The SCE Narrative is written by the Sentinel Community Epidemiologist (SCE) and provides their interpretation of important findings and trends based on available national data as well as sources specific to their area, such as data from local medical examiners or poison control centers. As a local expert, the SCE is able to provide context to the national and local data presented.

This SCE Narrative contains the following sections:

◊ Highlights
◊ Primary and Emerging Substance Use Problems
◊ Local Research Highlights (if available)
◊ Infectious Diseases Related to Substance Use (if available)
◊ Legislative and Policy Updates

The SCE Narratives for each of the 12 Sentinel Community Sites and detailed information about NDEWS can be found on the NDEWS website at www.ndews.org.
National Drug Early Warning System (NDEWS)
Wayne County (Detroit Area) Sentinel Community Site (SCS)
Drug Use Patterns and Trends, 2017: SCE Narrative

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Highlights

- **Fentanyl** and **carfentanil** are the primary drugs of concern in Wayne County because of their sudden appearance and dramatic contribution to the 56% rise in drug overdose deaths from 2015 to 2016.

- **Heroin** continues to be an important drug of concern in Wayne County as measured by increasing deaths, treatments admissions, and seizures.

- **Cocaine** is increasingly found in drug overdose deaths but not in seizures or as a primary drug of abuse in treatment admissions.

- **Methamphetamine** accounts for fewer treatment admissions or deaths than other drugs of abuse but is increasingly identified in seizures.

- **Prescription opioids**, excluding fentanyl and carfentanil, are increasingly found in drug overdose deaths (especially among Whites) but not as a primary drug of abuse for treatment admissions or in law enforcement seizures (for 2016 there were 98 times of fentanyl or analog and 13 carfentanil items): Michigan’s prescription drug monitoring program documented for the state and the county decreasing dry units dispensed for total scheduled medications. Data from the DEA’s Automation of Reports and Consolidated Orders System (ARCOS) showed a temporal decline in hydrocodone distribution but minimal change for oxycodone since 2012. Codeine was seized and identified more than expected based on national estimates (27 compared with expected 18 items).

- Few new nonopiod psychoactive substances measured in either absolute numbers or diversity were identified in drug reports for items seized by law enforcement in Wayne County, but those seized were more likely to be classified as synthetic cathinones (14 items) or piperazines (5 items) as opposed to as synthetic cannabinoids (0 items), phenethylamines (1 item), or tryptamines (1 item). When compared with national estimates, the number of items of synthetic cathinones, phenethylamines, synthetic cannabinoids, and tryptamines were fewer than expected.

- For the second year, seizures of hallucinogenic drugs including MDMA declined.

- Wayne County experienced a 56.4% increase in drug overdose deaths that documented fentanyl, fentanyl analogues carfentanil, and U-47700 alone and in combination in the decedents.
Primary and Emerging Substance Use Problems

OVERVIEW

In 2016, Wayne County experienced a 56% increase in drug overdose deaths with fentanyl, carfentanil, and U-47700 as causes of death. That one sentence underscores the public health urgency that drug abuse constitutes and the importance of ongoing monitoring and dissemination of results. Although there were bright spots in that units of scheduled medications dispensed declined for the first time ever and there was no infectious disease outbreak specifically linked to substance abuse, the number of deaths overshadows everything especially because the drug overdose rate had already increased from 9.1 per 100,000 in 2000 to 32.8 in 2015. In 2015, Wayne County ranked 25th in the country among all counties for drug overdose death rates. In 2012, it ranked 125th.

Steps taken to address the increase in drug overdose deaths include authorizing standing orders for naloxone and treatment capacity expansion through Medicaid funding. In 2016, the number of admissions increased by 4,585 (28% increase from 2015) with almost half of the total admissions (48.4%) having a primary drug of abuse of either heroin or prescription opioids. Nevertheless, the overdose deaths are also a reminder of the diversity of people who abuse drugs. The mean age of admissions ranged from a high of 46.2 for cocaine to 28.4 for marijuana. Other primary drugs of abuse with a young mean age at admission were benzodiazepines (32.8), other stimulants besides methamphetamine (32.9), and methamphetamine (29.3).

Below is an overview of the specific drugs of abuse.

Fentanyl and carfentanil are the primary drugs of concern in Wayne County during 2016 because of their sudden appearance and dramatic contribution to the 56% rise in drug overdose deaths from 2015 to 2016. The National Forensic Laboratory Information System (NFLIS) also documented that carfentanil was found in Wayne County items for the first time in 2016 and that fentanyl is increasingly found.

