



The Opioid Epidemic: A Madison County, NY Perspective



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Executive Summary

This report provides a snapshot describing the current state of the opioid epidemic in Madison County, New York. Annually updating this report can help identify trends and offer insight into the effectiveness of local, state, and national prevention activities. The goal of this report is to help guide and inspire conversations about actions, initiatives, and policies aimed at reducing the burden of opioids within our community. Some key points outlined in the report include:

- Opioid-related overdose deaths remain an issue among Madison County residents.
- On a national and state-level, synthetic opioids (e.g. fentanyl) have surpassed prescription opioids in terms of opioid-related overdose deaths.
- Both hospitalizations and emergency department visits related to opioid overdoses have decreased since 2016 in Madison County.
- Opioid prescribing has slowly been decreasing over the past few years.
- The amount of opioid-related arrests in the county have increased, while child neglect reports related to opioid/heroin has decreased slightly.
- There has been a substantial increase in treatment program admissions for opioid use among Madison County residents.
- County initiatives, such as the Madison County Medication Collection Program, have been successful, and others continue to be implemented.

Background

According to the Centers for Disease Control and Prevention (CDC), opioids, including prescription opioid pain relievers (e.g. Hydrocodone and Oxycodone) and heroin, continues to be the main culprit of drug overdose deaths. In 2017, opioids killed more than 47,000 people. This is more than any other year on record. Since 1999, the annual number of overdose deaths involving opioids has increased nearly 6-fold. It is estimated that 130 people die every day from an opioid overdose. The economic burden of prescription opioid overdose, abuse, and dependence is estimated to be \$95 billion each year in the United States.

The amount of prescription opioids sold to pharmacies, hospitals, and doctors' offices almost quadrupled from 1999-2010. However, studies during that same time period did not show there was a change in the amount of pain that Americans reported. The CDC estimates that nearly 2 million Americans abuse, or are dependent on prescription opioids. Everyday, more than 1,000 people are treated in emergency departments across the country for misusing prescription opioids.

The epidemic continues to evolve, and new threats have emerged. For example, the illegal manufacturing of Fentanyl, a synthetic opioid that is added to or sold as heroin. This substance has contributed to the rising number of fatal and non-fatal drug overdoses, due to Fentanyl's high potency, which is 50 to 100 times more potent than morphine or any other opioids. Recently, Fentanyl has been mixed with powdered heroin as well as cocaine, or pressed into counterfeit pills that resemble OxyContin and other prescription drugs. It has also been found in other illicit drugs, such as marijuana.

The opioid overdose epidemic in the United States is unlike any drug-related epidemic ever seen. It is a pervasive problem that spans across socio-economic, cultural, and geographic boundaries. Its effects ripple across all aspects of our society.

The Heart of the Epidemic

Overdose Deaths

The 18-year increase in deaths from opioid overdoses across the country is dramatic (Figure 1). The rate of overdose deaths from synthetic opioids, including fentanyl, have surpassed both prescription opioids and heroin. It is even more troubling to know that for about 1 in 5 drug overdose deaths, no specific drug is listed on the death certificate. Meaning, the total number of opioid-related overdose deaths remains underestimated.

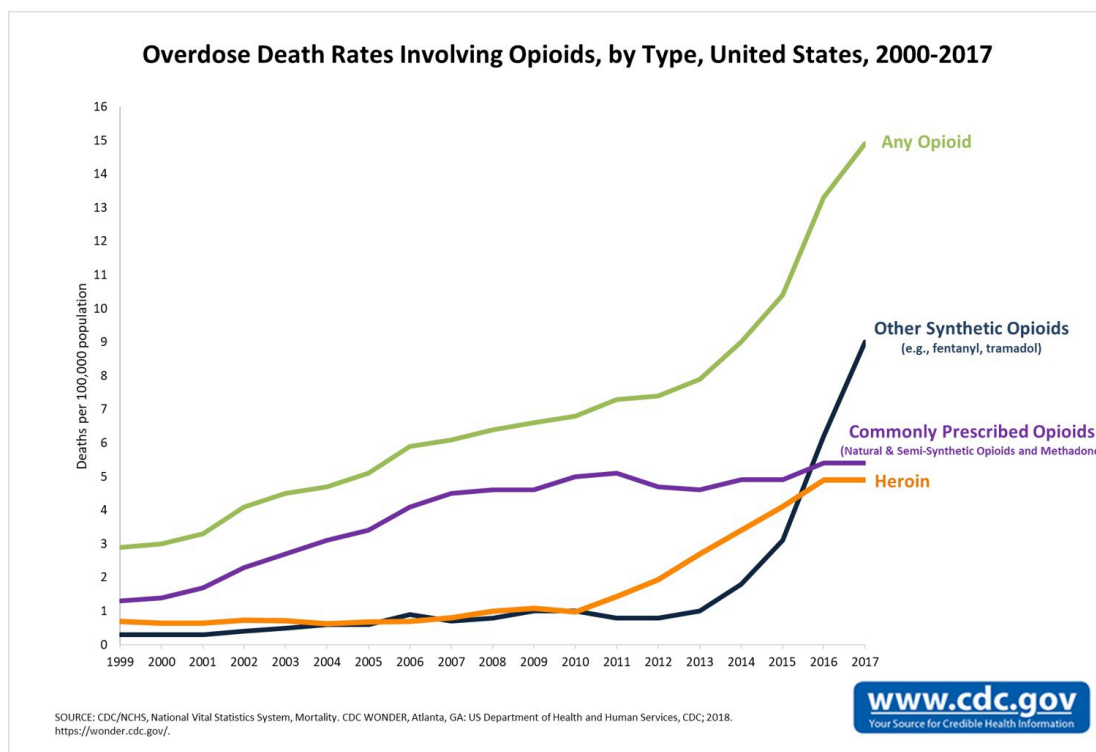


Figure 1. Annual overdose death rates due to opioids in the United States, 2000-2017. Source: CDC, Opioid Data Analysis. Accessed 03/2019.

