and dealer.
 - Phone toll analysis is the analysis of phone records of the dealer or cell phone exploitation through the extraction (digital forensics) of data on the suspects’ phone. Results can lead to investigators moving up the supply chain by establishing additional ties through text messages, phone calls, messaging apps, etc. to identify the wholesale-level distributor of the lethal drug.

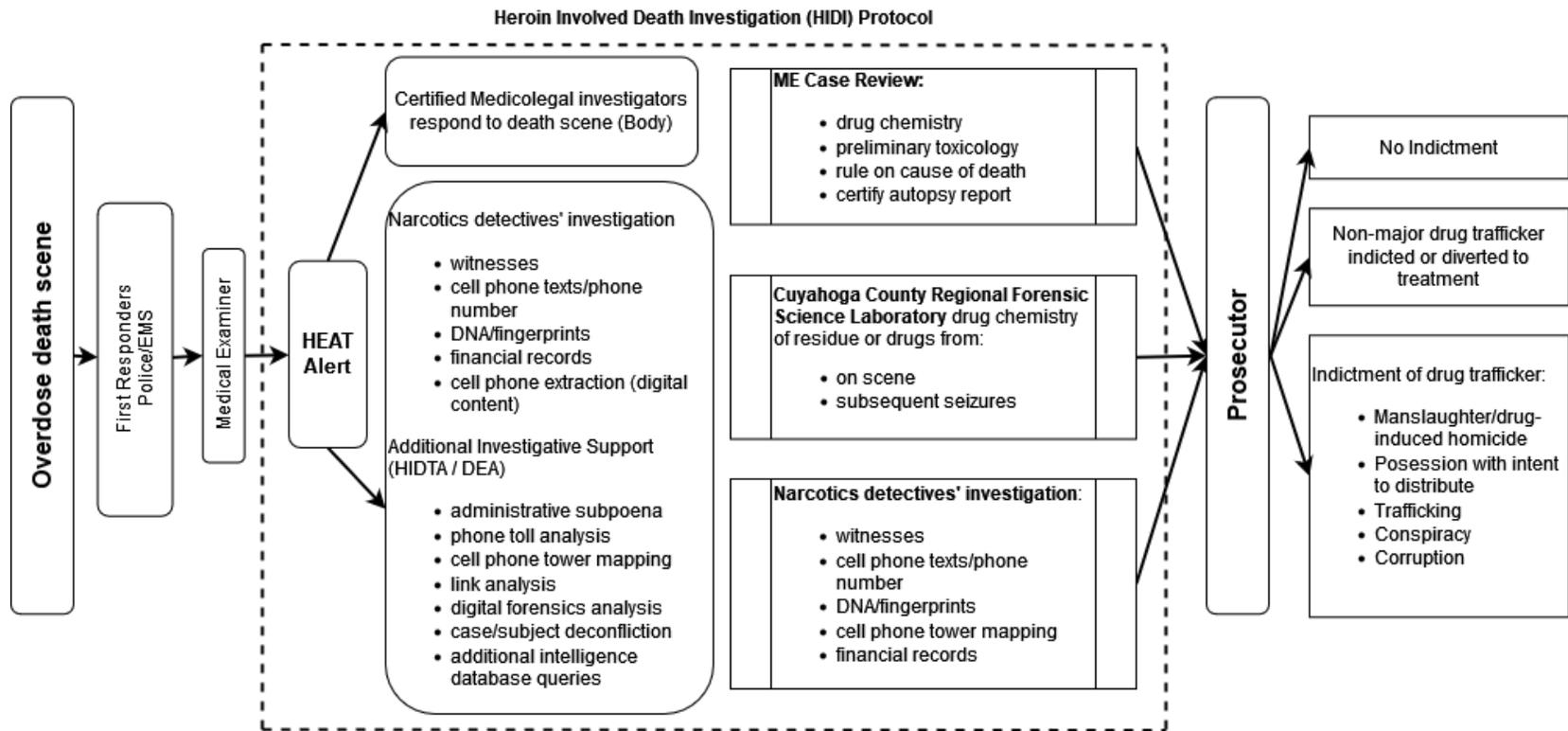
- Once that person who provided or distributed the drug has been identified and apprehended, their phone most often contains data that can be linked both to others in the drug-supply network and those who have experienced an opioid-overdose death. Text communications may present evidence that the wholesale-level distributor knew that the drugs supplied were causing deaths. Phone numbers on the wholesale-level distributor's phone can identify witnesses who can be sought to testify and can provide leads to additional evidence obtained via the Internet including the Dark Web, wiretaps, bank and other financial records, etc. These communications, witness statements, and financial records may amount only to circumstantial evidence, but the interconnections between, and aggregation of this evidence, can allow investigators to construct a *prima facie* case against a major drug trafficker that might include a conspiracy charge. While not in Cuyahoga County, one such case from the Northern District from Ohio ended in the indictment of traffickers from China being successfully indicted on multiple counts of violation of Title 21, Section 841, but also Sections 331, 333, 848, 952 and 960.

