Common Ground Health

ISSUE BRIEF

Opioid Abuse and Overdoses Rise Dramatically

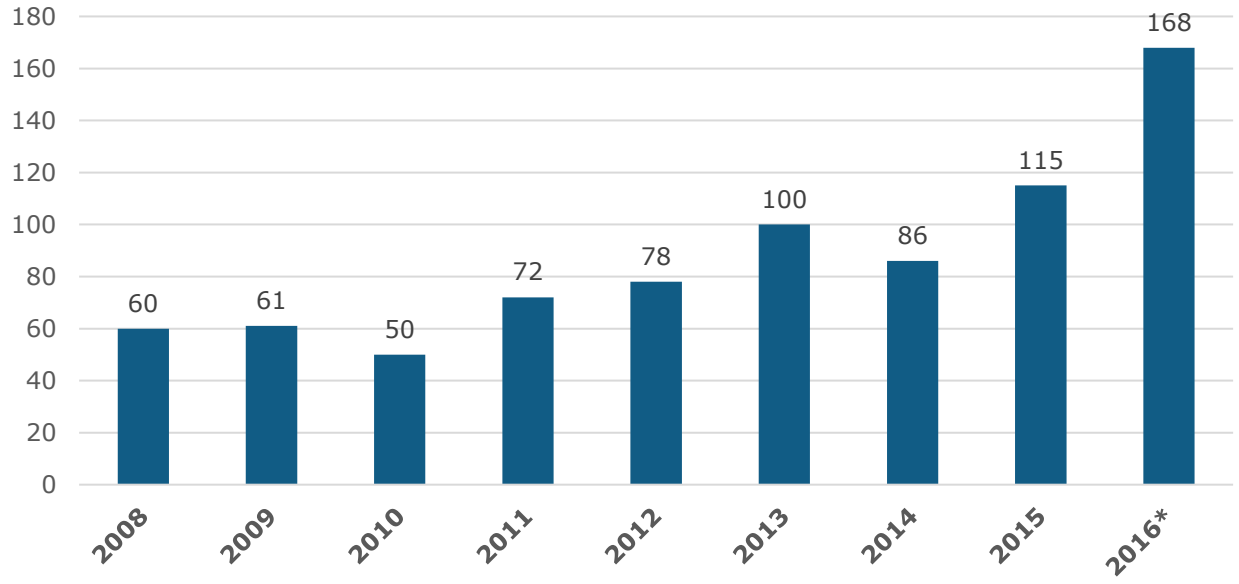
Fall 2017

The opioid epidemic continues to have a large and growing impact across the nation and within the Finger Lakes region. Previous reports and anecdotal data have suggested an increase in overdose admissions and emergency department (ED) visits over the past several years. Now, newly available data from the NYS Department of Health confirms that opioid abuse and overdoses spiked sharply from 2015 to 2016. This issue brief explores that increase through analyses of overdose mortality, hospital visits and history of prescription drug use in our region.

Our data demonstrate a consistent message: the epidemic continues to touch our community regardless of patient geography, age, or racial and ethnic background.

Among the most profound concerns of drug abuse is the imminent fear of overdoses and premature death. Vital Statistics data have confirmed that deaths from heroin and other opioids have greatly increased over the past several years (Figure 1).

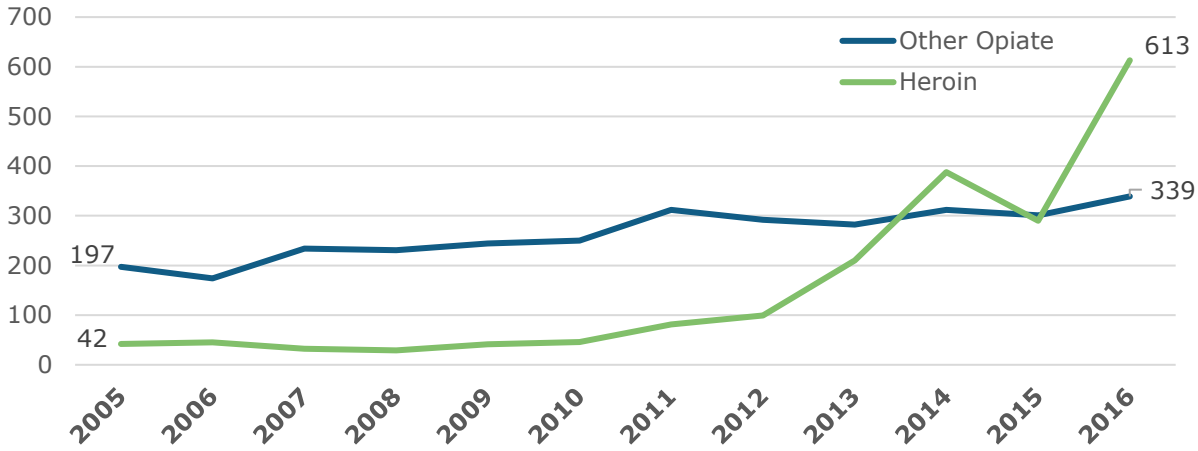
Figure 1: Overdose Deaths Involving Opioids