Similar to national trends, New York State (excluding New York City) has experienced an increase in Fentanyl-related deaths among all opioid-related deaths between 2015 and 2017. Figure 2 demonstrates an increase of 124% between 2015 and 2016. In the same time period, the number of all overdose deaths involving opioids increased by 34.8%. The number of fentanyl-related deaths continued to increase from 2016 to 2017 by 28.3%. The number of overall overdose deaths involving opioids increased by only 3.7% in the same duration.

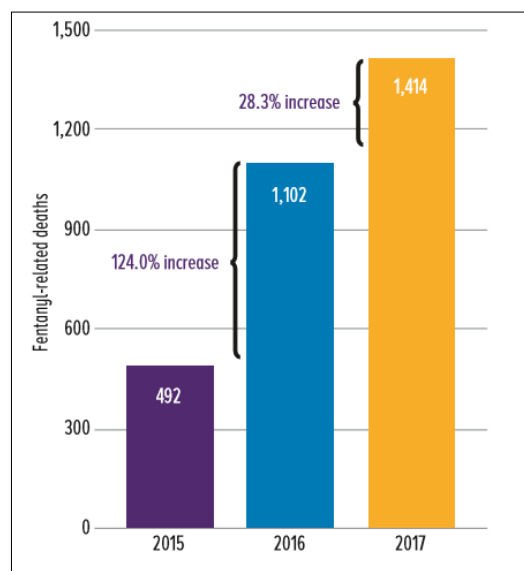


Figure 2. Fentanyl-related deaths among overdose deaths involving opioids in New York State, outside NYC, 2015-2017. Source: NYS DOH. Accessed 04/2019.

Overdose Deaths (cont.)

Madison County has not been immune to this epidemic. Figure 3 shows a similar increasing pattern from 2008 to 2016. A total of 2 opioid-related overdose deaths occurred in 2008 and 14 in 2016 (600% increase). Although there was a downward shift in 2017, the trend appears to be increasing again in 2018.

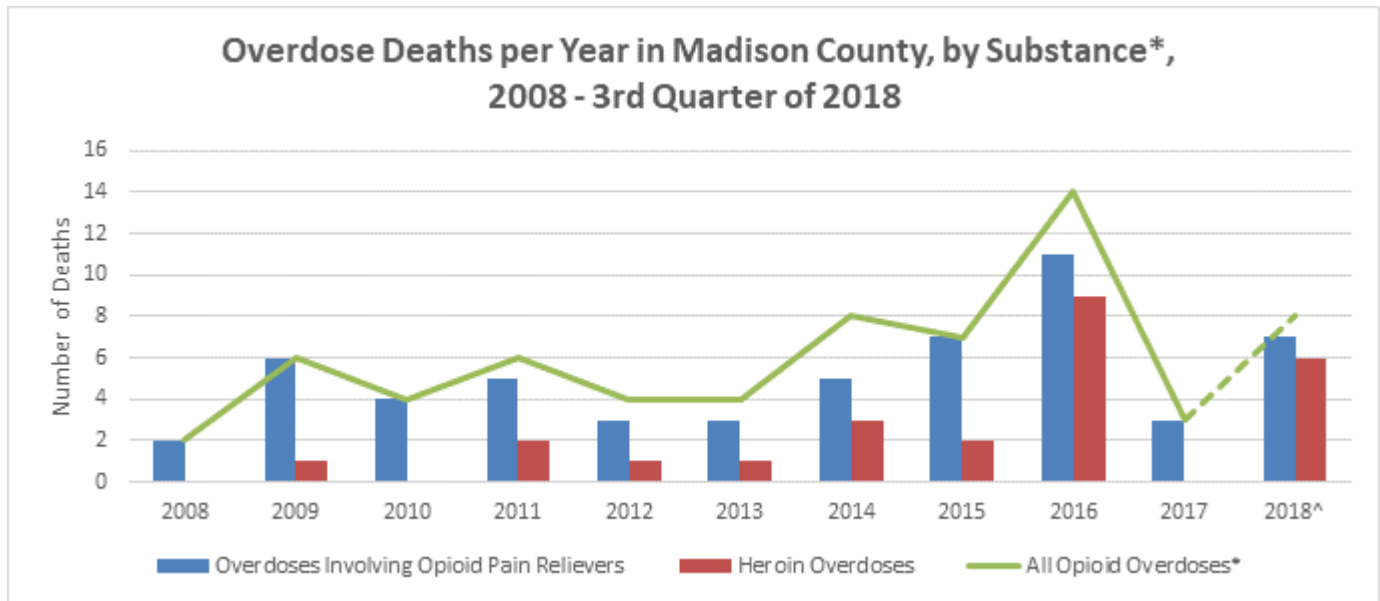


Figure 3. Annual overdose deaths by substance, Madison County, 2008 – 3rd Quarter of 2018.