Once sufficient evidence has been secured to obtain an indictment, a criminal prosecution will begin in either the state or federal court system depending on the circumstances. This decision is based on a case-by-case basis, depending on the evidence, and the state or federal statutes that apply to that case. Some counties do not have the resources necessary to fully investigate a fatal opioid-overdose incident and will refer it to federal investigators. Cases also may be prosecuted in the federal courts when the quantity of drugs is large and/or the offender is high up the distribution chain. Federally, individuals may be charged with violations which could include one or more counts of Conspiracy, Distribution, Manufacture, Possession with Intent to Distribute, etc. When the penalty enhancement due to a death specification is included, charges result in a mandatory minimum prison sentence of 20 years up to life. State statutes dictate how traffickers with drug-related fatalities are prosecuted at the

state level. At the state level in Ohio, the charge that is filed in relation to an overdose fatality is involuntary manslaughter under Section 2903.04 of the Ohio Revised Code (ORC) that provides that “no person shall cause the death of another or the unlawful termination of another’s pregnancy as the proximate result of the offender’s committing or attempting to commit a felony.” During the period reviewed, many defendants were indicted on one count of involuntary manslaughter, and then multiple counts of corrupting another with drugs (ORC Section 2925.02), trafficking offenses (ORC Section 2924.03), and drug possession (ORC Section 2925.11). The maximum sentence in the cases we reviewed was a conviction resulting in a 19-year sentence. Cases that are resolved with a plea agreement most often resulted sentences of <10 years.

Figure 2 illustrates the flow of a case from the overdose death scene to indictment. The flow illustrates the importance of the alert system and the complementary roles of the responding detective and medicolegal investigator. It also highlights the core elements of an investigation that are important for decisions about prosecution of traffickers.

Figure 2. Opioid-related Overdose Death Case Flow in Cuyahoga County, Ohio



Connecting dots between overdose incidents: The Value of sharing information to target major drug traffickers

Individual drug overdose death investigations often rely on exploiting the content of the decedent's cellular phone to connect the buyer to the seller. However, evidence collected through a single decedent's phone won't *typically* allow investigators to move up the drug supply chain to identify mid-level dealers and major traffickers. This does not, however, negate the value of further exploiting overdose communications information to broaden the scope of investigations.

Social connections exist between persons experiencing an overdose, many relying on the same dealer(s). Because of this, there is an opportunity to turn information from single-scope overdose incidents into a broad intelligence-led approach. Text messages and call records accessed through (a) digital extraction of the cellular phone content through technology such as Cellebrite®, or (b) phone records obtained by subpoena to telecommunications companies can be further exploited if a coordinated intelligence collection plan, paired with a robust analytical capacity is established. This can be accomplished within a single agency or across multiple jurisdictions. Cross-jurisdictional data-sharing agreements should include considerations for data access, sharing and further dissemination.