Heroin continues to be an important drug of abuse in Wayne County. The number of deaths caused by heroin in 2016 was 39.4%, more than any other drug except fentanyl. Admissions for heroin as the primary drug of abuse accounted for 42.9% of publicly funded treatment admissions during 2016, more than for any other substance. In 2011, heroin admissions accounted for 32.2% of all treatment admissions. In reports from NLIS, heroin was the third most common substance seized and analyzed (behind cannabis and cocaine). The expansion of naloxone training and recent approval of standing orders for naloxone are important actions to counter the rise in opioid deaths.

The other opioids, such as prescription opioids including methadone, were found in 25.7% of drug overdose deaths and ranked 5th among primary drugs of abuse for treatment admissions. In NFLIS, hydrocodone accounted for 2.4% of items and oxycodone accounted for 2.0%, both less than alprazolam. The DEA's Automation of Reports and Consolidated Orders System (ARCOS) continued to document the tremendous volume of codeine distributed in Michigan; the only states with more codeine distributed were California and Texas.
Cocaine was found in almost as many drug overdose deaths as heroin (39.2% vs. 39.4%), but among the deaths caused by cocaine, opioids were also listed as a cause of death in 81.4%. Cocaine was the third most common primary drug of abuse at admission to treatment and was predominately smoked (88.7%). There were more admissions with cocaine as the secondary than as the primary drug of abuse. Admissions with cocaine as the primary drug of abuse were more likely 45 years of age and older (63.3%) than with other drugs of abuse. Cocaine continued to rank second in NFLIS.

Marijuana admissions as a percentage of total admissions declined, but as the primary drug of abuse, it still ranked 4th. Admissions were younger than for other drugs of abuse. It was the most common drug identified in the NFLIS, even though Michigan has medical marijuana and Detroit decriminalized possession of small amounts by adults.

Benzodiazepines caused the death of 96 people in Wayne County during 2016, of which alprazolam in particular was identified in 64 deaths. A high proportion had nonfentanyl prescription opioids as a cause of death (53.1%). There were 165 admissions with benzodiazepine as the primary and 877 with it as the secondary drug of abuse. Alprazolam ranked 4th in NFLIS reports, ahead of hydrocodone and oxycodone.

Methamphetamine accounted for fewer treatment admissions or deaths than other drugs of abuse but was increasingly identified in seizures. This increase may indicate an increased supply of the drug.

**BENZODIAZEPINES**

Among the 817 drug overdose deaths in 2016 available for preliminary analysis, 96 had a benzodiazepine listed as a cause of death and 64 had alprazolam specifically listed. Of those 96 decedents, 54.2% were female, 75.0% were non-Hispanic Whites, and a minority were found in Detroit (30.2%). Of note, Detroit comprises 21.2% of the land area of Wayne County; decedents found in Detroit may have died there or were brought there for hospitalization or abandonment. The people whose deaths were caused by benzodiazepines had a mean age of 43.1 years at the time of their death. They were also likely to have prescription opioids excluding fentanyl (53.1%) listed as a cause of death.

There were 165 admissions with benzodiazepines as the primary drug of abuse (0.9% of total admissions), ranking it 6th among primary drug of abuses. Admissions were predominately female (57.6%) and concentrated among those ages 26 to 44 (64.2%). Common secondary drugs of abuse were prescription opioids (20.6%), alcohol (19.4%), and marijuana (15.8%). These admissions with benzodiazepines as the primary drug of abuse were dwarfed by the number of admissions with benzodiazepines as secondary drug of abuse (N = 877).

One benzodiazepine, alprazolam, ranked 4th with 154 items (2.9% of total drug reports) in the NFLIS in 2016. Other benzodiazepines, such as clonazepam (N = 12) and diazepam (N = 8), were less commonly identified. The number of items identified as alprazolam was lower in 2016 compared with 2015 when 184 items were reported (2.5% of total drug reports).
**COCAIN**

- Cocaine is increasingly found in drug overdose deaths but not in seizures or as a primary drug of abuse in treatment admissions.

The number of Wayne County drug overdose deaths caused by cocaine was 332 or 39.2% of all drug overdose deaths according to public statements by the Chief Medical Examiner. In preliminary analysis on 817 deaths, there were 296 deaths caused by cocaine or 36.2% of the total drug overdose deaths with December 2016 having the highest absolute number \((N = 39)\). Decedents with cocaine as the cause of death were mostly male (68.9%), non-Hispanic White (61.8%), found in Detroit (57.8%), and with fentanyl (57.4%) and heroin (38.5%) also listed as causes of death. Opioids (i.e., fentanyl, heroin, U-47700, carfentanil, or prescription opioids,) were listed as causes of deaths in 81.4% of the cocaine deaths. There were 12 deaths with no other drugs listed as cause of death. The mean age of the decedents was 42.8 years. The Wayne County Office of Medical Examiner changed the coding of causes of death in 2016 to list all drugs detected. This makes comparisons with past years difficult, but it appears that cocaine is increasingly common. In 2012 and 2013, the number of overdose deaths with cocaine as a cause were 75 and 78.