Source: NYSDOH Vital Statistics 2008-2016 for nine county Finger Lakes region. *2016 data are preliminary.

Local hospital admissions and ED visits provide additional clear evidence of the epidemic in the Finger Lakes region. Heroin overdoses have risen alarmingly in the last few years, reaching 613 in 2016, more than 13 fold higher than in 2005. Other opioid overdoses (excluding heroin, but including fentanyl) increased 72 percent from 2005, with 339 cases in the region (Figure 2).

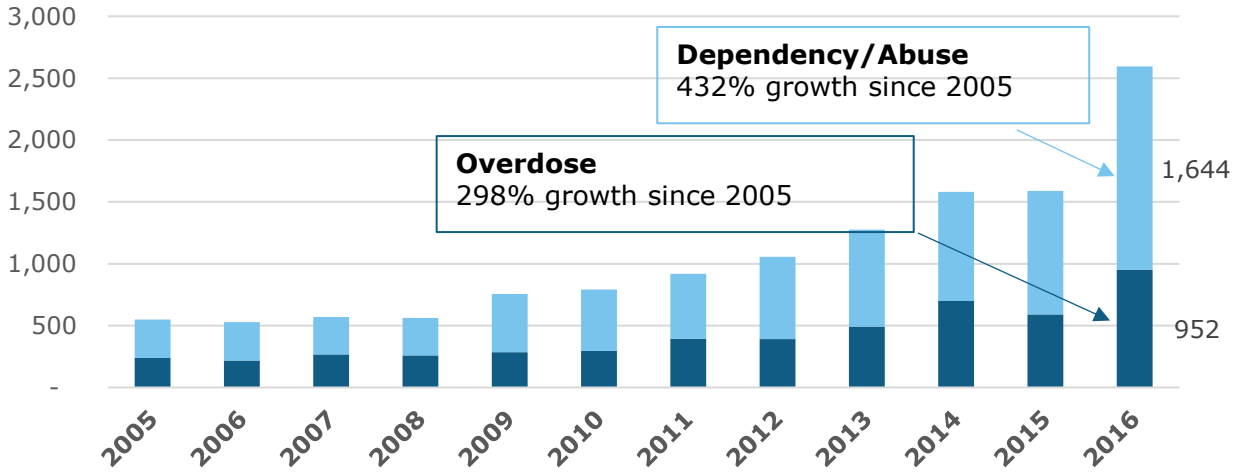
Figure 2: Opioid Overdoses (ED & Inpatient)



Source: NYSDOH Statewide Planning and Research Cooperative System (SPARCS) for nine county Finger Lakes region.

Overdose statistics alone, however, understate the magnitude of the opioid problem. There are increasing numbers of patients in the ED and hospital that are exhibiting signs of opioid abuse or dependence, but without the immediate acute symptoms of an overdose. These are people facing near-term challenges of living with addiction, and they also have an elevated risk of overdose in the future. As Figure 3 shows, in 2016 the number of dependency/abuse ED and inpatient visits is higher than overdoses (1,644 versus 952). And, the rate of growth is also higher – since 2005, visits with dependency/abuse diagnoses increased 432 percent, while overdose visits grew 298 percent.

