



A Drug Intelligence Capability for Healthcare and Law Enforcement Partners
To Enable the Reduction of Community Drug Harms



Situation – Seized by an Epidemic

Heroin and opioid use in New Jersey is at epidemic proportions and prescription pill abusers continue to transition to using heroin. According to the Division of Mental Health and Addiction Services (DMHAS), the percentage of admissions for substance abuse treatment for heroin and opioids has increased steadily, from 42% in 2011, to 49% in 2015. The high rate of addiction is driving an increased demand for both heroin and prescription opioids, and recent statistics revealed that fatal drug overdoses increased from 843 in 2010 to 1,307 in 2014. Heroin and opioids also drive the state's violent crimes in urban centers, thefts committed primarily by users to support their drug habits, and widespread overdoses. There is an abundant and highly pure heroin supply available in New Jersey. The drug is inexpensive, is easily obtained, and is intensely addictive due to its potency. Further, there is a continuous and increasing flow of significantly potent opioids, such as fentanyl and fentanyl derivatives, that are supplementing the State's heroin supply. This widespread problem necessitated a holistic response by both police and healthcare professionals. The New Jersey State Police (NJSP) developed the Drug Monitoring Initiative (DMI) intelligence capability to enable development of effective drug policies and practices. Using the coordinated efforts of law enforcement and healthcare entities, DMI collects and analyzes millions of records from NJ drug-related incidents.

Problem – Establishing the Demand

New Jersey's heroin and opioid problem is multi-faceted and comprises several contributing factors. Currently, there is a growing demand for, and abundant supply of, opioid-based painkillers and heroin. The demand is driven by multiple factors. Many users unwittingly become addicted to prescription painkillers after legitimately obtaining them from their doctor. Alternatively, users seeking the feeling of euphoria and sense of relaxation may knowingly begin experimenting recreationally with painkillers. These users often believe that painkillers are "safe drugs" because they are pharmaceutical grade and don't carry the stigma associated with "street drugs." Users commonly obtain pharmaceutical painkillers, such as OxyContin, Percocet, and Vicodin, from medicine cabinets, through fraudulent pain management facilities, in open-air drug markets, and at social events such as "Skittles" parties, where users share various prescription pills. Whether obtained legally or otherwise, these highly addictive opioids have contributed to a significant number of fatal and nonfatal overdoses. This common scenario has indiscriminately played out in NJ and across the country, affecting all races, genders, age groups, and social classes.

Research indicates that opioids found in prescription painkillers attach themselves to receptors that control the central nervous system, causing euphoria and a sense of relaxation. Users eventually develop a tolerance and may also develop dependence on the drug. Heroin produces the same physiological response, but at a faster rate and with greater intensity. Many opioid users make the transition to heroin when they can no longer obtain painkillers or when seeking a more intense high. For this reason pharmaceutical painkillers act as a gateway to using heroin. Heroin exacerbates the situation not only because it is less expensive and can be easily obtained, but it also intensifies the addiction due to its potency.

The high number of addicts transitioning from prescription painkillers is driving the strong heroin demand, which is met by an abundant and highly pure supply available in New Jersey. Historically, heroin use has been associated with the stigma attached to "junkies," track marks, and dirty needles. Highly pure heroin, however, does not need to be injected, as the human body easily metabolizes it when smoked or snorted.

Examining the Supply Chain

The growing number of prescription drug abusers in New Jersey correlates to the growing demand for heroin, which has been historically satisfied by an abundant supply of highly pure (approximately 90%) white heroin from South American cartels. While Mexican cartels have traditionally imported lower purity (approximately 30%) black-tar heroin to the western two-thirds of the U.S., recent reports indicate they may have started to produce and import highly pure white heroin as well. As a result, there has been an increase in bulk heroin seizures in the U.S., a reduction in heroin prices, and increasing purity levels in other areas of the country. According to the Drug Enforcement Administration's Domestic Monitoring Program, New Jersey has the highest heroin purity levels nationwide, due in part to the region's abundant supply routes, as heroin enters through the state's seaports, airports, railways and highways. Several states throughout the New England and Mid-Atlantic regions consider New Jersey a source state for their heroin supply, and information gathered through investigations and overdose incidents increasingly reveals a nexus to New Jersey. Another factor contributing to the number of fatal overdoses is fentanyl (a highly potent, synthetic opioid analgesic), which is increasingly being sold as a substitute for, or adulterant to, heroin. Seizure data indicates that Mexican cartels are also importing non-pharmaceutical grade fentanyl. In addition, a variety of fentanyl analogs are being imported from China through Mexico and Canada.

People Are Dying

Since 2010, more than 7,200 people have died in New Jersey from drug overdoses. Statistics reveal that heroin and opioid related overdoses and deaths have been on the rise in recent years. Users chasing the high often overdose when opioids suppress the central nervous system, and these overdoses may be fatal. According to DMI health partners, some users overdose from unexpected physiological effects during the transition from painkillers to heroin. Addicts also overdose when they unknowingly use heroin that is of higher purity than they are accustomed to. Fentanyl accounts for numerous overdoses and has claimed the lives of a significant number of people in the region due to its potency, which can be 30 times more potent than heroin. While there have been sporadic rashes of overdoses during the past several years, reports of fentanyl-related incidents are now commonplace.

Analysis of recent data reveals an increase in illicit heroin and opioid use, seizures, and deaths, and demonstrates the seriousness of the heroin and opioid situation within New Jersey, the region, and throughout the nation. Despite the use of naloxone by Emergency Medical Services (EMS) and law enforcement, New Jersey recorded more than 1,400 fatal drug overdoses during 2015, representing a continued increase over previous years.

The Impact of an Epidemic

According to the Drug Enforcement Administration, heroin availability and abuse are increasing, particularly in the eastern United States. Between 2008 and 2012, there was a 37% increase in new heroin initiates; this demand is largely being driven by prescription drug abusers switching to heroin, as it is more available and less expensive. As a result, many cities and counties across the United States, particularly in the Northeast and Midwest, are reporting increasing heroin overdose deaths. In addition, the threat from prescription drug abuse is persistent, and deaths involving painkillers outnumber those involving heroin and cocaine combined. The economic cost of non-medical prescription opioids alone totals more than \$53 billion annually in the United States.

Finally, statistics indicate that the greatest threat to the citizens of New Jersey is chiefly related to the illicit drug environment and more specifically heroin and opioids. While addiction, and the accompanying problems that inherently come with it, can wreak havoc on individual lives and the families of those affected, the impact goes much farther. Analysis reveals that urban center violent crimes, specifically shootings, are often fueled by

competition over lucrative illicit drug markets. While violent crimes are centered in the state's inner cities, property crimes, including burglaries and thefts, are often committed by addicts in all areas of the state. Recognizing that heroin and opioids were driving these threats, the NJ ROIC partnered with the New Jersey Office of Forensic Sciences to begin collecting and analyzing law enforcement heroin seizure data in 2009.