Cocaine was the third most common primary drug of abuse at admission to treatment \((N = 1,938 \text{ or } 10.8\%)\), but there were more admissions with cocaine as a secondary than as a primary drug of abuse. People admitted with the primary drug of cocaine were more likely to be male (65.3%) and to smoke it (88.7%). Those who were admitted to treatment were also more likely to be older (45 or older, 63.3%) than for other drugs of abuse. The most common secondary drug of abuse was alcohol (35.9%) and marijuana (17.6%). The number of admissions for cocaine as the primary drug of abuse has trended upwards since 2014.

Cocaine continued to be the second-ranked drug identified in reports for items seized and analyzed in the NFLIS database for 2016; it accounted for 17.8% of items analyzed compared with 18.7% in 2015.

**MARIJUANA**

The number of medical marijuana certificates both newly approved and renewed in Wayne County was 21,143 in fiscal year 2016 compared with 25,949 in fiscal year 2015.

Treatment admissions, traditionally driven by legal pressure, was 1,242 in 2016, which is lower in absolute numbers and percentage of total for 2012 and 2013. The percentage, but not absolute number, of admissions is also lower in 2016 compared with 2014 and 2015. Marijuana ranked 4th among primary drugs of abuse for admissions in 2016. Admissions with the primary drug of abuse of marijuana had the youngest age distribution (16.7% younger than 18 years of age), but the plurality of people were aged 26 to 44 (42.8%). Among treatment admissions, the most common secondary drug of abuse was alcohol (30.4%). Marijuana was also a common secondary drug of abuse among people admitted for treatment (20.5% for alcohol, 17.6% of cocaine, 22.2% for methamphetamine, and 19.0% for other stimulants).

Marijuana was the most common drug identified in reports for items seized and analyzed in NFLIS in 2016 (49.6% compared with 50.1% of items in 2015).
METHAMPHETAMINE

- Methamphetamine accounts for fewer treatment admissions or deaths than other drugs of abuse but is increasingly identified in seizures

Methamphetamine was 7th among the 8 top primary drugs of abuse at treatment admission (N = 27 admissions or 0.1%). Admissions with methamphetamine as the primary drug of abuse are most likely to be male (81.5%) and between the ages of 26 and 44 (85.2%). Most admissions for methamphetamine reported smoking it (66.7%); 22.2% reported marijuana and 14.8% reported heroin as the secondary drug of abuse. During the past 5 years, the number of admissions with methamphetamine as the primary drug has fluctuated but may be increasing from very low levels: 11 in 2012, 17 in 2013, 24 in 2014, 12 in 2015, and 27 in 2016.

In the 2016 NFLIS, methamphetamine was ranked 9th in psychoactive substances seized compared with 12th in 2015. The number of items seized increased from 29 items (0.4%) to 50 items (0.9% of 5,350 items analyzed).

It is not known if the small increases in both admissions and items seized represent a growing demand or increased supply.

NEW PSYCHOACTIVE SUBSTANCES (OTHER THAN OPIOIDS)

- Few new nonopioid psychoactive substances measured in either absolute numbers or diversity were identified in drug reports for items seized by law enforcement in Wayne County, but those seized were more likely to be classified as synthetic cathinones (14 items) or piperazines (5 items) as opposed to as synthetic cannabinoids (0 items), phenethylamines (1 item), or tryptamines (1 item). When compared with national estimates, the number of items of synthetic cathinones, phenethylamines, synthetic cannabinoids, and tryptamines were fewer than expected.

- For the second year, seizures of hallucinogenic drugs including MDMA declined.

In Wayne County, 8 different new psychoactive substances other than opioids, (and 21 reports) were identified in reports from items seized and analyzed in NFLIS out of a total of 5,350 reports for 2016. In 2015, the nonopioid psychoactive substance with the most items identified was ethylone (N = 29). In 2016, however, there were only 4 reports of ethylone. In contrast, there were 5 reports of TFMPP. Of items seized and analyzed, synthetic cathinones were most common (N = 14) followed by piperazines (N = 5). Phenethylamines and tryptamines had only 1 report each. No items were identified as synthetic cannabinoids. It is not possible from the NFLIS data obtained for this report to determine the form of the synthetics seized and analyzed (e.g., sold as Ecstasy, bath salts, or mixed with other substances)