*Indicators are not mutually exclusive. Decedents and patients may have multiple substances in their system. Thus, overdoses involving heroin and overdoses involving prescription opioid pain relievers will not add up to the overdoses involving all opioids.

^Counts are not final, death certificates could still be pending/under investigation.

Source: 2008-2013 — NYSDOH Vital Statistics; 2014-2018 — NYSDOH, New York State County Opioid Quarterly Reports. Accessed 05/2019.

While these overdose deaths drive the conversations about this epidemic, it is a complex issue, with many factors. The report presents data that provide insight on how the epidemic is affecting the healthcare system and our community. This includes data such as hospitalization, neonatal abstinence syndrome trends, drug-related arrests, and child protective reports. There is also information about opioid access, and local initiatives aimed at turning the curve in the opposite direction.

Effects on the Healthcare System

Hospitalization and Emergency Department Visit Rates

According to data from the Statewide Planning and Research Cooperative System (SPARCS), hospitalization and emergency department (ED) visit rates due to opioid overdoses are declining among the 6 counties of the Central New York (CNY) region (Cayuga, Cortland, Madison, Oneida, Onondaga, and Oswego), as outlined in Figures 4 and 5.

Following a spike in hospital admission rates for both CNY and Madison County, there has been a decreasing trend. In 2017, the hospitalization rate for opioid overdoses in Madison County was 13.9 per 100,000. The rate of ED visits in Madison County was 37.6 per 100,000 in the same year. In contrast, the hospital admission and ED rates in NYS (excluding New York City) continued to increase into 2017.

There are 2 EDs in Madison County. One is located at Oneida Healthcare in Oneida, NY and the other is located at Community Memorial Hospital in Hamilton, NY. With the growing strain on EDs, and the average ED visit at roughly \$1,423 per patient, per visit, the costs associated with this epidemic can have a significant effect on overall healthcare costs.

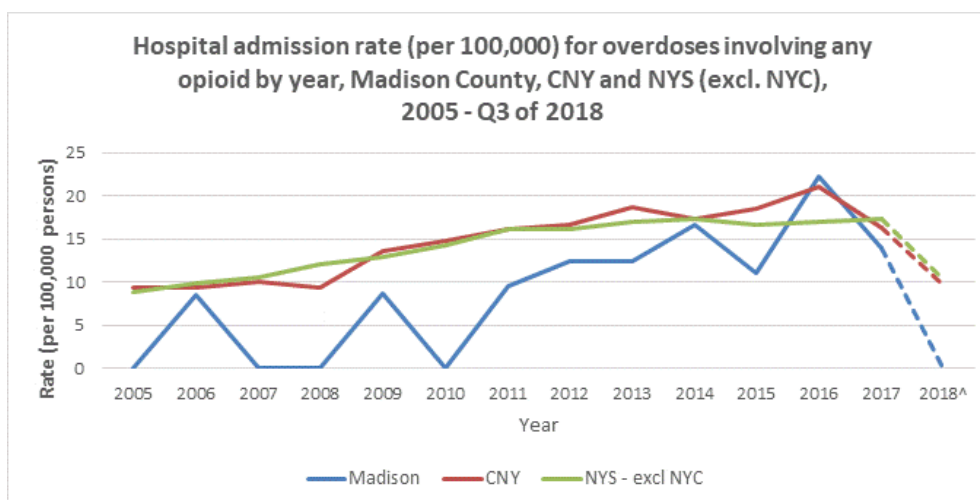


Figure 4. Annual inpatient hospitalization admissions rates due to a opioid overdose in Madison County, CNY, and NYS (excluding NYC) from 2005 – September of 2018. Source: NYSDOH, New York State County Opioid Quarterly Reports. Accessed 05/2019.

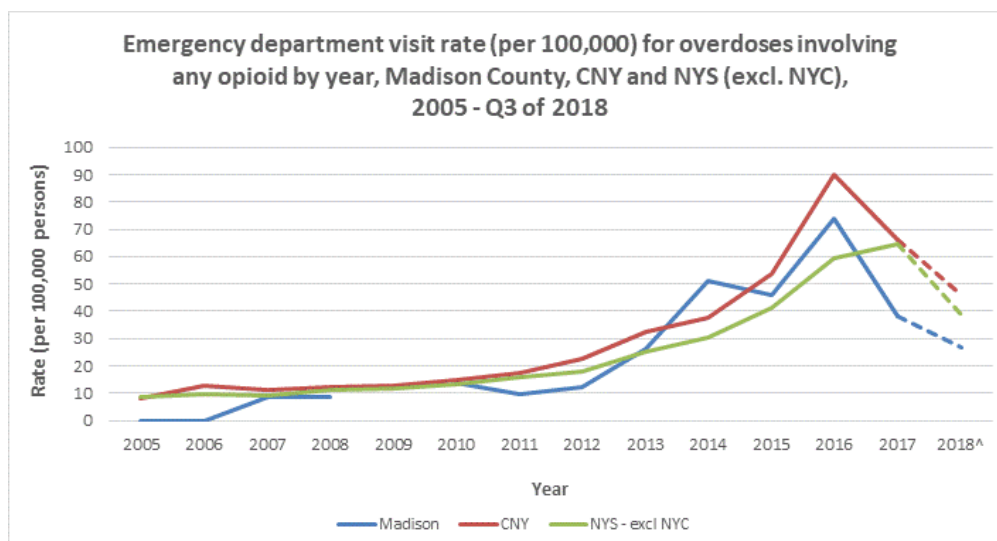


Figure 5. Annual emergency department visit rates due to a opioid overdose in Madison County, CNY, and NYS (excluding NYC) from 2005 – September of 2018. Source: NYSDOH, New York State County Opioid Quarterly Reports. Accessed 05/2019.