Response – A Comprehensive Approach to Gain Understanding

While local and state leaders identified the increased use of heroin and opioids, the full scope of the situation was unknown prior to 2013. Gaps in information sharing, multiple technology platforms, and in some instances, policies and practices that do not allow for the capturing and reporting of drug related incidents, contributed to a less than acceptable understanding of the State's drug problem. DMI negates or mitigate these challenges, enabling a robust information-sharing environment that leverages existing people, platforms, and processes.

The DMI concept introduced a strategic shift: by partnering with diverse academic entities, research institutions, government agencies, and private organizations; establishing a common ground; and leveraging diverse subject matter expertise to fulfill the mission of combating the adverse impact of drugs on the State. The Office of the Regional Operations Intelligence Center (ROIC) developed DMI, which established multi-jurisdictional drug incident information sharing and collaboration through comprehensive collection and analysis of drug seizures, overdoses, criminal behavior, and healthcare-related services. DMI takes a holistic approach in combatting heroin and opioid addiction by participating in and supporting the State Epidemiological Outcomes Workgroup (SEOW), the Opioid Core Workgroup, Prevention Unification, NJ Prevention Network (NJPN), and the Municipal Alliance, as well as other drug prevention, treatment, and recovery entities. DMI also works closely and has data sharing agreements with NJ's Department of Health (DoH) and the Division of Mental health and Addiction Services (DMHAS) in accordance with the Health Insurance Portability and Accountability Act. DMI law enforcement partners include the New York/New Jersey High Intensity Drug Trafficking Area (HIDTA) office, the Philadelphia/Camden HIDTA, the Drug Enforcement Administration (DEA) Newark office, and various local, State, and Federal law enforcement agencies. These partnerships provide DMI personnel the opportunity to increase understanding of both the supply and demand of the New Jersey's drug problem.

DMI's strength is based on:

- Trusted, diverse partnerships
- A network comprised of in-kind resources: people, platforms, and processes
- Timely collection of empirical investigative and health administrative data
- Analysis to develop understanding of the drug environment
- Timely information sharing among all partners

Robust collection, analysis, and sharing of information among DMI partners creates a drug-intelligence capability, enabling the understanding of drug-related activity statewide and bolstering decision-making for drug prevention, enforcement, and treatment. DMI helps to develop response plans, prioritize those responses, deploy resources, and predict future drug-related incidents. For example, DMI combines glassine heroin stamp data from forensic labs with suspected overdose data from the Department of Health to determine where a particular heroin stamp name has been encountered. DMI shares this information with law enforcement to help direct investigative efforts in identifying the source of the heroin responsible for the overdoses. Simultaneously, DMI notifies EMS providers in the affected area of the ongoing situation and when available, information on the specific opioid suspected of causing the overdoses.

DMI was established in 2009, and formalized in 2013 to enhance public safety and public health through a drug knowledgebase that would provide real time awareness of drugs impacting the State. The DMI accomplishes this by:

1. Conducting robust collection of drug-related information to proactively identify specific problem drugs in problem places involving problem people
2. Conducting in-depth analysis to produce real time drug-related alerts, warning, notifications and intelligence products
3. Continuously monitoring and sharing information pertaining to the State's drug environment on the supply side and the demand side to enable surgical deployment of investigative, prevention, and treatment resources
4. Influencing the development of effective drug policies and practices through requirements, intelligence, and education

The DMI was implemented within the Office of the ROIC, which is the state's fusion center and comprises various partner entities. Leveraging the ROIC's technology, processes, and analytical capabilities, DMI is able to assist public safety, public health, and other government entities by providing relevant and timely data, adding depth to analysis, and bolstering their ability to meet their goals. For a list of DMI partners, see [**Appendix A**](#). The DMI information sharing coordinator is situated within the fusion center, but it is suggested that the initiative have an external manager to coordinate meetings among the partners. Ideally, this manager would be from the State's Attorney General's (AG) Office, and would also act as a liaison between the AG and the commissioners and directors of the various State partnering entities, and the fusion center data coordinator. This would provide the highest levels of government visibility on the State's drug environment and the initiative's challenges, progress and successes, while ensuring that the various government agencies' missions are being met. While cooperation among the DMI partners has been established on a handshake, agencies attempting to implement the DMI information-sharing concept are encouraged to also pursue an AG's Mandate or Directive, which would provide authority and codify the information sharing process statewide. A copy of New Jersey's Directive is included in the Supporting Documents Folder.

Building a DMI Capability-

Establishing a Directed Focus for Drug Data Collection

To broadly understand the scope of New Jersey's drug problem, DMI was developed using a process that began by looking at the needs of law enforcement and healthcare constituencies. Their needs determine DMI's information collection requirements while providing a directed focus for collection, analysis, and intelligence production. The "requirements management process" is critical as the needs of the customer may change over time and ensures that collection, analysis, and intelligence production efforts provide value. The data collection process was implemented as follows:

1. Identify Customer's Drug Information Needs:

- Investigative entities
 - Local
 - County
 - State
 - Federal
 - High Intensity Drug Trafficking Area Offices
- Public health entities
 - Department of Human Services (DHS)
 - Treatment
 - Prevention
 - Recovery

- Department of Health
 - EMS
 - Public Health Services
- Questions to ask:
 - What information do you need to help you better fulfill your job responsibilities?
 - What information will help make your efforts more effective and impactful?
 - How often do you require updates of the information?
 - What other drug data do you believe we should be collecting to bolster our anti-drug efforts?
 - Do you have any other recommendations?

2. Identify Essential Drug Data Sets & Specific Data Elements Required:

The drug data sets identified to fulfill the customer’s needs establish your drug data collection requirements. While drug data sets comprise generic data elements (date, time, location, drug type), some data elements derived from health entities will require special handling due to the Health Insurance Portability and Accountability Act (HIPAA.) The drug data sets are listed in the next section along with the source entities. See **Appendix B** which contains all of the drug data sets along with their respective data elements.

3. Identify Drug Data Sources

From the essential drug data sets to be collected, identify the source entities. DMI identified the source entities that generate the essential drug data sets for investigative or healthcare purposes. These include entities such as police departments and EMS providers.

- Law Enforcement
 - Drug Submission and Examination result data from forensic crime labs statewide
 - Drug Arrests from the Automate Fingerprint Information System (AFIS)
 - Naloxone Deployments by EMS from the police departments via state mandated reporting
 - Firearm Shootings from NJ Crime Track, hospitals, and open source
 - Firearm Recoveries from the State’s database that provides data to the Bureau of Alcohol, Tobacco, Firearms and Explosives
 - Clandestine Drug Lab processing data from hazmat units statewide
- Public Health: de-identified as per HIPAA
 - Naloxone Deployments by EMS from the DoH
 - Toxicology Results data from the State Medical Examiner’s Office
 - Addiction Treatment Admissions from the DHS
 - Prescription Drug Monitoring Program data from the Division of Consumer Affairs
 - New Jersey Poison Information & Education Systems
 - Urinalysis results from State and County probation and parole offices
 - Medicaid Data

4. Identify the Drug Data Central Repositories and Establish Strategic Relationships:

DMI identified the central repositories that collect drug data sets including 496 police departments and more than 200 EMS providers. DMI met with executives of these central repositories such as crime forensic labs and the DoH and explained:

- What DMI was seeking to accomplish
- Why their drug data is vital
- How they and the entities that they collect data from will receive drug intelligence even if they opted not to share their data with DMI
- How their personnel could play a role in intelligence production
- How DMI will provide training opportunities for their employees

These meetings also provided an opportunity to identify other data elements and to narrow DMI's data requests to those specific data elements that were most suitable to fulfill customers' needs.