Figure 3: Opioid Driven ED & Inpatient Visits



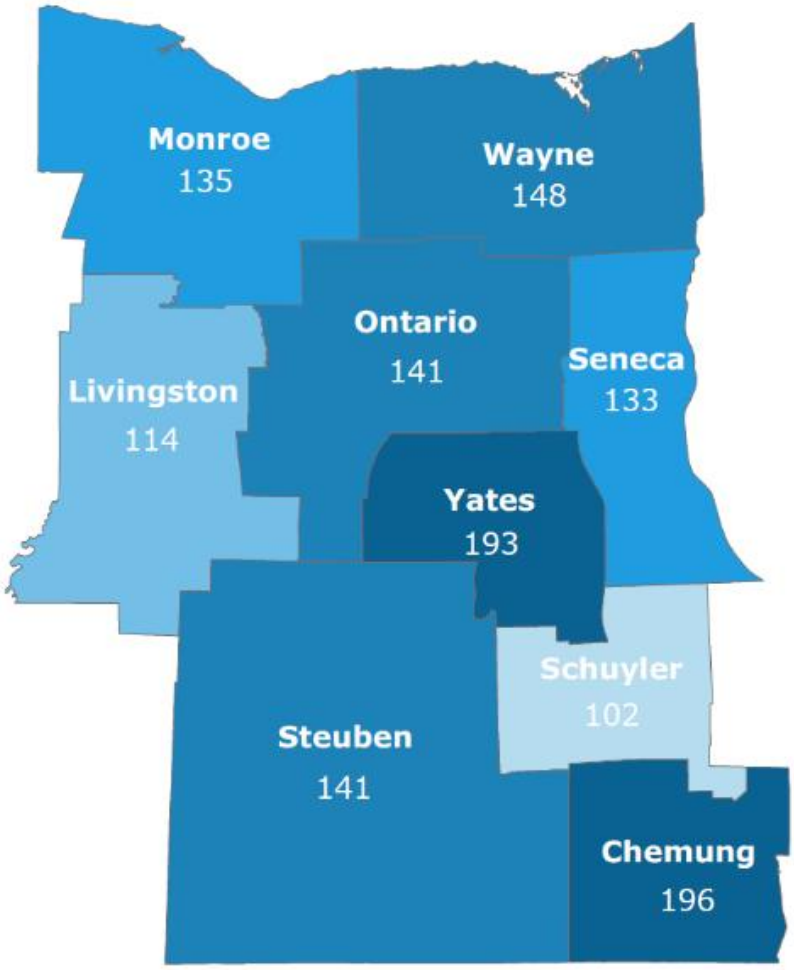
Source: NYSDOH SPARCS for nine county Finger Lakes region. See appendix for definitions of overdose, abuse and dependency.

Opioid epidemic impacts all demographics and locations

Among the ED driven opioid overdose and abuse cases, our data demonstrate a consistent message: the epidemic continues to touch residents regardless of geography, age, or racial and ethnic background. The rates of opioid driven ED visits have grown across all counties in our region. We see some of the highest rates of in our rural communities, including Chemung and Yates County (Figure 4).