Neonatal Abstinence Syndrome

The neonatal abstinence syndrome (NAS) was first described in the literature in the 1970s. NAS is a group of conditions describing newborns who experience withdrawal symptom from certain drugs after exposure to them in the womb. While this syndrome has been recognized for more than 4 decades, there have been substantial changes in the past 10 years, including a dramatic increase in prevalence. Research shows that this increase is caused by the rise in opioid use during pregnancy, which is attributed to the more liberal use of prescribed opioids for pain control in pregnant women, illicit use of opioids such as oxycodone and heroin, and opioid-substitution programs for the treatment of opioid addiction. The increased rate is evident in Figure 6. NAS has been experienced across the state and at a higher rate in Madison County. In 2016, the rate of NAS (any diagnosis) was 25.2 per 1,000 newborns compared to 15.7 per 1,000 newborns in 2014.

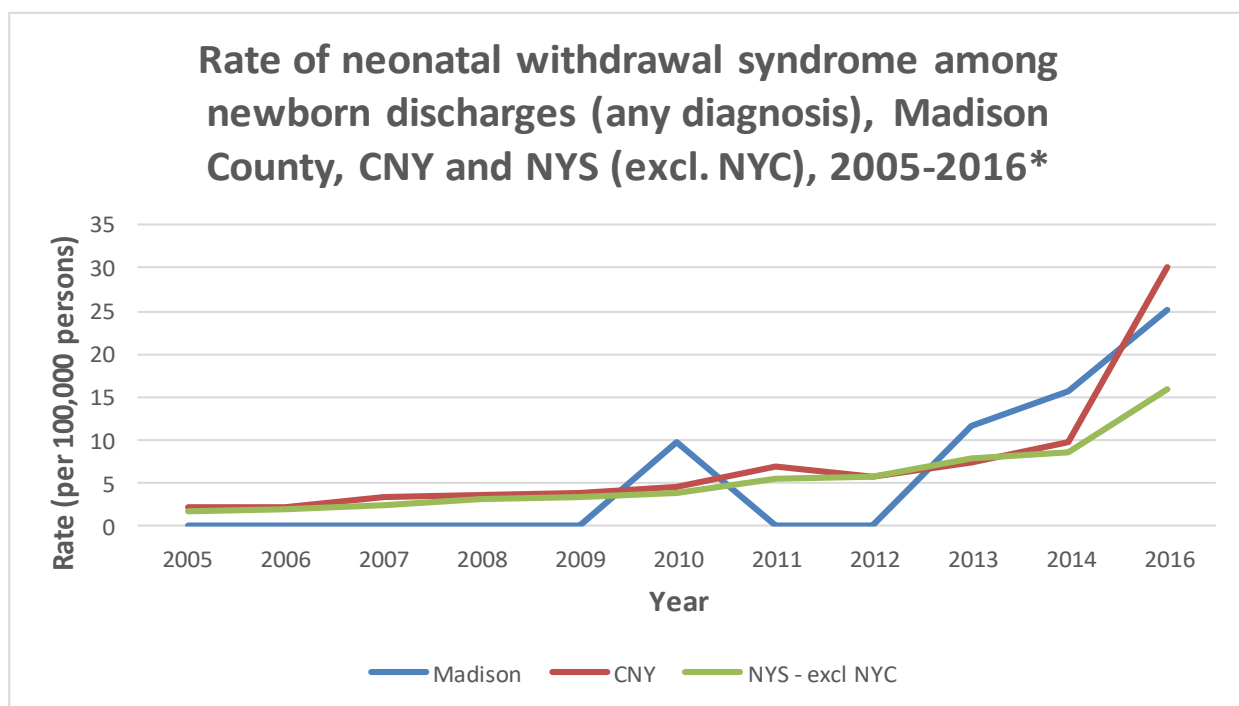


Figure 6. Rate of Neonatal Withdrawal Syndrome among Newborn Discharges (any diagnosis), Madison County, 2005 – 2016.

Source: NYSDOH, Opioid-related Data in New York State. Accessed 03/2019.

*2015 data excluded due to transition from ICD-9 to ICD-10

Access to Opioids

Opioid Prescribing

Throughout the United States, an estimated 1 out of 5 patients with non-cancer pain or pain-related diagnoses are prescribed opioids in office-based settings. National prescribing rates are highest among pain medicine (49%), surgery (37%), and physical medicine/rehabilitation (36%). However, primary care providers account for about half of opioid pain relievers dispensed. Long-term use of opioid pain relievers for chronic pain can be associated with abuse and overdose, particularly at higher dosages.