The relationships established with the individual entities were intended to go well beyond DMI and the fusion center. To increase collection of drug data statewide, DMI hosted a lab directors' meeting, which provided the opportunity to gain all the lab directors' cooperation in:

- Sharing the same data elements
- Using the same format
- Providing the data daily or weekly
- Testing for adulterants
- Sharing drug trend information identified through their labs
- Assisting with the production of analytic drug products
- Providing training to their personnel to fulfill these requirements

The DMI drug collection process established in 2009 served as a pilot, and was the foundation for expansion and collection of other drugs to include pills, bath salts, marijuana variants, cocaine, hallucinogenics, and methamphetamine.

5. Automate the Data Collection Processes

Monitoring the drug environment requires timely and consistent data sharing. To fulfill this need, DMI used programs such as Crystal Reports, which automate drug data sharing through preset scheduled reports that are automatically sent to DMI by the drug data sources. The format for the reports is consistent and the data sets are predicated by the drug data collection requirements.

Data Processing and Utility

Data Management

The large volume of data collected daily require a robust data management workflow to ensure utility of the data. Data management is a key component of DMI, as structured and unstructured data is received in documents, emails, and spreadsheets, requiring manual data cleansing to standardize the data for analysis, geocoding to convert address elements into geographic coordinates, and production of intelligence products and reports. This requires a data management workflow which enables analysts to spend the majority of their time providing investigative support and analyzing data versus cleaning it.

Records are manually cleaned to remove typos, fix addresses, and correct formatting. Records are batch geocoded to obtain geographic coordinates. The geo-enabled data has been used to show links between arrestee homes and the town where they were arrested, hotspots of heroin seizures, treatment area gaps compared to heroin seizures, and other useful analysis products. While street addresses are often part of individual records, the mission is focused on trends versus individuals. Problems include intake of unstructured data, missing zip codes, misspellings, and missing spaces. The problems present challenges for geocoding, sorting, and searching.

The ideal situation is an automated data management workflow that supports the mission by maximizing efficiency, quality, and speed, in identifying the discovery of hidden relationships between people, places, or incidents.

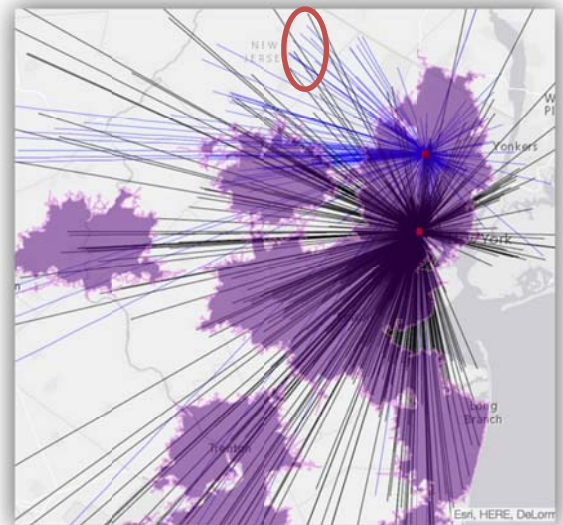
Adding Value Through Analysis and GIS Mapping

Once the drug data has been processed, DMI uses the drug data for intelligence production and for investigative support to assist entities in addressing drug problems statewide. DMI creates knowledge which provides a 360 degree view of the drug environment. This knowledge is shared with entities to help them better understand their local drug problems, enabling informed decision making. This knowledge also enables DMI to satisfy the information and intelligence needs of law enforcement and healthcare entities. In all, DMI supports four core essential functions: intelligence, enforcement, training, and outreach through the drug data it receives.

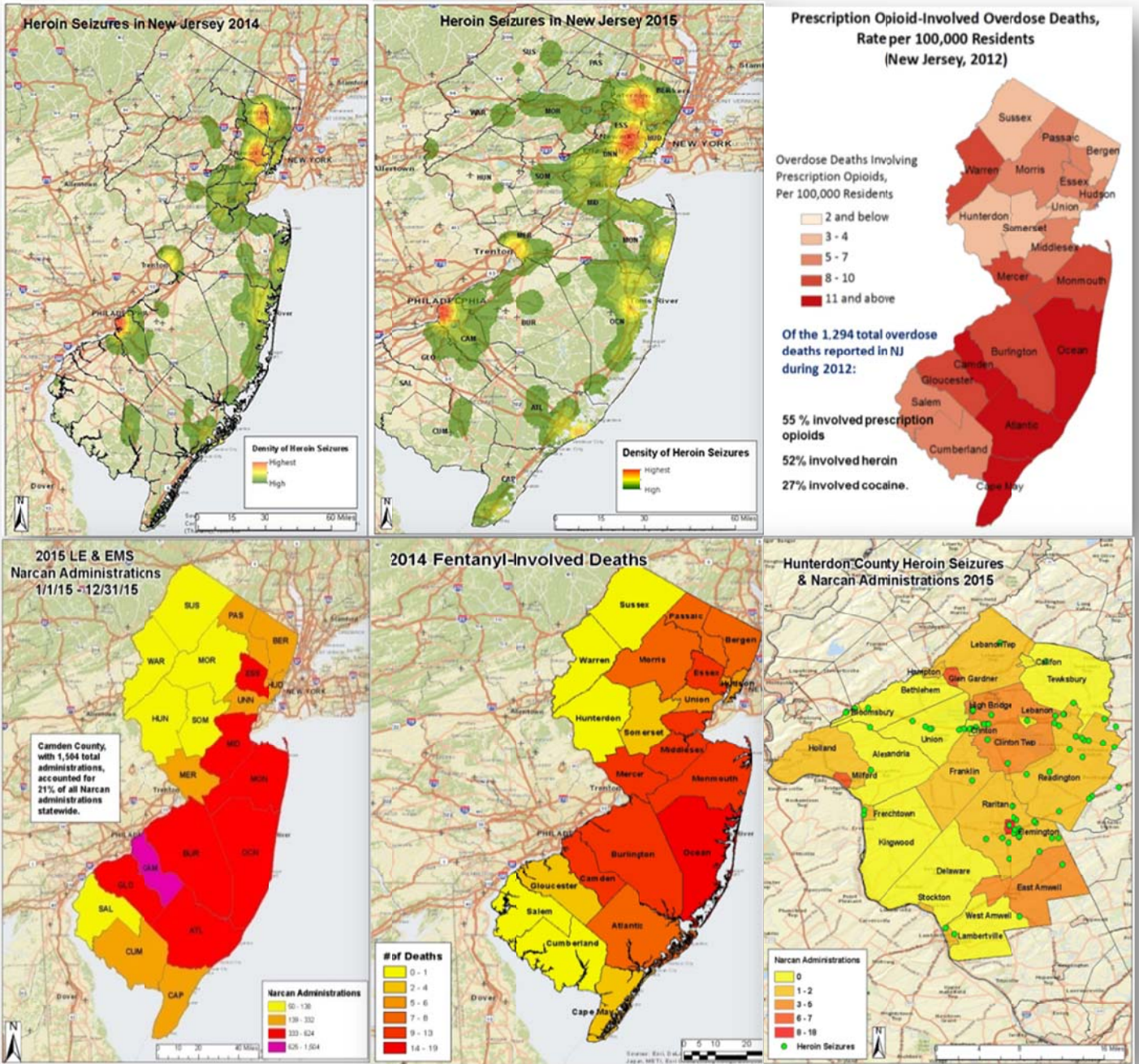
Analysis & Mapping

DMI identifies specific drugs in specific areas by collecting and analyzing disparate investigative and administrative drug data to establish connections among seemingly unrelated incidents such as drug arrests and overdoses. DMI incorporates subject matter experts from various disciplines, such as lab directors and technicians, into the drug intelligence production process. Their expertise provides depth and relevance and expedites the intelligence production process.