Figure 4: 2016 Opioid Driven ED Visit Rates

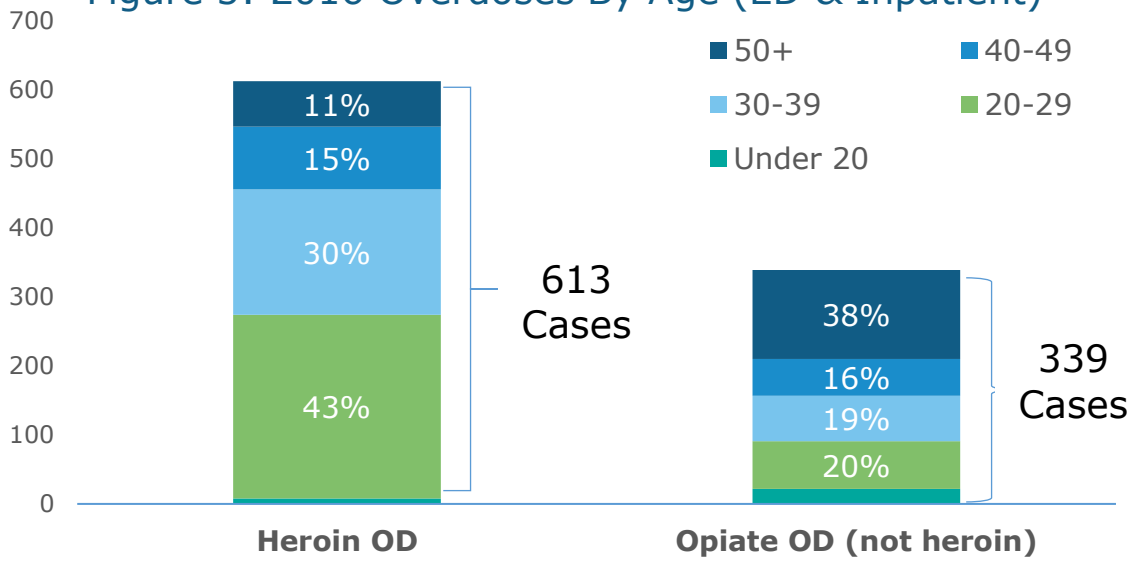
per 100,000 population



Source: NYSDOH SPARCS includes overdoses and abuse/dependence diagnoses.
Age/sex adjusted rates calculated by Common Ground Health.

Figure 5 shows that overdoses span a broad age range, although there is a notable difference in age mix between heroin and other opioid overdoses. In the Finger Lakes region, 73 percent of heroin overdoses are in the 20-39 age group, while the majority (54 percent) of non-heroin opioid overdoses are aged 40+.

Figure 5: 2016 Overdoses By Age (ED & Inpatient)

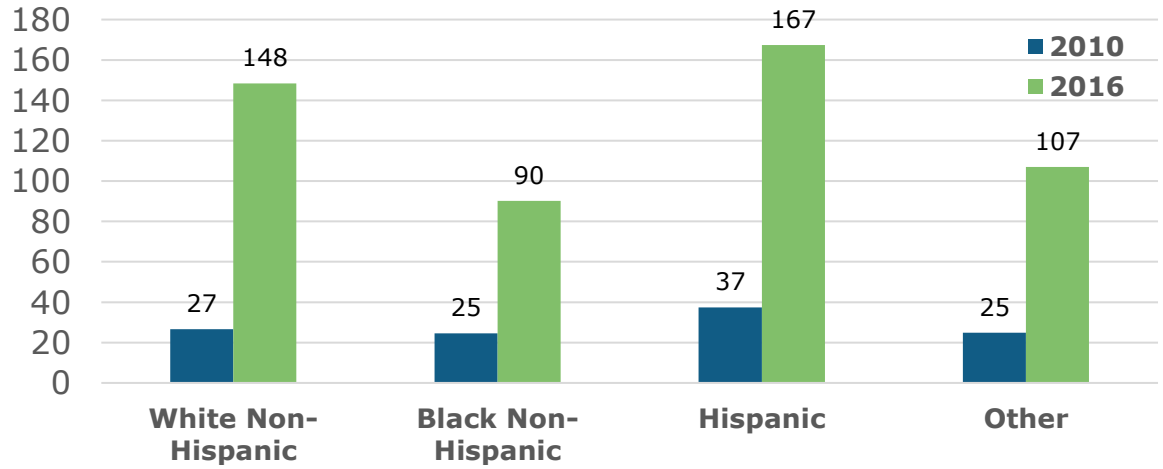


Source: NYSDOH SPARCS for nine county Finger Lakes region.

In addition, as seen in Figure 6, opioid driven ED visits have greatly increased for all racial and ethnic groups, particularly for Hispanic and white non-Hispanic populations.