When compared with the expected number of reports from the national total, Wayne County had fewer than expected synthetic cathinones (14 vs. 43 expected), phenethylamines (1 vs. 4 expected), tryptamines (1 vs. 4 expected), and synthetic cannabinoids (0 vs. 143 expected). Only piperazines were more commonly reported than expected (5 reported vs. 3 expected). Compared with the nation, Wayne County does not seem to have the diversity or number of synthetic compounds identified when compared with other sites in the NFLIS database. This does not mean that the new psychoactive
substances are absent in the community or that those that are being distributed are safe. Furthermore, there is not a Wayne County site in the Toxicology Investigators Consortium Registry, a consortium that monitors toxicology reports in patients. This means that Wayne County relies on NFLIS for data; items seized by law enforcement and requested by the prosecutor to be analyzed were mostly cannabis, cocaine, and heroin (78.9% of drug reports in 2016).

Compared with 2015, there was a decline in the number of synthetic cathinones identified (14 vs. 37), no change in synthetic cannabinoids (0 both years), decline in piperazines (5 vs. 18), decline in phenethylamines (1 vs. 5), and slight increase in tryptamines (1 vs. 0).

OPIOIDS

- Fentanyl and carfentanil are the primary drugs of concern in Wayne County because of their sudden appearance and dramatic contribution to the 56% rise in drug overdose deaths from 2015 to 2016.

- Heroin continues to be an important drug of concern in Wayne County as measured by increasing deaths, treatments admissions, and seizures.

- Prescription opioids, excluding fentanyl and carfentanil, are increasingly found in drug overdose deaths (especially among Whites) but not as a primary drug of abuse for treatment admissions or in seizures (for 2016 there were 98 times of fentanyl or analog and 13 carfentanil items): Michigan’s prescription drug monitoring program documented that the county had a decline in dry units dispensed for total scheduled medications in 2016 compared with 2017. Data from ARCOS showed a temporal decline in hydrocodone distribution but minimal change for oxycodone since 2012. Codeine was seized and identified more than expected based on national estimates (27 items compared with expected 18 items), reflecting that Michigan ranks 3rd in total volume for codeine distribution behind California and Texas.

- Wayne County experienced a 56.4% increase in drug overdose deaths that documented fentanyl, fentanyl analogues carfentanil, and U-47700 alone and in combination in the decedents.

Heroin

The number of Wayne County drug-associated deaths with laboratory-confirmed heroin detected increased in 2016 to 334 (39.4%) from 267 in fiscal year 2015. In preliminary analysis based on 817 drug overdose deaths, heroin was listed as the cause of death in 313 or 38.2%. The month with the highest number of heroin deaths was December 2016 ($N = 43$) with more than twice as many heroin deaths as in January 2016 ($N = 20$). The people who died from heroin were mostly male (69.2%), non-Hispanic White (62.5%), and found in Detroit (56.4%). People whose deaths were caused by heroin frequently also had fentanyl as a cause of death (556.1%). Non-Hispanic Whites (mean age = 38.9) and Hispanics (mean age = 38.6) who died from heroin were younger than African Americans (mean age = 50.9) who died from heroin.
Treatment admissions with the primary drug of heroin accounted for the largest proportion of total admissions ($N = 7,726$ or 42.9%) in 2016 of any drug. Moreover, the proportion of total admissions with heroin as a primary drug of abuse is the highest in the past 5 years. The number of admissions represents an increase of 55.6% for that time period. Admissions with heroin as the primary drug of abuse were mostly male (62.2%) and aged 26 to 44 (48.5%). The proportion of treatment admissions injecting heroin was 56.3% with 41.2% inhaling the drug. Cocaine was the most common secondary drug of abuse (32.6%).

Heroin was the 3rd-ranked drug identified in reports for items seized and analyzed in NFLIS with 11.5% of total reports. This proportion is a decline from 13.5% in 2015.

**Prescription Opioids and Fentanyl**

The most dramatic findings with regard to opioids were (a) the increase in deaths caused by fentanyl, (b) the detection of carfentanil in decedents and NFLIS, and (c) the detection of U-47700 in decedents.

Of the 848 drug overdose deaths, 430 were from fentanyl (50.7%). In the preliminary analysis of 817 decedents, fentanyl caused 412 deaths (50.4%) compared with being found in 148 decedents in fiscal year 2015. The month with the high number of deaths with fentanyl was October 2016 ($N = 53$), but November ($N = 46$) and December ($N = 46$) were also elevated. People who died from fentanyl were mostly male (71.1%), non-Hispanic White (62.8%), and found in Detroit (58%). Mean age at death was 41.3 years. Other drugs listed as causes of death were heroin (41.7%) and cocaine (41.3%). Nevertheless, 18.2% died from fentanyl or an analog with no other cause of death. Fentanyl was also increasingly seized and identified in NFLIS: from 7 items in 2014 and 59 in 2015 to 90 items in 2016. Specific analogues of fentanyl reported in Wayne County were furanyl fentanyl ($N = 6$) and acetylfentanyl ($N = 2$).