Aggregating data sets from various drug data touch-points provides individual perspectives. Collectively, when those perspectives are fused and analyzed, they highlight fact-based trends and patterns that usually go unnoticed until the problem becomes apparent. One such example provides details regarding all drug arrests occurring throughout the State. This enables the identification of cross jurisdictional crimes through the journey-to-crime concept. The map above right shows lines starting at drug markets, where individuals were arrested for drugs, and terminating at their residence. This helps law enforcement understand who is influencing their drug markets. The purple areas represent a 20-minute ride from heroin treatment centers. The red circle represents an area of concern, as residents are being arrested for drugs, but there are no drug treatment facilities in the area. In this case, DMI would recommend that prevention services be deployed to that area of the State.



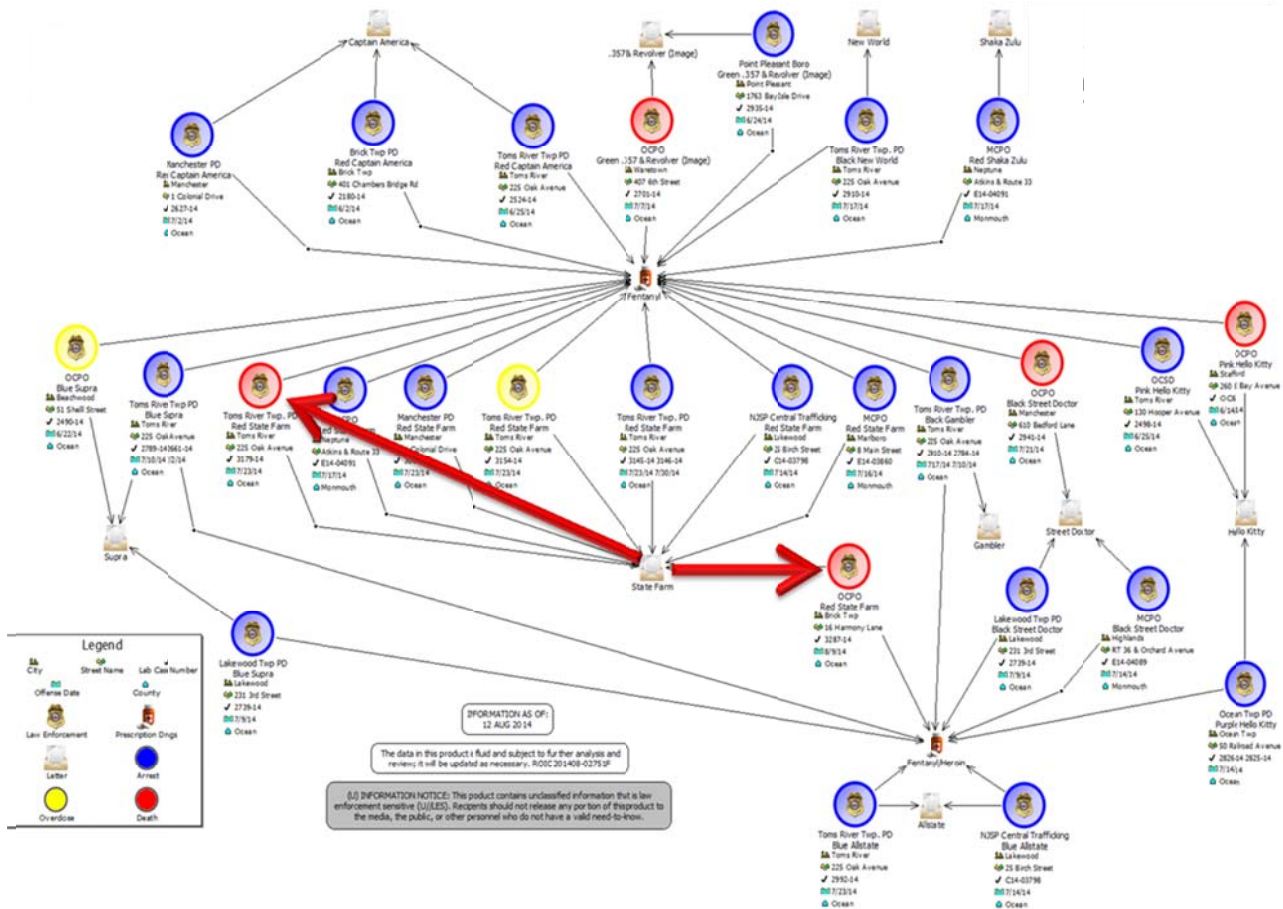
The following maps illustrate various drug incident data sets and their impact on the local environment.



Investigative Support

DMI supports narcotic investigations and strict liability overdose cases by analyzing drug data sets to identify trends and patterns related to problem drugs, people, and places. Whenever heroin is involved in an overdose, DMI commences the investigative support process by expediting the forensic analysis of any drug evidence gathered. This reduces the waiting period for evidence analysis results from months to within three hours. DMI leverages forensic analysis results and drug submission information from forensic crime laboratories, where police departments submit seized drugs. DMI analysts then proactively query the heroin stamp name through

the DMI Drug Database and conduct comparative, temporal, and spatial analysis to determine commonalities and potential connectivity among separate heroin-related incidents. The comparison involves the primary drug (heroin, methamphetamine, cocaine, fentanyl and its derivatives) identified in the specimen, adulterants, quantity seized, stamp name and color, offense location, and offense date. DMI determines the probability of connectivity based on these parameters, days between incidents, and the number of miles between incidents and provides the lead information to the investigating agencies either proactively or in response to requests.



DMI also provides support by using naloxone administration data from law enforcement and EMS to identify specific locations where suspected heroin overdoses may be occurring. Whenever a heroin stamp is identified at the scene of an overdose, DMI provides information to investigators regarding where the stamp has been most frequently seen, to enable identification of the heroin dealer through “controlled buys.” DMI also alerts healthcare partners of the increase in overdoses in specific areas where the parameters of a tripwire have been met through bio-surveillance. The parameters comprise five naloxone administrations, within a five-mile radius, occurring within 12 hours.