The New York State (NYS) Prescription Monitoring Program Registry (PMP) is an online registry that is maintained by NYS Department of Health's Bureau of Narcotic Enforcement. The registry collects dispensed prescription data for controlled substances in schedules II, III, and IV that are reported by more than 5,000 separate dispensing pharmacies and practitioners registered with NYS. Any NYS licensed prescriber, excluding veterinarians, is required to consult the PMP registry when writing prescriptions for Schedule II, III, and IV controlled substances. Pharmacists and veterinarians can still apply for access to the PMP registry. Veterinarians are required to report controlled substance dispensing activity.

Figure 7 shows the trend in prescription rates (per 1,000 population) since 2012, in Madison County, CNY, and NYS (excluding New York City). Rates appear to have peaked in 2013, and have now dropped slightly below the rates observed in 2012. These decreases might reflect growing awareness among clinicians and patients of the risks associated with opioids. In 2017, there were about 580.0 opioid analgesic prescriptions per 1,000 Madison County residents. This was higher than CNY (509.9 per 1,000) and NYS, excluding NYC (453.1 per 1,000).

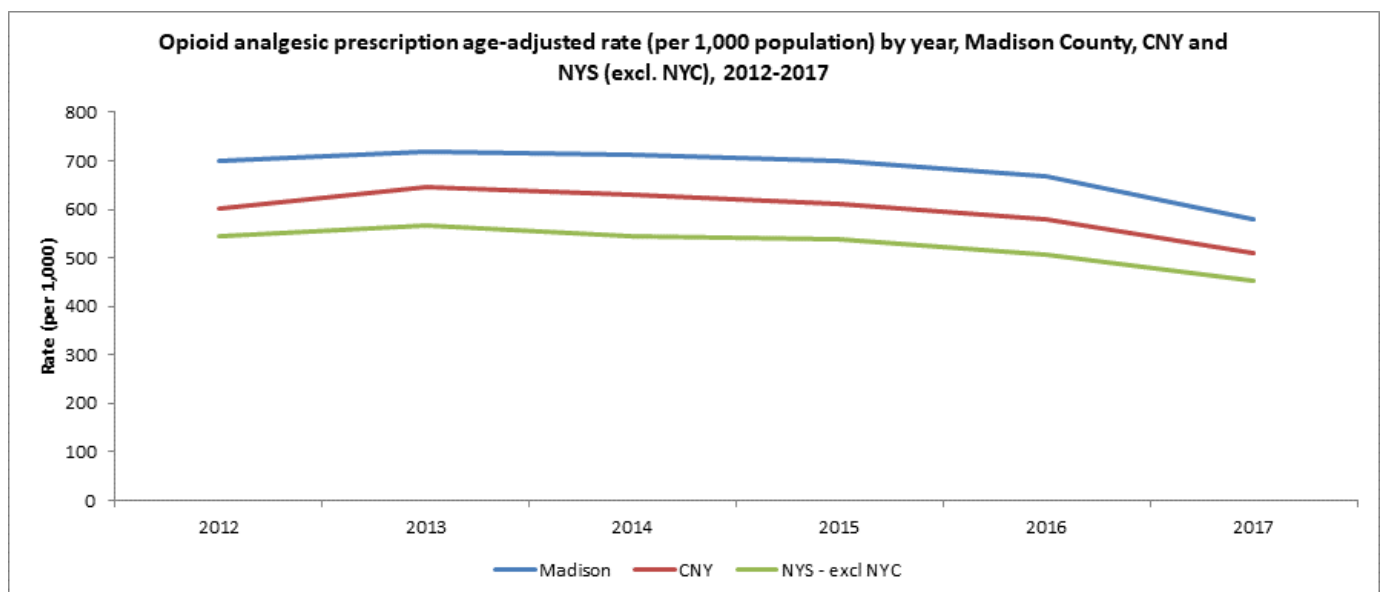


Figure 7. Opioid analgesic prescription rates, Madison County, CNY, and NYS (excluding NYC), 2012 – 2017.

Source: NYSDOH, Opioid-related Data in New York State. Accessed 03/2019.

Opioid Prescribing (cont.)

Opioid prescribing rates differ by county, across New York State. Figure 8 displays the opioid analgesic prescription rate, per 1,000 population by county. Madison County lies within the highest third of prescription rates across the state. Figure 9 shows the percent change in opioid analgesic prescription rate from 2012 to 2017. The county has seen a decrease (6%) during this time period, but other counties have seen more dramatic decreases.