Carfentanil was detected in 51 (6.2%) decedents according to the preliminary analysis of 817 decedents. More people died from carfentanil than from the combined class of amphetamine/methamphetamine (2.6%). Disturbingly, carfentanil was first detected in September and then every month until the end of 2016. People who died from carfentanil were mostly male (76.5%) and non-Hispanic Whites (60.8%) and found in Detroit (74.5%). The mean age at death was 41.8 years. There were 13 reports of carfentanil in NFLIS, more than for morphine ($N = 12$) but less than the combined number of synthetic cathinones ($N = 14$).

U-47700 was not reported to NFLIS in 2016. Nonetheless, at least 15 people died from U-47700 in 2016. Of the 15 decedents, 10 were male, 10 were non-Hispanic Whites, and 10 were found in Detroit. The age of death ranged from 22 to 64 with a mean age of 42.7. The people who died from U-47700 also frequently had fentanyl and/or carfentanil listed as a cause of death ($N = 14$). The one decedent with U-47700 as a cause of death without fentanyl or carfentanil had cocaine also listed as a cause of death.

Prescription opioids other than fentanyl and carfentanil caused 210 deaths (25.7% of the preliminary 817 deaths available for analysis) in 2016. Of those deaths, 56 listed morphine or “opiates” as a cause of death. The remaining death certificates listed specific opioids besides morphine. Among the 210 deaths, most were male (60.5%), non-Hispanic Whites (68.6%) and found outside of Detroit (58.1%).
age at death was 43.7 years. In statistical analysis using dichotomous coding of individual causes of death, decedents with these other opioids were more likely to also have benzodiazepines as a cause of death; 24.3% of deaths with prescription opioids as a cause of death also had benzodiazepines as a cause of death. The deaths caused by prescription opioids were statistically less likely to also have fentanyl, cocaine, or heroin as a cause of death.

Prescription opioids as the primary drug of abuse ranked 5th in treatment admissions \( (N = 992 \text{ or } 5.5\%) \) of admissions. The proportion of total admissions with prescription opioids as the primary drug of abuse has stayed fairly constant since 2013 although the absolute number has increased. It is the only primary drug of abuse with almost equal gender representation (50.1% female). Similar to many other drugs of abuse, the age group 26 to 44 accounted for the majority of admissions (58.8%). The most common secondary drug of abuse was benzodiazepines (21.5%).

In the NFLIS database, hydrocodone is the most common prescription medication identified in reports for items seized and analyzed. For Wayne county, hydrocodone was ranked 5th (same as 2016) with 126 items (2.4%) and oxycodone was ranked 6th with 108 items (2.0%). Pharmacists anecdotally report that generic oxycodone immediate release is the most frequently diverted opioid. Nevertheless, NFLIS does not report on packaging of substances analyzed. Codeine was seized and identified more than expected based on national estimates (27 compared with expected 18 items).

The number of scheduled prescription units (dry units, including pills, patches, and lozenges and excluding liquids) dispensed increased from 2007 to 2015 but declined in 2016 for both Michigan and Wayne County. The decline was consistent across all schedules, from Schedule II to Schedule IV medications. Although there had been declines in separate schedules before, it was the first time since the electronic prescription drug monitoring program was implemented that there was a decline across all schedules. When examined as the number of opioid prescriptions filled (not units), there was an increase from 2014 to 2015; data for 2016 are not available. Also the CDC’s comparison of morphine milligram equivalent (MME) per capita for 2010 and 2016 saw stable prescription dispensing for Wayne County: 796.6 to 801.5 MME per capita. For the 2,734 counties with data, Wayne County ranked 1,234 in 2010 and 1,015 in 2015.

Per ARCOS records for 2010 to 2016, the ranking of Michigan for total weight of medication distributed did not show major changes across select medications with the exception of hydrocodone that moved to number 2 (behind California) Yet, when the total grams of hydrocodone by year in Michigan was examined, there was a numeric decline in grams for 2016 compared with 2015, suggesting that the upward movement in ranking meant that other states showed greater declines.