The analytical and criminal intelligence results enable better understanding of trends, patterns, anomalies, implications, and threats from illicit drug activity that have an impact on municipalities statewide. DMI desensitizes law enforcement and healthcare information to ensure seamless and transparent information-sharing, for drug situational awareness to constituents across all disciplines. DMI strategic drug assessments help understand the impact of specific drugs, in specific areas, on specific demographic and drive the development of more effective law enforcement and healthcare policies and practices to prevent drug use and mitigate community drug harms.

Training

DMI created the Basic Drug Training Course for police, fire service, EMS, and other organizations, to broaden its collection capacity and coordinate information sharing capabilities. This six-hour training comprises the following topics:

- NJ ROIC and the Drug Monitoring Initiative Overview (DMI)
- Drug Identification 101/Heroin/Opiates Trends (County Prosecutor’s Offices-Narcotics Divisions)
- Current drug trends (DMI)
- Treatment referral options (Prevention Coalitions)
- Naloxone Administration (DoH)
- Naloxone Reporting Process for EMS (DoH)
- Fentanyl 101 for Police, Fire & EMS (University of Medicine and Dentistry of NJ)
- Prevention Services (Department of Mental Health & Addiction Services - County Coalitions)
- Overdose Protection Act (Drug Policy Institute)
- Case Study: Strict Liability (Host County Prosecutor’s Office)

Outreach

DMI supports various healthcare entities, including the New Jersey Prevention Network (NJPN), County Prevention Coalitions, the Municipal Alliances, and the Recovery Coach Specialists, by providing drug trend data and by attending and presenting at community-based meetings. DMI is also a partner and supports the Drug Data Study Team, the Opioid Core Workgroup, Prevention Unification, NJPN, and the Municipal Alliance. DMI works closely, and has data sharing agreements, with New Jersey’s Department of Health and the Department of Human Services. DMI personnel are members of the State Epidemiological Outcomes Workgroup and have a wide array of partnerships with healthcare professionals specializing in drug prevention, treatment, and recovery. Healthcare partners have a broad spectrum of data sets which they share in accordance with the Health Insurance Portability and Accountability Act. These data sets cover a broad range of administrative data sets from medical examiners, drug treatment admission surveys, drug recovery data, mental health and addiction services data, and EMS data.

The law enforcement agencies actively working with DMI include the New York/New Jersey HIDTA, the Philadelphia/Camden HIDTA, Drug Enforcement Administration Newark, the 21 New Jersey County Prosecutors’ offices, and various local, State, and Federal law enforcement agencies. These partnerships have

provided DMI personnel the opportunity to gain a deeper understanding of both the supply and demand sides of the State’s drug problem.

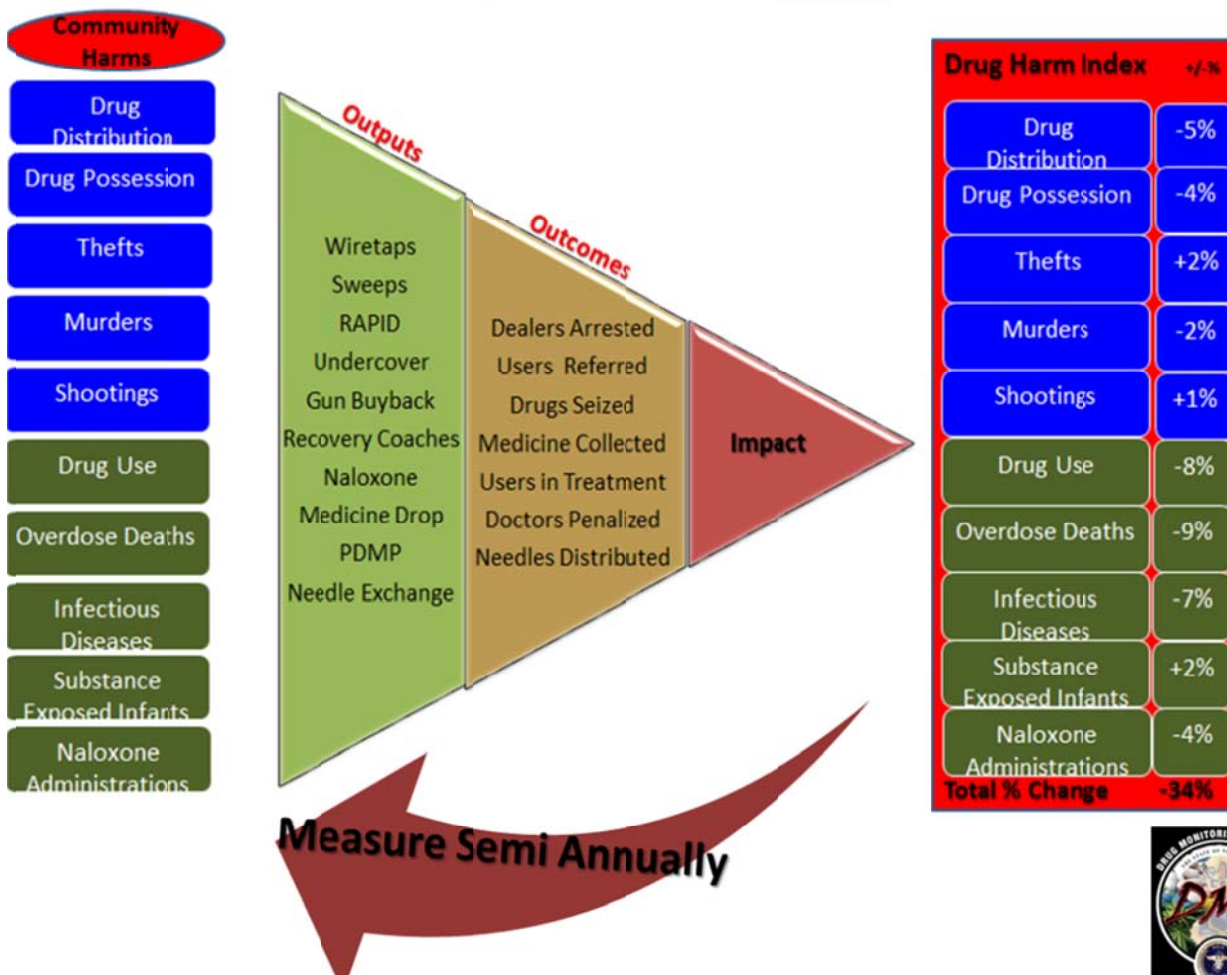
DMI also hosts monthly conference calls, which involve more than 600 law enforcement and health partners from around the country. Participation comprises individuals from several DEA and HIDTA offices, fusion centers, local and state police departments, prosecutor’s offices, human services, departments of health, prevention and treatment personnel, and drug lab forensic technicians from around the country. These conference calls provide a platform to exchange information with health and law enforcement partners throughout the country.

Evaluation

The overall aim of the DMI is to reduce community drug harms resulting from illicit drug use, and DMI seeks to evaluate the overall **impact** of the efforts/practices aimed against specific community drug harms i.e., using naloxone to prevent deaths. Each of the partner entities involved in reducing harms is responsible for measuring their own performance based upon their entity’s key performance indicators. Specific crime and health harms resulting from the illicit drug use are used as indicators, counted, and placed on a drug harm index.