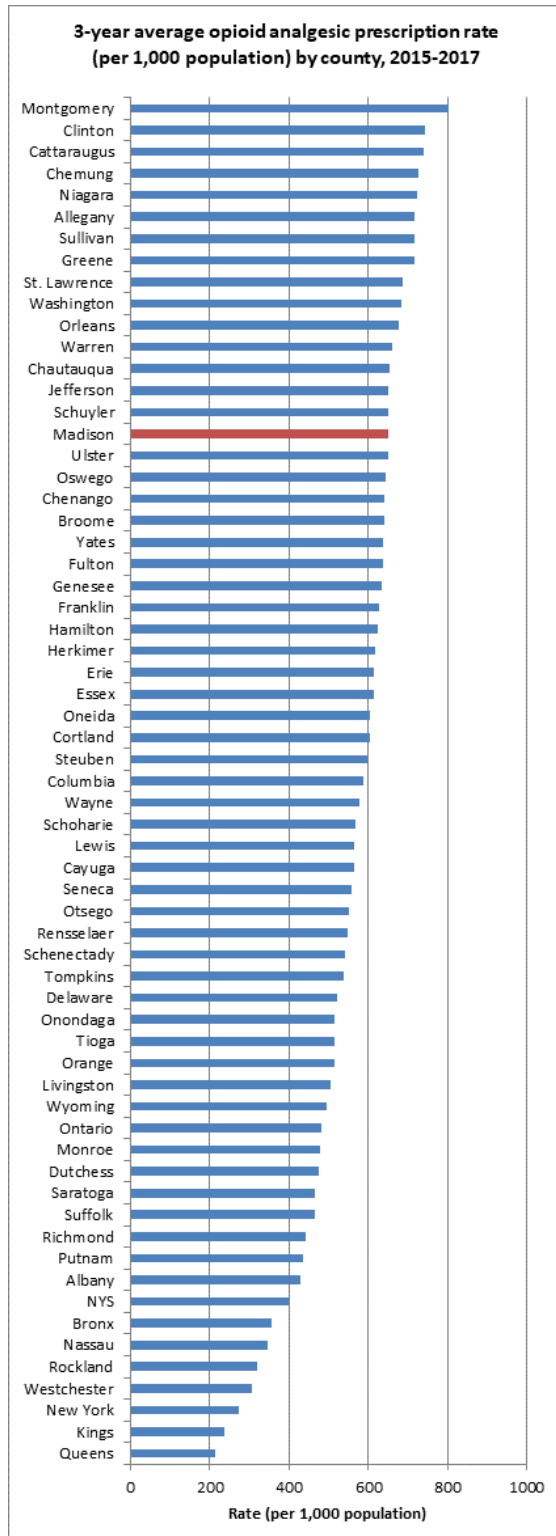


Figure 8. Opioid analgesic prescription rates by NYS county, 2016. Source: NYSDOH, Opioid-related Data in New York State. Accessed 03/2019.

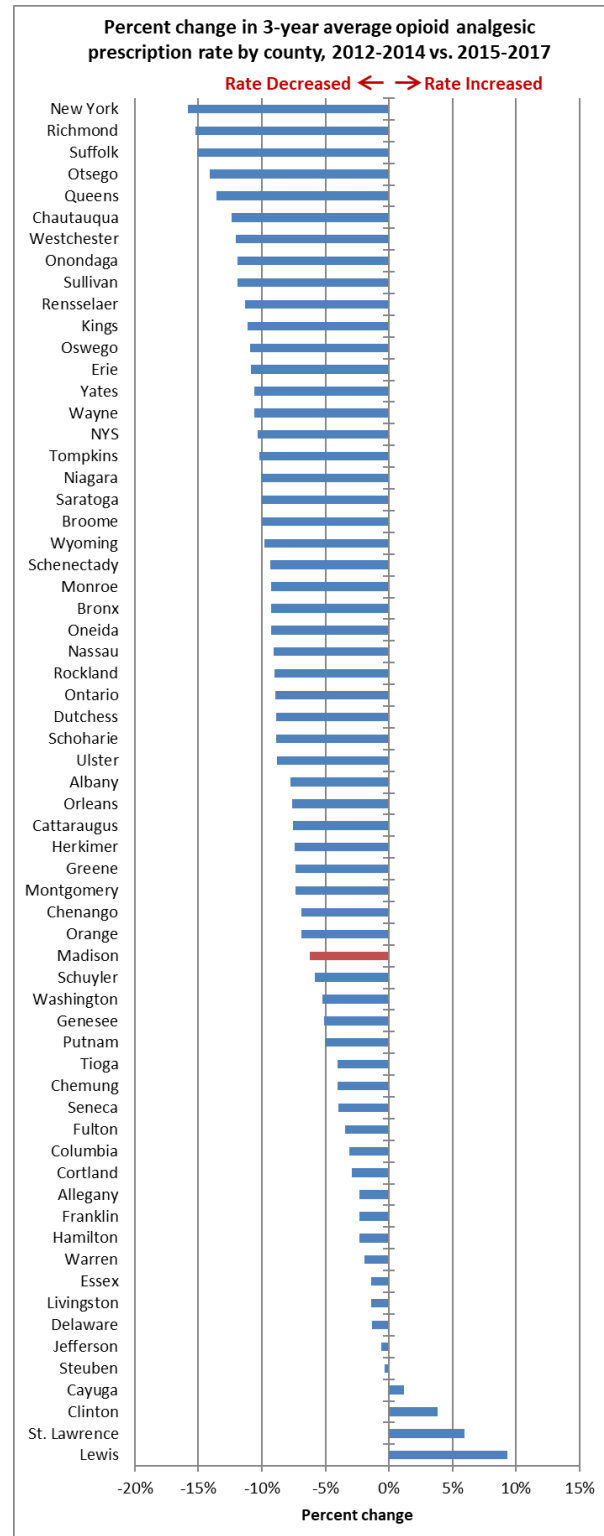
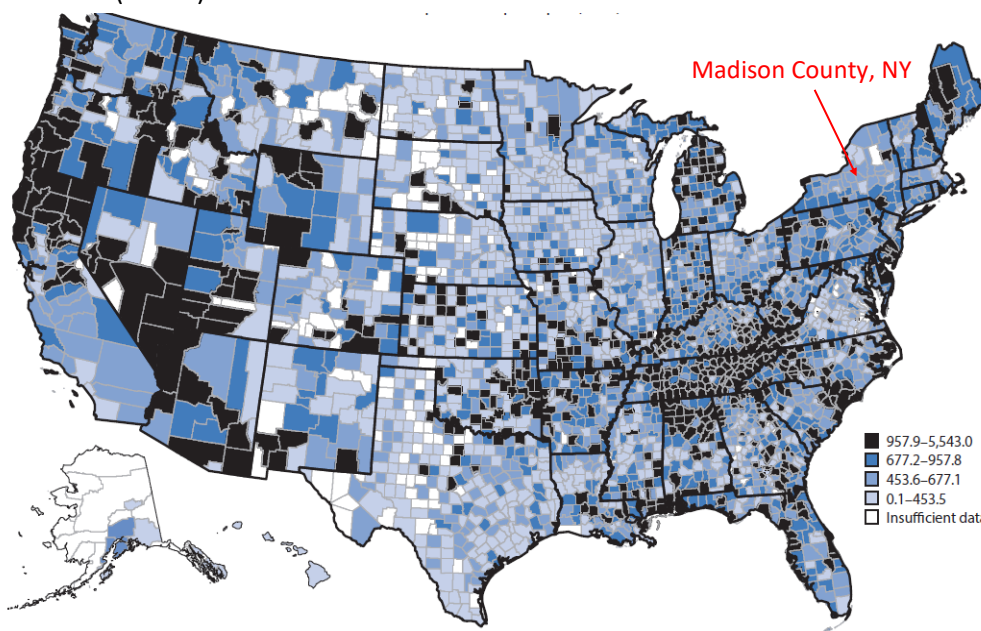