Figure 6: Opioid-Driven ED Visit Rates

per 100,000 population by race/ethnicity



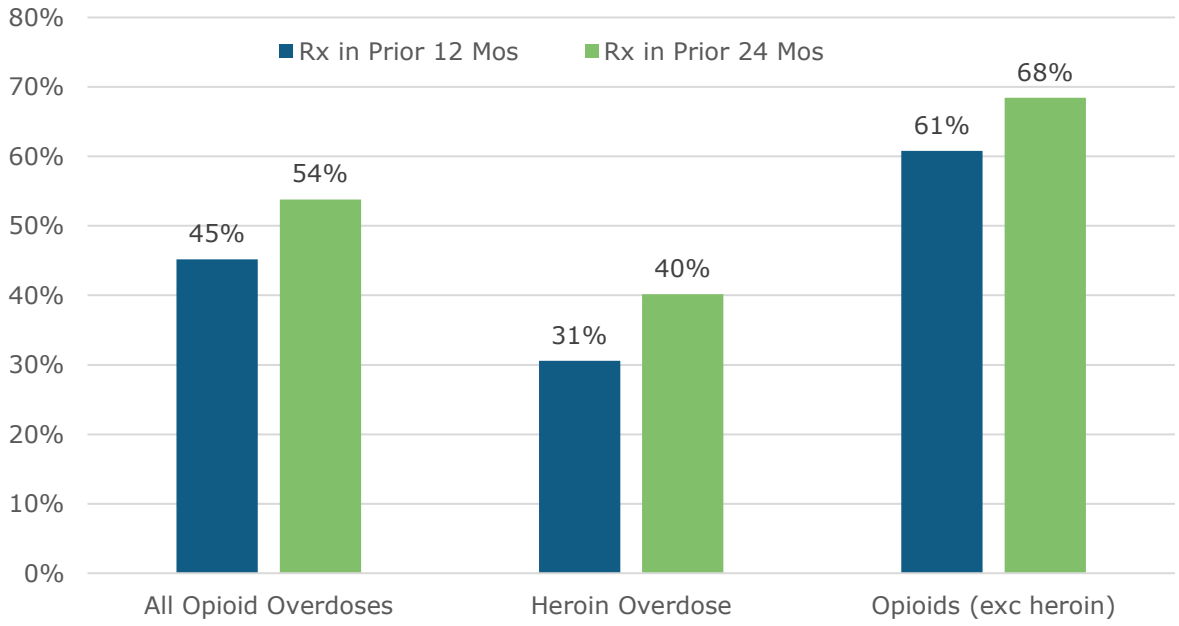
Source: NYSDOH SPARCS for nine county Finger Lakes region includes overdoses and abuse/dependence diagnoses. Age/sex adjusted rates calculated by Common Ground Health.

Risk of opioid prescriptions

The public health community has a general understanding that opioid pain medications come with some risk of future abuse and addiction. Research has shown that opioid overdoses have grown in parallel with the rise of opioid prescriptions. Analysis of anonymized patient-level data show the significant relationship between prescriptions and subsequent overdoses in the Finger Lakes region.

For patients who have overdosed, nearly half (45 percent) had filled an opioid prescription within the prior 12 months (Figure 7). Notably, this is double the opioid prescription rate for the population in general (Figure 9). Even for heroin overdose cases, nearly one-third of patients (31 percent) had an opioid prescription in the past 12 months. For non-heroin opioid overdoses, 61 percent of the cases received a prior prescription (Figure 7). A longer 24-month window may be more relevant, especially for heroin overdoses given the longer pathway from prescribed opioids to illegal heroin. Forty percent of heroin overdoses involved patients who had been prescribed opioids within prior two years.

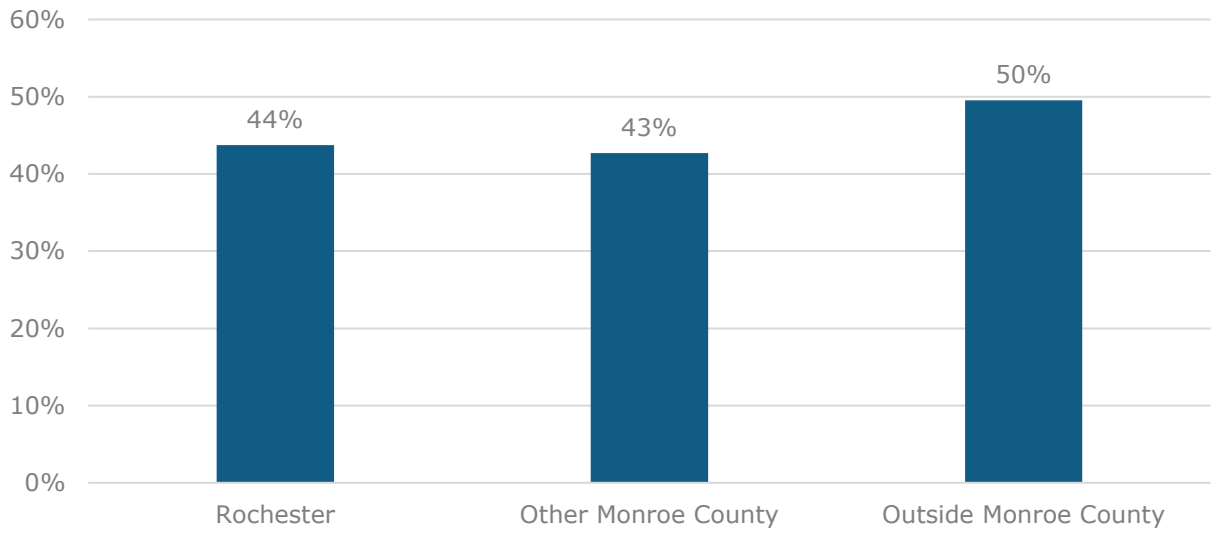
Figure 7: Percent of Overdoses (ED & Inpatient) with Prior Opioid Prescription



Source: Common Ground Health Multi-Payer Claims Database[2].
Analysis based on overdoses occurring in 2014-2016.