As the individual harms increase or decrease over time, the results indicate whether the measure aimed against that specific harm is effective or not. The overall sum of the index helps measure the effectiveness of the efforts supported by DMI.

Drug Harm Index



DMI Established Best Practices

- Facilitates collaboration among diverse multidisciplinary entities to address the drug problem
- Uses automated drug data collection processes to ensure a timely exchange of information
- Desensitizes information to ensure seamless and transparent information sharing
- Derives intelligence from all investigative and administrative drug data
- Incorporates subject matter experts from various disciplines into the drug intelligence production process
- Supports narcotic investigations and overdose strict liability cases
- Employs the Journey-to-Drugs methodology to understand a drug's impact on local areas
- Coordinates collection, analysis, and mapping of drug-incident data statewide
- Facilitates expedited analysis of drugs seized through forensic labs
- Uses empirical data as opposed to survey data to understand the drug environment
- Provides drug training for law enforcement, fire service, and EMS personnel
- Provides drug situational awareness for all constituents
- Tracks Naloxone administrations by law enforcement and EMS statewide to identify potential spikes in drug overdoses
- Provides real time alerts to the public, law enforcement, and healthcare partners of spikes in drug overdoses occurring in specific areas
- Creates & leverages a network of existing people, platforms, and processes

Appendix A: DMI Partners

DMI partners include:

- Office of the Attorney General's Office
- New Jersey State Police
- 16 State Police Agencies
- El Paso Intelligence Center (EPIC)
- All 21 County Prosecutor's Office
- 18 High Intensity Drug Trafficking Area (HIDTA) Programs
- 22 State Fusion Centers
- Domestic Highway Enforcement (DHE) Program, National HIDTA
- Over 500 local and county Police Departments/Prosecutor's Offices
- U.S. Attorney's Office Eastern District (PA)
- National Guard Narcotic Task Force
- Middle Atlantic-Great Lakes Organized Crime Law Enforcement Network
- Delaware Valley Intelligence Center (DVIC)
- Pennsylvania Criminal Intelligence Center (PaCIC)
- Vermont Fusion Center
- NJ State Medical Examiner's Office
- NJ Division of Criminal Justice
- New York/New Jersey High Intensity Drug Trafficking Area
- Philadelphia/Camden High Intensity Drug Trafficking Area
- Drug Enforcement Administration -Newark
- AMTRAK -National Railroad Passenger Corporation
- Burlington, Cape May, Hudson, Ocean, and Union County Forensic Crime Laboratories
- New Jersey State Police North, Central, East, and Southern Regional Laboratories
- 83 total Forensic Crime or Toxicology Laboratories
- NJ Association of Alcohol and Drug Abuse Directors
- NJ Division of Mental Health and Addiction Services (17 Regional Coalitions)
- NJ Department of Education
- NJ Department of Children and Families
- NJ Department of Health
- Intoxicated Driver Resource Center
- Governor's Council on Alcoholism and Drug Abuse
- Juvenile Justice Commission
- NJ Prevention Network
- Rutgers University
- St. Barnabas Behavioral Health Institute
- NJ Association of County Alliance Coordinators
- NJ Prescription Monitoring Program (NJPMP)
- NJ Poison Information and Education System (NJPIES)
- Numerous NJ Hospital Systems
- Numerous Treatment, Prevention and Recovery Agencies

Appendix B: DMI Drug Data Collection

To understand illicit drug activity and its impact on the environment, DMI gathered information requirements from various partners within law enforcement and healthcare. Based on their information needs, DMI identified specific data sets to be collected from local, county, state, and federal government entities that amass volumes of drug-related treatment, prevention, arrest, and violence information during the normal course of business. Collectively, when those essential data sets are fused together, they enhance understanding of the State's drug environment.

Forensic Laboratories

Collecting information regarding drug seizures by a police department illuminates the presence and prevalence of specific drugs within a municipality. Monitoring the frequency and the quantity of specific drugs seized, along with other data sets, helps in understanding the local drug environment. However, collecting this granular level of detail from approximately 496 police departments statewide is challenging. Instead of relying on all of these police departments to voluntarily share drug seizure information, DMI leverages drug submission and analysis information from the state's forensic crime laboratories, where police departments submit seized drugs.

While forensic laboratories throughout the state analyze drugs seized for evidentiary purposes, DMI leverages the drug incident data and results for intelligence purposes. There are five county forensic laboratories in New Jersey, including Burlington, Cape May, Hudson, Ocean, and Union, and four New Jersey State Police regional laboratories. These facilities use disparate methods to accurately catalog and store drug data from the jurisdictions that they serve. This robust collection of drug seizure information from local municipalities provides an opportunity for comprehensive collection and analysis of drugs seized statewide. DMI aggregates, maps, and analyzes this data to develop intelligence that is significantly valuable for drug prevention, enforcement, and treatment efforts.

As indicated, DMI had been collecting heroin stamp data since 2009 from the State Police Office of Forensic Science laboratories, which conduct analysis for 81% of the municipalities throughout the state. The State Police Office of Forensic Science had been sending a monthly heroin stamp report to the NJ ROIC on the first of each month. DMI requested the following data elements: glassine heroin stamp name, glassine stamp color, number of glassine stamps seized, investigating agency, incident location, and incident date. Dr. Howard Baum, Director of the Office of Forensic Science, agreed to provide this information on spreadsheets on a monthly basis via email. This required training all of the lab technicians to properly capture and record the glassine heroin data requested. James Toner, the Laboratory Information Management System Administrator, generated an automated monthly report containing the information recorded by lab technicians.

The glassine stamp data report provided an understanding of the presence and prevalence of heroin within municipalities; however, incidents contained in the report were often more than two months old. This was problematic, as the shelf life of heroin glassine stamp information is limited, since drug dealers change their heroin stamp names frequently. The value of the heroin glassine stamp information corresponds to that shelf life, necessitating a significant reduction in the time between seizure and reporting to DMI by the lab.

Contemporaneous to the State Commission of Investigation releasing the "Scenes from an Epidemic Report" on prescription pills and heroin in July of 2014, DMI requested the Office of Forensic Science create an automated daily heroin glassine stamp report, which was subsequently created and implemented. As a result, drug seizure incidents were reported to DMI within weeks or days. This process was later shortened to mere

hours and at most, one day. This was accomplished by creating an automated daily evidence submission report, which includes all evidence submitted to any of the State Police Office of Forensic Science laboratories and Union County laboratory for analysis. DMI receives all heroin stamp data, within 24 hours of being submitted, by 85% of the municipalities statewide. The specific data elements collected include:

- Lab Case
- Department Name
- Offense Location
- Department Case Number
- Offense Date
- Submission Comments
- Items Description

The other challenge with the heroin glassine stamp report data was the lack of reported drug content within the glassine. While labs routinely analyze glassine content for heroin, a Schedule 1 drug, analysis for other adulterants was not routinely conducted. The criticality of testing for adulterants became apparent during January 2014 when there was a significant spike in the number of heroin overdoses involving fentanyl as an adulterant. Testing for other adulterants provides essential data, as drug dealers add adulterants to their heroin to enhance the intensity and duration of the high. Further, drug dealers distinguish their products by glassine stamp name. Combining glassine stamp names with content, such as adulterants, enhances the level of potential connectivity between incidents, such as seizures and overdoses. The scope of the fentanyl problem during 2013 remains unknown, as crime forensic labs were not testing for its presence.