Figure 9. Percent change in opioid analgesic prescription rates by NYS county, 2012 vs. 2016. Source: NYSDOH, Opioid-related Data in New York State. Accessed 03/2019.

National & State Prescribing Trends

A recently published study (Guy, 2017) assessed changes in national- and county-level opioid prescribing during 2006–2015. The study found significant decreases of prescriptions, measured in morphine milligram equivalents (MME) per capita from 2010 to 2015. Even with the decrease, MME per capita remained approximately 3 times as high as it was in 1999. Furthermore, it varied substantially across the country (Figure 10). Madison County, NY falls in the second quartile (453.6–677.1 MME per capita). The authors also identified some interesting trends among counties with the highest prescription rates (below).

Figure 10. MME's pre-scribed per capita in the United States (2015).



When compared to the counties with the lowest opioid prescription rates, the counties with the highest rates:

Had a higher proportion of:

- Non-Hispanic White population (83.6% vs. 76.9%)
- Residents uninsured (15.7% vs. 15.2%), or on Medicaid (23.3% vs. 19.2%)
- Residents without a high school diploma (18.4% vs. 17.3%)
- Residents who were unemployed (8.5% vs. 8.5%)

Had a higher density of:

- Primary care physicians (60.0 per 100,000 vs. 44.1 per 100,000)
- Dentists (39.5 per 100,000 vs. 30.5 per 100,000)
- Had a higher rate of suicide (9.0 per 100,000 vs. 7.7 per 100,000)

In New York State, the counties with the highest prescription rates had higher opioid-related overdose death rates (Fig. 11)

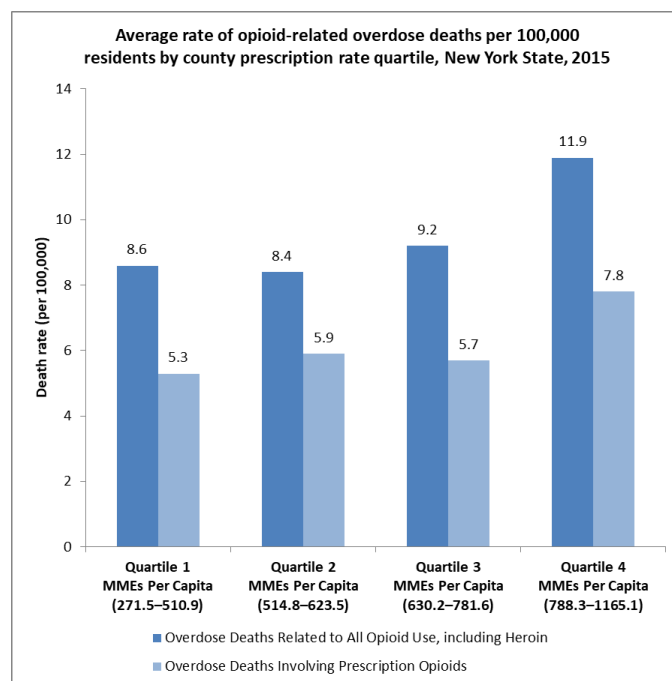


Figure 11. New York State county opioid prescription rates (MME per capita) quartiles and opioid-related overdose death rates, 2015
Source: NYS Health Foundation, 2017.

Drug Sales

According to the American Society of Interventional Pain Physicians (ASIPP), the United States, which makes up only 4.6% of the world's population, is consuming roughly 80% of the global opioid supply, and 99% of the global hydrocodone supply. During the height of retail opioid drug sales, the total amount of prescription painkillers written in 2012 was enough to provide every American adult with a bottle of pills.