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**Local Research Highlights**

In response to the rise in deaths attributed to fentanyl, we assessed the prevalence and characteristics of methadone-maintained patients who tested positive for fentanyl as part of routine clinical monitoring by conducting a retrospective chart review of all clients at one clinic between January 2015 and May
This time period was chosen as fentanyl was added to urine drug screens (UDS) in January 2015. To assist in interpreting the results, 113 patients in the clinic during August 2016 completed an anonymous survey. Of the 368 unique patients with at least one UDS between January 2015 and May 2016, 38.0% had at least one and 26.1% had multiple fentanyl-positive UDS results. None of the patients had a fentanyl prescription. Patients ever testing positive for fentanyl were more likely to have cocaine listed as a secondary or tertiary drug of abuse at admission \((p = .034)\), have shorter stays in treatment \((p < .001)\), and have multiple treatment admissions to the clinic \((p = .012)\). Fentanyl-positive UDS results commonly occurred concurrently with cocaine- and heroin-positive UDS results. Of the anonymously surveyed patients, most (67.3%) reported they did not know anyone seeking fentanyl, a proportion significantly higher than for heroin, cocaine, alprazolam, hydrocodone, or morphine. We concluded that fentanyl was commonly detected during this period with some patients having multiple positive UDS. Although most patients did not know anyone seeking to obtain it, the characteristics of the patients with fentanyl-positive UDS suggest that clinics need to address this high-risk group through naloxone training and distribution (Arfken et al. 2017).

The rapid rise of drug overdose deaths also sparked concern that Wayne County was seeing a repeat of an earlier fentanyl epidemic. That epidemic was attributed to people seeking heroin but finding fentanyl-contaminated heroin instead with the peaks of deaths occurring in 2006. In graphing the drug overdose deaths from 1999 to 2015 using data from CDC WONDER, the rate of drug overdose deaths in 2015 (32.8 per 100,000) clearly exceeds the rate that occurred during the height of the epidemic (17 per 100,000 in 2006). With the closure of the illegal fentanyl production lab in Mexico in 2006, it was expected that the drug overdose death rate would decline. Between 2006 and 2012, however, the drug overdose death rate was fairly stable (16.5 per 100,000 in 2012). As Wayne County is approximately 50% non-Hispanic White and 40% African American, the race-specific drug overdose death rates were then explored. The graph shows similar death rates by race prior to the first epidemic (2000–2002). Starting in 2003, however, the rates for non-Hispanic Whites diverge and are consistently higher than those for African Americans. The divergence is especially evident during the period of 2006 to 2012 when the death rate for non-Hispanic Whites fluctuates (from 20.3 in 2006 to 22.1 in 2012) but declines for African Americans (13.7 to 10 per 100,000 in 2016). For both races, the drug overdose death rates increases rapidly from 2013 onward with the rate almost twice as high for non-Hispanic Whites (42.5 per 100,000) as for African Americans (22.3 per 100,000). The lower rate for African Americans for drug overdose deaths is not generalized to other substance-abuse related deaths. For alcohol-related deaths, there is no clear racial difference. In contrast, for HIV-related deaths, African Americans were disproportionately represented although the death rate is declining. More attention needs to be paid to race-specific deaths rates locally to inform prevention activities.

Infectious Diseases Related to Substance Use

There have been no reports of outbreaks in infectious diseases specifically linked to injecting drug use. People known to abuse drugs were included in the ongoing spike of Hepatitis A cases in the tri-county metropolitan Detroit area but were not reported to be the cause of it. Between August 2016 and May
2017, there were 12 reported cases in Wayne County compared with fewer than 5 cases per year usually.

As of July 2016, there were an estimated 17,660 people living in Michigan with diagnosed HIV infection for a rate of 153.2 per 100,000 using the new method of estimating cases. Nevertheless, there was a decline in prevalence of people living with HIV, a decline attributed to emigration. Overall, risk groups for the prevalent cases include men who have sex with men (MSM) (52%), heterosexual contact (19%), injection drug use (IDU; 8%), MSM/IDU (4%), perinatal (1%), and undetermined (16%). The age groups with the most prevalent cases were 50–59 years (29%), 40–49 years (24%), and 30–39 years (17%). African Americans were most impacted (57%) followed by Whites (34%). More than half (54%) of the prevalent cases live in Wayne County (n = 7,940) for a rate of 450 per 100,000. Within Wayne County, Detroit is home for 5,630 prevalent cases for a rate of 719 per 100,000. The HIV infection-related deaths per 100,000 is much higher for African Americans than for Whites, both for Michigan and for Wayne County but has declined from 15.2 per 100,000 for African Americans in 1999 to 5.2 per 100,000 in 2015. Among the people who inject drugs and are living with HIV infection, 56% had viral suppression (the goal is 80%).