Purity levels of heroin may vary significantly, adding to the overdose problem as well. Heroin users encountering a batch of heroin that is significantly higher in purity than what they are accustomed to may overdose. While state and county forensic crime labs are not equipped to conduct molecular analysis to determine heroin purity, knowledge of unadulterated heroin involved in overdoses may serve as an indicator of highly pure heroin. The DMI drug collection process established in 2009 served as a pilot phase, which revealed the previously noted deficiencies.

To increase collection of drug data statewide, DMI hosted a lab directors' meeting in February 2014. This meeting was extremely significant, as it was the first time that all lab directors had ever gathered. This meeting provided DMI the opportunity to gain the lab directors' cooperation in sharing their drug data in the same format as that used by the State Police forensic labs. As a result, lab directors agreed to provide the requested data elements on a weekly basis, test for adulterants, provide drug trend information identified through their labs, assist with production of analytic drug products, and provide training to their personnel to fulfill these requirements. This robust statewide drug data collection process was actualized in the last week of March 2014. The specific heroin data elements include:

- | | |
|---------------------|-----------------------------|
| • Lab Case Number | • Offense Date |
| • Quantity | • Department Name |
| • Drug Type/Content | • Offense Location |
| • Adulterants | • County |
| • Stamp Color | • Investigation Case Number |
| • Stamp Name | |

These collection processes provided a foundation for expanding data collection for other drugs. Currently, DMI receives daily and weekly reports on all marijuana variants, pills, bath salts, cocaine, synthetic cannabinoids, methamphetamine and bulk powders. DMI produces multiple products, which provide awareness of drugs seized and relevant data elements similar to those gathered from stamp seizures. The specific data elements include:

Marijuana Variants

- Lab Case Number
- Cannabis Type
- Offense Date
- Mode of Seizure
- Department Name
- Offense Location
- County
- Investigation Case Number

Pills

- Lab Case Number
- Number of Pills
- Drug Name
- Police Department
- Offense Date
- Offense Location
- County
- Investigation Case Number

Bath Salts

- Lab Case Number
- Content/Drug Name
- Police Department
- Offense Date
- Offense Location
- County
- Investigation Case Number

Cocaine

- Lab Case Number
- Content/Drug Name
- Police Department
- Offense Date
- Offense Location
- County
- Investigation Case Number

Synthetic Cannabinoids

- Lab Case Number
- Content/Drug Name
- Police Department
- Offense Date
- Offense Location
- County
- Investigation Case Number

Methamphetamine

- Lab Case Number
- Content/Drug Name
- Police Department
- Offense Date
- Offense Location
- County
- Investigation Case Number

Bulk Powders

- Lab Case Number
- Analyzed Weight in Grams
- Content/Drug Name
- Police Department
- Offense Date
- Offense Location
- County
- Investigation Case Number

Expedited Forensic Drug Analysis

Through the relationship with the forensic labs, DMI has also established a process that facilitates expedited forensic drug analysis, assisting investigations and health care professionals during emergent situations. Whenever law enforcement acquires a heroin specimen associated with an overdose, the agency may contact DMI members at the NJ ROIC to arrange for expedited analysis of the evidence through the New Jersey State Police regional laboratories. Thus far, results have been returned to investigating agencies within hours, or at the latest, the next day from the time of submission to the lab. Prior to DMI, it may have taken upwards of two months to receive the results.

New Jersey Department of Health (DoH)

Drugs identified at suspected overdose incidents provide one of the most effective means to detect and understand the impact of drugs in the environment. DMI leverages DoH for drugs identified in overdose incidents. The data elements required by DMI from the DoH are de-identified and do not include victim specific personal identifiers such as names, addresses, dates of birth, or social security numbers. The data elements are derived from the EMS Charts system, which conducts real-time monitoring of Naloxone administration by EMS personnel statewide. Alerts are triggered when a predetermined set number of naloxone administrations are conducted within a specific time frame and geographic radius. These de-identified data elements from the DoH enable DMI to provide healthcare and law enforcement entities the appropriate alerts, warnings, and notifications during emergent situations and for strategic planning purposes.

To assist the drug prevention efforts of other government entities, such as the Governor's Council on Alcohol and Drug Addiction, the SEOW, DMHAS, and NJPIES, DMI also uses overdose data to develop "journey to overdose" maps. DMI uses the victim's city of residence and city of overdose to help determine if, for example, users from a rural area are traveling to an urban area where they are overdosing. While the municipality in the urban area may be fully aware that heroin and opiates are being illegally distributed to out-of-town residents, the municipality in the rural area may not be aware that some of their residents are using heroin and opiates and overdosing. Increasing awareness of these dynamics allows informed decisions to be made by the various addiction service entities when directing resources for prevention and treatment efforts. This process does not require patient specific information in order to be effective.

Collecting and analyzing information regarding the types of treatments administered by emergency service personnel demonstrates the public health implications posed by specific drugs to municipalities. Monitoring the frequency of naloxone administration within specific regions and time frames enables in-depth understanding of the local drug environment. However, collecting this level of detail directly from hundreds of hospitals and/or emergency service providers is impractical and challenging. Instead of relying on all of these disparate entities to voluntarily share overdose information, DMI leverages information from the DoH, which tracks the administration of naloxone statewide through the EMS Charts and ImageTrend systems.

To coincide with the collection of heroin glassine stamps through the forensic labs, the DMI narrowed collection efforts through the DoH on heroin and opiate overdoses. DMI collects the following data elements through a data use agreement with the DoH:

- Incident Date
- Gender
- Medication Given
- Incident GPS Location
- Race
- Patient Disposition
- Gender
- Home Zip Code
- Cause of Injury
- Age
- Ethnicity
- Alcohol/Drug Use Indicated

The DoH uses the EMS Charts and ImageTrend systems to track all administration of naloxone, which is an antidote used to reverse the effects of heroin and opiates. Paramedics are mandated by DoH to report all naloxone administrations through EMS Charts. This translates to the DoH receiving only 45% of the naloxone administrations statewide. While emergency medical technicians (EMTs) are not required to provide Naloxone administration data to the DoH, a large number of the EMS providers do share their naloxone administration data with DoH through independent tracking systems. DMI established an agreement with the other three independent systems that track naloxone administrations by EMTs throughout most of the state. Those systems, MONOC (Monmouth & Ocean County), Liberty Health Systems (Hudson County), and Atlantic Ambulance System (Morris County) agreed to provide the same data elements to the DMI as those provided by EMS Charts through DoH. Through this agreement, DoH receives data pertaining to the majority of the naloxone administrations occurring statewide. In turn, the DoH shares the specified data elements with DMI in accordance with the Health Insurance Portability and Accountability Act (HIPAA) and the data use agreement. DMI also receives naloxone administration data from law enforcement agencies where police officers are certified to administer naloxone. The Attorney General guidelines mandate that all police departments report their naloxone administration to their respective prosecutor's office. Further, all county prosecutor's offices are required to submit all naloxone administration data to the NJ ROIC. To see a sample Law Enforcement Naloxone Deployment form, see the Supporting Documents Folder.