This study identified such an effort in which numerous jurisdictions across Cuyahoga County submitted names and phone numbers of suspected dealers and persons experiencing both fatal and nonfatal overdose to a shared, cross-jurisdictional database for deconfliction and analysis. HIDI detectives were the most significant contributors to the database, which the Ohio High Intensity Drug Trafficking Area (HIDTA) facilitated, but several other local narcotics units also contributed. Federal and local law enforcement analysts exploited the shared intelligence and conducted phone toll (phone call records) and network analysis of suspected dealers using tools such as PLX® and i2 Analyst Notebook®. Combining these communication records for suspected dealers and incorporating the identities of

overdose victims into the data allowed analysts to identify the most connected street or retail-level dealers, both in terms of connectivity to other suspected dealers, and persons experiencing fatal or nonfatal overdoses. Investigators then prioritized drug dealers targeted for investigation based on their level of connectivity or impact (e.g., how many overdose victims were in contact with them).²

The broader analysis of overdose incidents led to several positive unintended consequences. As connections were identified across jurisdictions, law enforcement analysts (primarily Drug Enforcement Agency (DEA) and HIDTA) connected investigations that each held various pieces of information related to suspected dealers. Cross-jurisdictional collaboration enabled by data sharing strengthened the pool of evidence against dealers in some cases. Additionally, and perhaps most importantly, the analysis of overdose incidents to identify and target suspected dealers also led to the identification of persons experiencing multiple nonfatal overdoses. This, in turn, led to collaboration between local and federal law enforcement agencies (Cuyahoga County Sheriff's Department) who initiated efforts to release overdose incident data to social workers with the County Hospital (MetroHealth Medical Center) who would conduct quick response team (intervention) activities. Information collected by HIDI detectives who responded to nonfatal overdose incidents was the primary data source contributing to this new initiative.³

The model implemented in Cuyahoga County utilized only external phone communications analysis; external refers to calls occurring between phones, but not the content of the calls. However, because local law enforcement death-scene investigators often perform complete data extractions to uncover evidence, there is an opportunity to combine and analyze the internal content (e.g., contacts, messaging content, location information, etc.) of the phones collected at death scenes and seized during

² Auten, Q. (2021, August 5). DEA Data Driven Targeting. Cleveland, Ohio; Heroin and Opioid Task Force, Data Subcommittee.

³ McMaster, R. (2019, May). Analysis of Multiple-Overdose Persons in Law Enforcement Data. Cleveland, Ohio; Heroin and Opioid Task Force, Data Subcommittee.

arrests of drug traffickers. Messaging and social media apps such as WhatsApp, Instagram, and Snapchat provide a quick and convenient method for connecting buyers and sellers.⁴ Current software can ingest all this content from devices and perform analysis across devices. The data contained in cellular phones could: (a) provide insight into common buy locations, (b) develop new leads based on identifying dealers unrelated to the overdose investigation, (c) assist in developing networks of users and dealers, (d) identify various other drug-trends, and (e) identify other criminal activity. Collecting and analyzing this detailed information from hundreds of drug users and dealers could provide a wealth of information that feeds investigative efforts and could contribute to more effective and targeted responses from community intervention, prevention, education, and public health partners.

An investment in local law enforcement digital forensics and analytical capabilities can significantly enhance investigations and develop information that leads to identifying and prosecuting major drug traffickers. In Cuyahoga County, HIDI detectives conduct cellular phone extractions utilizing tools such as Cellebrite® but often collaborate with other agencies such as HIDTA and DEA to utilize additional analytical or intelligence collection capabilities such as cell tower mapping, administrative subpoena power, phone toll analysis and link analysis. In communities where fewer overdoses occur, extensive, coordinated data collection and analysis efforts may be unnecessary. However, investigators should still consider sharing phone data from drug-overdose deaths or suspected dealer information with agencies that can assist in connecting the dots to other investigations, advance awareness of plans by dealers to target other areas or to expand operations. Investigators can also utilize national deconfliction tools for communications evidence, such as DEA's Analysis and Response Tracking System (DARTS) and the Deconfliction and Information Coordination Endeavor (DICE), which are designed to

⁴ Moyle, L., Childs, A., Coomber, R., & Barratt, M. J. (2019). #DRUGSFORSALE: An exploration of the use of social media and encrypted messaging apps to supply and access drugs. *International Journal of Drug Policy*, 63, 101–110. <https://doi.org/10.1016/j.drugpo.2018.08.005>

exploit active investigative information, including information from communications and related sources.⁵ Investigators who submit communication information to DICE may discover that the suspect of their investigation is part of an investigation in another jurisdiction; case collaboration can then occur and may lead to the identification of higher-level dealers.