We had similar findings across all geographies. The relationship between overdoses and prior opioid prescriptions is strong and consistent across all communities: urban, suburban and rural. (Figure 8).

Figure 8: Percent of Overdoses (ED & Inpatient) with Opioid Rx in Prior 12 Months



Source: Common Ground Health Multi-Payer Claims Database[2].
Analysis based on overdoses occurring in 2014-2016.

In July, the Centers for Disease Control and Prevention published a report that showed a recent decline in the amount of prescribed opioids. The data from 2015 showed that the overall volume of prescribed opioids had declined 18 percent from its peak to 640 morphine milligram equivalents (MME) per capita. However, while good news, the lower level in 2015 was still more than 3 times 1999 levels.[1]

The Finger Lakes region experienced a similar decline. (Figure 9) In 2016, 20.3 percent of the patients represented in the Common Ground Health multi-payer claim database[2] had a pharmacy claim for an opioid prescription, down from the peak in the prior two years. While this dataset does not extend back as far as the CDC analysis, it is understood that even at the decreased 2016 level, opioid prescriptions are far more common than they were in prior decades.

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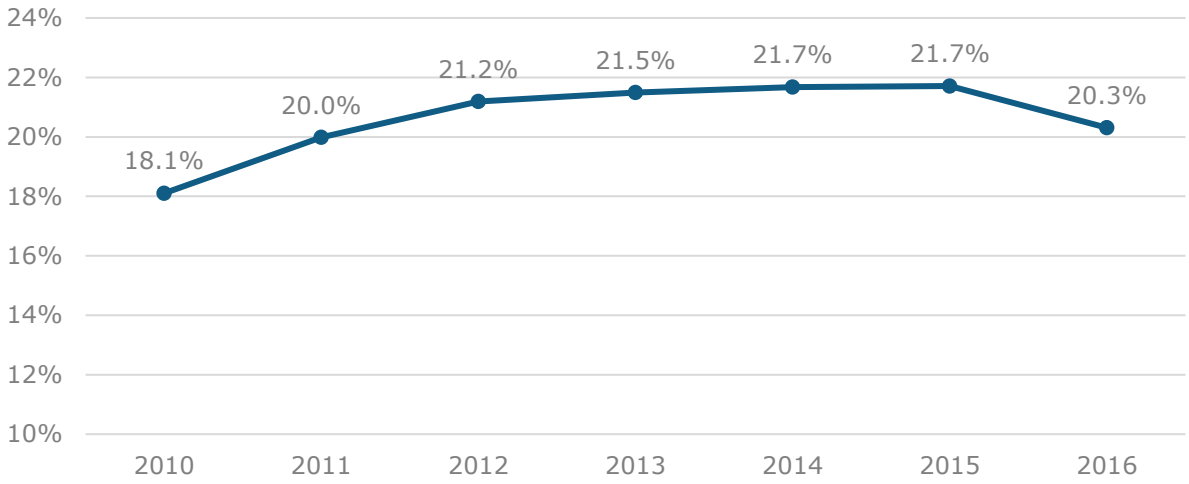
[1] Guy GP Jr., Zhang K, Bohm MK, et al. Vital Signs: Changes in Opioid Prescribing in the United States, 2006–2015. MMWR Morb Mortal Wkly Rep 2017;66:697–704. DOI: http://dx.doi.org/10.15585/mmwr.mm6626a4

[2] Common Ground Health multi-payer claim database is a database containing the majority of the region's insured population including commercial, managed Medicaid and Medicare advantage claims. The dataset does not include the uninsured or those covered by Medicaid or Medicare fee-for-service.

Figure 9: Percent of Adult Population with Opioid Prescription



Source: Common Ground Health Multi-payer Claims Database.