Sharing naloxone administration information among EMS providers enables the DoH the capability to monitor overdose clusters by establishing tripwires that are triggered based on predetermined spatial and temporal parameters. For example, one tripwire may comprise five naloxone administrations within a five-mile radius occurring within 12 hours. These parameters can be adjusted for different regions to account for varying population density within urban centers, suburbs, and rural areas of the state. The NJ ROIC is able to combine EMS and law enforcement naloxone administration data to identify clusters within specific regions. DoH shares naloxone tripwire information with DMI in two formats:

1). [Ad Hoc Alerts](#) - DoH has provided the DMI capability to establish its own tripwire parameters to receive automated notifications whenever the predetermined parameters are met. Once a naloxone administration tripwire is triggered, the DMI is able to alert the law enforcement and healthcare communities of the naloxone

administration incidents that are occurring and to warn of the potential for possible overdose incidents to occur within their jurisdictions. In turn, both law enforcement and healthcare professionals can better prepare for, respond to, and prevent overdose incidents within their jurisdictions. Both law enforcement and healthcare professionals can reach out to their communities and place their constituents on heightened alert for potential overdoses resulting from heroin and opiates being sold and/or used within their community.

When a glassine heroin stamp name is associated with a suspected overdose, DMI can search the heroin stamp database to determine other locations where the same heroin stamp name has been encountered. The information is shared with law enforcement agencies, which can conduct controlled buys of heroin within the identified areas, with the intent to identify the source of the heroin causing the overdoses.

2). Daily Naloxone Administration Summary - DoH has also established an automated daily report containing aggregated heroin overdose data gathered statewide. This report ensures that DMI receives information regarding overdose incidents that were not part of tripwire clusters. The aggregate overdose information is analyzed and data elements such as glassine stamp names and colors involved in overdoses are compared with the glassine heroin seizure data for commonalities. The results are published in DMI daily, weekly, and bi-monthly reports for situational awareness. For additional information, see the Sample EMS Data Spreadsheet in the Supporting Documents Folder.

To enhance collection of glassine heroin stamp and opiate data by EMS, the DMI:

- Developed a heroin stamp awareness pamphlet and distributed it to the EMS community.
- Posted the same awareness pamphlet in the DoH training site for EMS.
- Developed the Basic Drug Training Course For Law Enforcement, Fire, and EMS.

Prescription Monitoring Program (PMP)

The PMP provides de-identified data pertaining to transactions among patients, doctors, and pharmacies with the intent to identify activities that may constitute fraud by any of the parties involved. This data is analyzed and used to commence investigative queries by entities with access to identified data viewing rights.

- Prescriber Zip
- Drug Control #
- Day's Supply
- Script Number
- Drug Name
- Dispense Date
- Date of Script
- Pharmacy
- Number of Refills
- First Name
- Pharmacy Zip
- Refill Number

New Jersey Poison Information & Education Systems (NJPIES)

NJPIES handles approximately 65,000 calls per year pertaining to overdoses and accidental poisoning, from residents, medical personnel, and law enforcement. NJPIES provides cause of death or injury, age and gender, route of exposure, exposure site, and all of the information is stored geo-coded and mapped in real time. The specific data elements include:

- Incident Date
- Gender
- Home County
- Incident City
- Race
- Outcome Hospital
- Incident County
- Home City
- Drug Type
- Age

New Jersey Division of Mental Health & Addiction Services

DMHAS provides data elements pertaining to admissions for treatment of substance abuse. As a regulatory authority, DMHAS collects volumes of information and monitors substance abuse prevention, treatment, and recovery services statewide. This information aids the DMI in understanding where outreach and education may be needed. The specific data elements include:

- Date of Admission
- County of Facility
- Home City/County
- Name/Address
- Age /Race
- Primary Drug
- Facility
- Gender
- Overdose History

New Jersey State Medical Examiner's Office

The Medical Examiner's Office provides data elements pertaining to deaths resulting from drug overdoses. Data from toxicology results aids the DMI in tracking and conducting temporal and spatial analysis of overdose deaths. The specific data elements include:

- Case ID
- Date of Death
- Toxicology
- County of Death
- Gender
- Town
- County
- Cause of Death
- Age
- Race
- Drugs Involved

Tetrus

This information-sharing database tracks shooting hits statewide and includes victim information, as well as available suspect information. This information is geo-coded, mapped, and overlaid with other relevant DMI data sets. The specific data elements include:

- Date
- County
- Gender
- Time
- Gang-On-Gang
- Race
- Location
- Alive
- Gang Affiliation
- City

Automated Fingerprint Information System

Daily, DMI receives a report extracted from the Automated Fingerprint Identification System, which captures data pertaining to all of the arrests that occurred the previous day. This enables DMI to sort the crimes by type and extract those that are relevant to DMI. The drug crimes are of primary interest and those data elements include:

- Date of Arrest
- Date of Birth
- Gang Related
- Crime
- Gender
- City of Arrest
- Last Name
- Race
- County of Arrest
- First Name
- Home Address

New Jersey Gun Recoveries

This daily report tracks recovered crime guns statewide and includes basic information regarding the recoveries. This information is geo-coded, mapped and overlaid with other relevant DMI data sets. The specific data elements include:

- Date
- Location
- Police Department
- Time
- City

Appendix C: Production

DMI analysts use various data sets to develop timely and actionable products for situational awareness for law enforcement, public health and the general public. Respectively, products pertaining to the same topic are written to meet the needs of the specific audience at the Law Enforcement Sensitive level, the For Official Use Only level, and the Unclassified level.

- Daily Drug Environment Report – includes information on heroin stamps, opiates, and other drugs seized, as well as incidents involving naloxone administration
- Weekly Heroin & Opiates Summary – heroin stamps, opiates, and other drugs seized, as well as incidents involving naloxone administration
- Bi-Monthly Drug Environment Assessment – analysis of heroin stamps, opiates, and other drugs seized, incidents involving Naloxone administration, and shooting trends and patterns. The forensic crime labs also provide information pertaining to drug trends that they identify. Lab technicians' subject matter expertise is leveraged to produce the product.
- Quarterly Drug Environment Report – deeper analysis of the various data sets collected. Produced in the 1st, 2nd and 3rd quarters of the calendar year.
- Annual Drug Environment Report – combining updated information from the quarterly reports with the 4th quarter of the calendar year, the annual drug report is a comprehensive analysis of the drug environment in NJ.
- Ad Hoc Alerts – Naloxone administration tripwire alerts are triggered by 5 overdoses, occurring within a 12-mile radius, within a 24-hour time period.
- Ad Hoc Products – one to two page products are produced based on collected drug data on a variety of drug-related topics. These topics include, but are not limited to: situational drug awareness, dangerous drugs, officer safety, public health issues, and laboratory and toxicology information.