As of July 2016, there were 735 new cases of HIV infection for a rate of 7.4 per 100,000. Similar to the prevalence data, African Americans (62%) and males (81%) were disproportionately represented. In fact, African American males accounted for almost half of the new cases (49%). Risk groups for infection were MSM (56%), undetermined (23%), heterosexual contact (16%), IDU (3%), and MSM/IDU (2%) with 1 perinatal case. The new cases in Michigan disproportionately lived in Detroit (32%) and outside of Wayne County (12%).

There were 61 new acute cases of Hepatitis B in 2015, which is a rate of 0.6 per 100,000. This rate increased slightly from 2014 but is below the national rate of 1.0 per 100,000. The new cases did not differ by gender (50% female and 50% male) but were predominately White (62%) with a mean age of 46. There were 1,076 new chronic Hepatitis B diagnoses in Michigan in 2015 for a rate of 10.89 per 100,000 people with a predominance of males (59.9%) and Asian Americans (88.80 per 100,000).

There were 84 new acute Hepatitis C infections across Michigan in 2015 for a rate of 0.85 per 100,000. This rate is higher than those reported in 2013 (0.75) and 2014 (0.77). Cases are still being followed from 2013, but injection drug use was reported by 61% of acute Hepatitis C cases. There were 7,833 new chronic Hepatitis C cases in 2015 for a rate of 79.25 per 100,000, which was a slight decline from 2014. The rate is twice as high among men (100.51) compared with women (58.44). The rate is also higher among American Indians and Alaskan Natives (157.32) and African Americans (97.13) than among the general population. Injection drug use was a risk factor for 66% and incarceration for 12%. No information is published on the rates by county. Importantly, since 2005, the number of cases among persons 18–29 years of age increased by more than 302%. For this age group, 86.7% reported injection drug use.
Specific recent policies affecting drug use include the statewide approval of medical marijuana (2008), centralizing of regulations of medical marijuana within the Bureau of Medical Marihuana Regulation with new statutory requirements of facility licensing and regulation (2017), expansion of Good Samaritan laws (2016), standing order preauthorizing the distribution of naloxone by pharmacists (2017), and release of an updated prescription drug monitoring program (2017). There is currently an initiative collecting signatures to place on the November 2017 ballot the legalization of recreational marijuana use by adults.

Other policies impacting drug abuse include the Michigan Prescription Drug and Opioid Abuse Task Force releasing its recommendations (2015), which included updating (now completed) and requiring providers to use of the prescription monitoring system (currently in the legislature). In 2014, substance abuse was added to the mental health law as a possible cause for involuntary treatment. Also signed into law was the requirement that all first-responders in the state be required to be trained in the use of naloxone in 2014.

At the local level, several municipalities have decriminalized possession of small amounts of marijuana, including Detroit in 2012. Dispensaries of medical marijuana are subject to local zoning ordinances. In Detroit, dispensaries or Medical Marihuana Caregiver Centers (MMCCs) are currently only allowed in select areas and they must obtain a business license. In 2017, there were 5 MMCCs approved and 147 applications awaiting approval; 172 dispensaries operating prior to the change in ordinance were closed.

In Wayne County, naloxone training began in 2016 for first-responders and then expanded to the community with the Detroit Wayne Mental Health Authority (entity responsible for public funding of behavioral health in Wayne County) providing training and naloxone kits. The Detroit Wayne Mental Health Authority also expanded permanent drug take-back sites to 46 police stations across the county. Additionally, the Detroit Wayne Mental Health Authority trained providers at all methadone-maintenance treatment centers to administer long-acting naltrexone and encouraged them to offer buprenorphine as a way to expand medication-assisted treatment capacity.

Michigan was one of the states that expanded Medicaid, which allowed for an increase in the number of people entering drug treatment. This expansion was reflected in the overall increase in treatment admissions data provided in this profile. In addition, the integration of substance abuse services with mental health services included the use of a common admission form that started in fiscal year 2015.
Exhibits

Exhibit 1. Total Number of Controlled Medication Units Dispensed by Schedule, Wayne County: CY 2014-2016

Exhibit 2. Opioid Prescriptions Dispensed in Wayne County: CY 2009-2015
Exhibit 3. Age-Adjusted Death Rates from Alcohol-Induced Causes in Wayne County by Race: 1999-2015

Exhibit 4. Drug Overdose Deaths per 100,000 Residents for Wayne County, by Race
Exhibit 5. Percentage of Deaths Caused by Select Classes of Drugs

Exhibit 7. Wholesale Distribution of Prescription Opioids: Michigan’s Ranking from 2010-2016