The stabilization and then decline in prevalence of opioid prescriptions is likely driven in part by New York State Department of Health's I-STOP Prescription Monitoring Program. Implemented in August 2013, this program requires providers to check prescription histories of patients before prescribing a narcotic.

Other efforts to stem the opioid epidemic are led by our local public health and mental hygiene departments, hospitals, police departments and community based organizations. For example, the Open Access Clinic in Monroe County is now open to help drug users get into care. Launched in November 2017, the clinic offers addiction treatment without an appointment and is open evenings and weekends (currently, 4 p.m.-10 p.m. on weekdays and 10 a.m.-10 p.m. on weekends).

In addition, several local agencies conduct community trainings for administering Naloxone, an opioid antagonist used to reverse opioid overdoses. New prescription drop-off boxes throughout our communities also allow residents to safely dispose of unused or unwanted medications.

To learn more about these and other efforts to address addiction and abuse, contact your local public health department at https://www.health.ny.gov/contact/contact_information/.

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Appendix 1: Analysis Sources and Methodology

Measure	Source	Diagnosis/E Codes
Figure 1: Overdose Deaths Involving Opioids	NYSDOH Vital Statistics	Underlying cause of death: X40-X44, X60-X64, X85, Y10-Y14 AND Any opioid in all other causes of death: T40.0, T40.1, T40.2, T40.3, T40.4, T40.6
Figure 2: Opioid Overdoses (ED & Inpatient) – Heroin	NYSDOH SPARCS Inpatient and Outpatient	ICD-9-CM: Principal Diagnosis: 96501 OR First-listed External Cause of Injury: E8500 ICD-10-CM: Principal Diagnosis: T40.1 (Excludes 'adverse effect' or 'underdosing' as indicated by the values of 5 and 6 in the 6th character)
Figure 2: Opioid Overdoses (ED & Inpatient) – Other Opiate (including fentanyl)	NYSDOH SPARCS Inpatient and Outpatient	ICD-9-CM: Principal Diagnosis: 96500, 96502, 96509 OR First-listed External Cause of Injury: E8501, E8502 ICD-10-CM: Principal Diagnosis: T40.0, T40.2, T40.3, T40.4, T40.6 (Excludes 'adverse effect' or 'underdosing' as indicated by the values of 5 and 6 in the 6th character)
Figure 3: Opioid Driven ED & Inpatient Visits	NYSDOH SPARCS Inpatient and Outpatient	Overdoses identified with codes listed for Figure 2. This chart also includes visits with dependency and abuse diagnosis codes listed below. ICD9 – Principal diagnosis codes underneath 304.0, 304.7, 305.5 ICD10 – Principal diagnosis codes underneath F11
Figure 4: 2016 Opioid Driven ED Visit Rates by County per 100,000 population	NYSDOH SPARCS Outpatient; US Census Data	ED Visits identified using overdose and dependency/abuse diagnosis codes listed for Figures 2 & 3. Rates are age-sex adjusted to reflect 2010 national age distribution.
Figure 5: 2016 Overdoses by Age (ED & Inpatient)	NYSDOH SPARCS Inpatient and Outpatient	Same definitions as Figure 2.
Figure 6: Opioid Driven ED Visit Rates by Race/Ethnicity per 100,000 population	NYSDOH SPARCS Outpatient; US Census Data	Same methodology as Figure 4.
Figure 7: Percent of Overdoses (ED & Inpatient) with Prior Opioid Prescription	Common Ground Health Multi-Payer Claims Database	Identified all ED and Inpatient admissions with primary or secondary diagnosis code indicating opioid overdose. Same diagnosis codes as Figure 2. Each of those admissions was checked to see if patient had a pharmacy claim for an opioid prescription in the prior 12 or 24 months. (Excluding methadone and buprenorphine for treating addiction)

Appendix 1: Analysis Sources and Methodology (Continued)

Figure 8: Percent of Overdoses (ED & Inpatient) with Opioid Rx in Prior 12 Months	Common Ground Health Multi-Payer Claims Database	Same methodology as Figure 7, segmented by patients' location of residence.
Figure 9: Percent of Adult Population with Opioid Rx	Common Ground Health Multi-Payer Claims Database	Numerator: Count of insured members (18 years and older) with at least one opioid pharmacy claim in given year. (Excluding methadone and buprenorphine for treating addiction) Denominator: Number of insured members (18 years and older) at the end of given year.