An additional approach to cross-case overdose analysis is monitoring and analyzing both (a) forensics laboratory results of the drugs found at a death scene and (b) the toxicology results of drug overdose decedents. Since 2015-2016, synthetic opioids (primarily fentanyl) are the primary contributor to overdose deaths.⁶ The drug chemistry of fentanyl and related compounds differs based on the origin of the drug or intentional changes by suppliers for various reasons; the DEA National Forensics Laboratory Information System (NFLIS) has reported 71 different fentanyl-related analogs since 2011.⁷ These analogs have a similar chemical structure to fentanyl but are not routinely detected because specialized toxicology testing is required.⁸ If a community experiences a significant spike in the number of overdoses, or a specific geographic area exhibits an unusual spike, law enforcement should consider collaboration with forensics labs. Understanding drug chemistry in cases that have become known as “bad batches” may help investigators disrupt the source of supply *and* help inform an appropriate public health response.

⁵ U.S. Department of Justice, FY 2019 Performance Budget Congressional Submission (2019). Drug Enforcement Administration <https://www.justice.gov/jmd/page/file/1034476/download>

⁶ National Institute on Drug Abuse. (2021, February 25). Overdose Death Rates. National Institute on Drug Abuse. Retrieved October 19, 2021, from <https://www.drugabuse.gov/drug-topics/trends-statistics/overdose-death-rates>.

⁷ McMaster, R. (2021). NFLIS Annual Public Data Tables, Table 3 State Counts for Fentanyl and Fentanyl-Related Compounds 2011-2019. Cleveland. Retrieved October 19, 2021, from <https://www.nflis.deadiversion.usdoj.gov/publicationsRedesign.xhtml>

⁸ Centers for Disease Control and Prevention. (2021, March 25). Synthetic Opioid Overdose Data. Centers for Disease Control and Prevention. Retrieved October 19, 2021, from <https://www.cdc.gov/drugoverdose/deaths/synthetic/index.html>.

Implications for Criminal Justice Practice and Policy

In her description of the US Attorney- Northern District of Ohio (USAO-NDOH) response to the opioid crisis, US Attorney, Carol Rendon noted, “We cannot arrest our way out of this problem, but we need to continue to aggressively prosecute drug traffickers and disrupt the supply of drugs into the United States. Simply getting treatment for everyone suffering from addiction will not solve the problem but given the existing population of heroin and opioid users, we must make sure we have enough beds so that when someone says “enough” and wants help, treatment is immediately available. Changing prescribing practices alone also will not cure the problem, but we must continue to curb the rate at which doctors are prescribing opioids and address the underlying incentives that have led to that practice. It will take what we have come to call the “all of the above” approach, everyone working together in concert to push back on what appears to be, at least in our corner of the world, a public health and law enforcement crisis, the likes of which we have rarely seen before.”⁹ Our research and evaluation identified key elements that are helpful in a successful approach to addressing the opioid and other overdose crisis:

1. Buy-in from law enforcement, prosecutorial and court systems is necessary for an integrated approach to overdose response, investigation, and prosecution. In Cuyahoga County, it has been essential to have the USAO-NDOH leading a taskforce that brings together stakeholders from across the community, including local and federal law enforcement, past users, faith-based leaders, the treatment community, researchers, law enforcement and first responders, judicial leaders, public health, the Medical Examiner’s Office, and others to address issues from all perspectives.

⁹ Department of Justice, Executive Office for the United States Attorneys. Addressing the Heroin and Opioid Crisis. *United States Attorneys’ Bulletin*. 2016;64(5):p.34.