Exhibit 9: Percentage of Total NFLIS Reports from Drugs Seized and Analyzed, Wayne County, Michigan, and Nation, 2016

<table>
<thead>
<tr>
<th>Ranking (Wayne County)</th>
<th>Drug Identified</th>
<th>Wayne County (N = 5,350)</th>
<th>State of Michigan (N = 27,631)</th>
<th>Nation (N = 1,452,594)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cannabis</td>
<td>49.6%</td>
<td>42.5%</td>
<td>24.7%</td>
</tr>
<tr>
<td>2</td>
<td>Cocaine</td>
<td>17.8%</td>
<td>13.8%</td>
<td>13.9%</td>
</tr>
<tr>
<td>3</td>
<td>Heroin</td>
<td>11.5%</td>
<td>10.1%</td>
<td>11.5%</td>
</tr>
<tr>
<td>4</td>
<td>Alprazolam</td>
<td>2.9%</td>
<td>2.7%</td>
<td>3.3%</td>
</tr>
<tr>
<td>5</td>
<td>Hydrocodone</td>
<td>2.4%</td>
<td>3.2%</td>
<td>1.6%</td>
</tr>
<tr>
<td>6</td>
<td>Oxycodone</td>
<td>2.0%</td>
<td>1.2%</td>
<td>2.5%</td>
</tr>
<tr>
<td>7</td>
<td>Fentanyl</td>
<td>1.7%</td>
<td>1.3%</td>
<td>2.4%</td>
</tr>
<tr>
<td>8</td>
<td>Amphetamine</td>
<td>1.0%</td>
<td>1.6%</td>
<td>0.8%</td>
</tr>
<tr>
<td>9</td>
<td>Methamphetamine</td>
<td>0.9%</td>
<td>6.2%</td>
<td>21.5%</td>
</tr>
<tr>
<td>10</td>
<td>Codeine</td>
<td>0.5%</td>
<td>0.4%</td>
<td>0.2%</td>
</tr>
<tr>
<td>11</td>
<td>Buprenorphine</td>
<td>0.5%</td>
<td>1.2%</td>
<td>1.2%</td>
</tr>
<tr>
<td>(17)</td>
<td>Morphine</td>
<td>0.2%</td>
<td>1.1%</td>
<td>0.4%</td>
</tr>
</tbody>
</table>

Notes: Excludes reports of “No controlled drug identified.” Up to 3 reports are recorded per item analyzed.
Data Sources

Data for this report were drawn from the following sources:

**Treatment admissions** data were provided by the Performance Measurement and Evaluation Section of the Division of Quality Management and Planning in the Bureau of Behavioral Health and Developmental Disabilities, Michigan Department of Health and Human Services, for those clients whose treatment was covered by Medicaid or Block Grant funds. The data therefore underestimate the total number of people receiving treatment because they do not include treatment paid by cash or covered by private insurance. Additionally, the data do not include admissions funded by the Michigan Department of Corrections. For Wayne County data, records are pulled from Behavioral Health electronic records. The data contained an unexpectedly high percentage of two or more races. Therefore, data on treatment admissions by race are not included in the report.

**Data on drug reports among drug items seized** in Wayne County and the State of Michigan and analyzed were provided by the National Forensic Laboratory Information System (NFLIS) for calendar year 2016 as reported in May 2017. The total reports include primary, secondary, and tertiary substances detected. The totals are preliminary and subject to change.

**Numbers of prescriptions filled in the state of Michigan** were provided by the Michigan Department of Licensing and Regulatory Affairs.

**Numbers of people certified to use medical Marijuana** were provided by the Michigan Department of Licensing and Regulatory Affairs.

**Drug-related infectious disease** data were provided by the Michigan Department of Health and Human Services on human immunodeficiency virus (HIV) and hepatitis.

**Numbers of accidental drug-associated deaths** for Wayne County were provided by the Office of the Medical Examiner (Wayne County). The numbers reported for the total closed cases were reported publicly in May 2017 and for provisional data from February before all cases had been closed. The Office of the Medical Examiner changed how they completed the death certificates by moving to list all drugs detected as causes of death.

**Drug poisoning death** data are from the Centers for Disease Control and Prevention (CDC)’s online WONDER database (http://wonder.cdc.gov/).


*Contact Information: For additional information about the drugs and drug use patterns discussed in this report, please contact Cynthia L. Arfken, Ph.D., Professor, Wayne State University, Department of Psychiatry and Behavioral Neurosciences, 3901 Chrysler Service Drive, Tolan Park Medical Building, Detroit MI 48207, Phone: 313–993–3490, Fax: 313–577–8823, E-mail: cynthia.arfken@wayne.edu.*