2. Law enforcement agencies experiencing high rates of overdose deaths should implement a HIDI specific protocol for how to respond to fatal and nonfatal OD scenes to: ensure “scene integrity”; ensure officer, investigator and first responder safety; and establish standardized procedures for the collection of valuable drug, digital, and forensic evidence critical for investigation and prosecution — particularly information necessary to link decedent to drug cause of death to source of the drug.
3. The establishment of an “Alert Office” staff would follow up on each alert by tracking investigation progress across agencies. Tracking data flow would ensure that prosecutors possess accurate and convincing evidence necessary for prosecution. An Alert Office could also act as a repository for opioid overdose criminal case outcomes. The Alert Office might be staffed by detectives on collateral duty and HIDI retirees. Alert Office experienced staff would be useful in training new HIDI detectives. They could have the authority to contact state and federal correctional facilities for information on soon-to-be released and released inmates returning to the local community with drug trafficking convictions. The Alert Office also can be a valuable community resource wherein staff might provide risk and needs assessment information. For example, greater awareness of nearby overdose incidents and their locations by school officials at all education levels may spur school-based prevention programs targeting specific drugs and drug misuse behaviors. Additionally, the Alert Office could provide contact information for local experts willing to collaborate on drug harm-reduction programs or provide information to nonfatal victims and families on treatment programs.
4. All criminal justice professionals should be educated on the nature of drug misuse and addiction. One policy transition that occurred during the course of this study was the shift from a law enforcement position of arrest of user to attempts to link users to treatment, at least in OD cases where no other criminal act was committed (e.g., child abuse/ neglect, injury caused by a car accident). Law enforcement has come to realize that they cannot arrest their way out of the opioid

overdose epidemic. General police orders that clarify when to arrest vs. when to refer to treatment would be beneficial. Response to fatal OD is critical to prosecution of major traffickers, but response to nonfatal ODs can also provide valuable information for drug trends, investigations, and prosecutions.

5. Embedding a forensic epidemiologist as a new position within a Medical Examiner office can identify drug trends (e.g. the emergence of carfentanil), decedent toxicologies, and medicolegal investigative data helpful to law enforcement interdiction, investigation, and prosecution. The full-time forensic epidemiologist has facilitated access and sharing of near real time information in the context of a collaborative public health approach, which is essential to addressing fatal and nonfatal OD incidents. Historically, medical examiner data is viewed primarily as demographic data on death certificates, and the cause and manner of death. Adding a forensic epidemiologist allows ME offices to evolve to become important contributors to prosecution of traffickers with expansive information available at death scenes and through medicolegal investigations (paraphernalia and interviews with family/friends) that can inform investigations, practice, and policy. In Cuyahoga County, the ME also houses and supervises the Regional Forensic Sciences Laboratory so there is ready access to drug analysis and toxicology services and drug seizure data to track source and volume as well as both current and any new drug chemistry trends. The success of this initiative also illustrates the potential for the embedded epidemiologist role to be expanded beyond overdoses to include other areas of death including homicides, suicides, and firearm violence which has implications for criminal justice policy and practice in these areas.
6. In our community we benefited from the detailed coding of Medical Examiner data in a manner that allowed it to be utilized as the basis for other overdose and fatality data (e.g. fatality review), and provided the framework for data and information flow between the ME and law enforcement, public health, treatment providers, and evidence important for successful prosecution of traffickers.

7. Collaboration and information sharing is essential to successful indictment. Prosecutors should work closely with detectives, medicolegal investigators and task forces. Local and federal law enforcement response where communication, collaboration, and information sharing drive the response can be effective especially in non-urban communities where resources may limit the ability to implement independent HIDI teams.
8. The pharmacology of synthetic opioids is constantly changing. Drug dealers change their methods of distribution and packaging. Drug users change how they communicate with dealers. Law enforcement must be aware of these changes and modify how they gather information and connect drugs to users, identify the drug responsible as cause of death, and connect the drug to a dealer. Communication options have evolved as social media platforms and encrypted messaging services have expanded their user-base. Investigators should consider subpoenas and cell-phone extraction and analysis of these data in addition to traditional call and text records. Documentation of the type of drug packaging has given way to “touch DNA” and latent print analyses on product and packaging.
9. Tracking and analysis of shared information among police, prosecutors, EMS, and Medical Examiners to identify trends and patterns (of fatal and nonfatal incidents and drug source) is significant for identifying traffickers and cases for prosecution. Dealers and distributors of drugs regularly change their method, and defense attorneys seek ways to undermine chain of evidence and proximate cause. To successfully prosecute major drug traffickers and “move up the chain” ongoing information sharing and analysis from all partners and at all levels/stages of prosecution is necessary.