The Automated Reports and Consolidated Ordering System (ARCOS) is a data collection system in which drug manufacturers and distributors report their retail transactions (to hospitals, retail pharmacies, practitioners, mid-level practitioners, and teaching institutions) of controlled substances to the Drug Enforcement Administration (DEA). The graph below (Figure 12) displays retail opioid sales per 100,000 population in CNY and New York State from 2006-2017. While opioid sales per 100,000 population have been decreasing across the region and state since 2011, they remain higher in CNY than statewide (34.1 kg per 100,000 vs. 31.8 kg per 100,000).

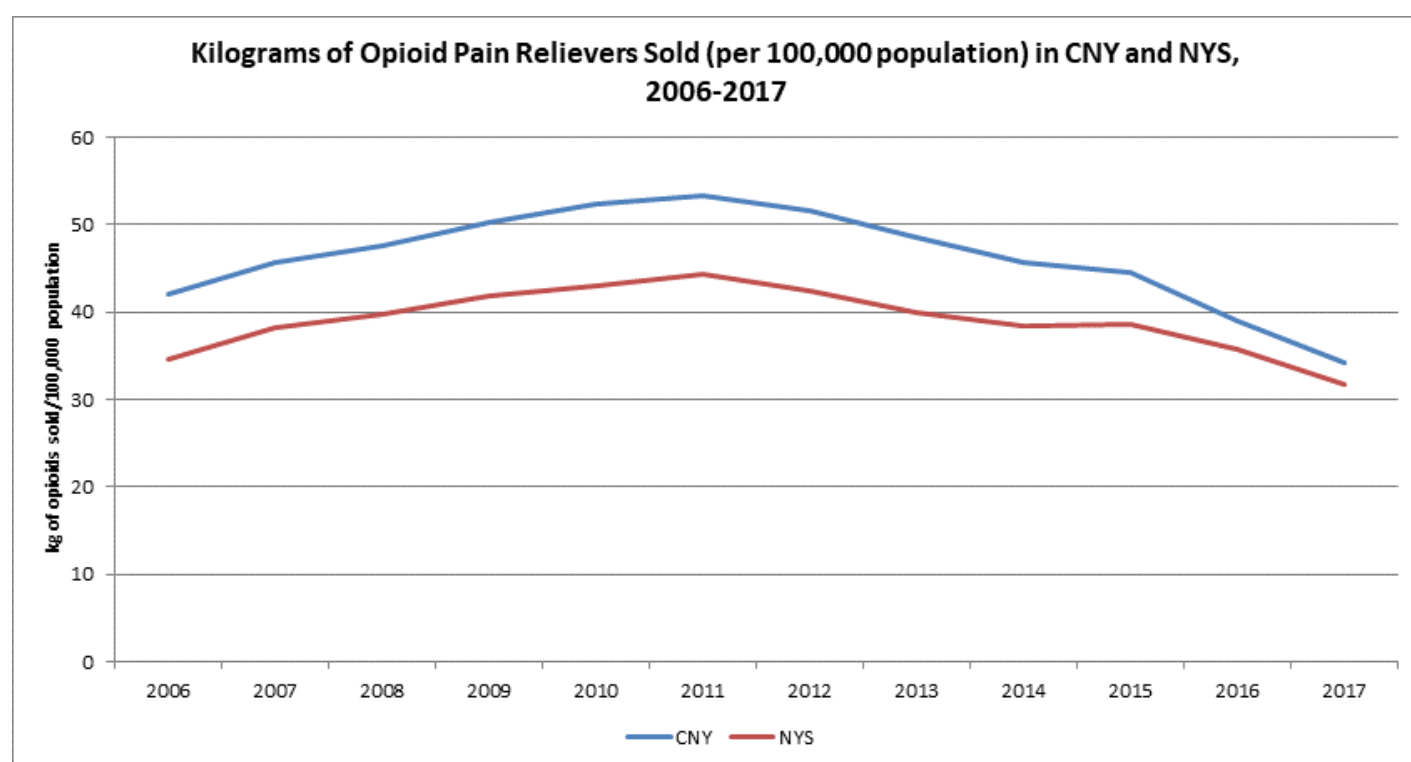


Figure 12. Opioid sales per 100,000 population in CNY and NYS, 2006 – 2017.

Drug sales data collected for: CNY zip codes 130XX-135XX; New York statewide; and drugs: Codeine, Fentanyl, Hydrocodone, Hydromorphone, Meperidine (Pethidine), Methadone, Morphine, and Oxycodone.

Source: Automated Reports and Consolidated Ordering System (ARCOS). Accessed 03/2019.

Impact on Communities and Families

Drug-related Arrests

The opioid epidemic has had a significant impact on the community in Madison County. Figure 13 shows the annual number of opioid- and heroin-related drug charges by the Madison County Sheriff's Office from 2010 through 2016. Until 2016, the number of prescription opioid-related drug charges had remained relatively level (between 1 and 6). In 2016 this number increased to 12. Heroin-related drug charges increased dramatically in 2014 (from an average of about 1.5 charges/year, over the previous 5 years to 14 in 2014), and has remained around that level since. The total number of opioid- and heroin-related charges in 2016 was 26. This was over 5 times higher than it was in 2009.

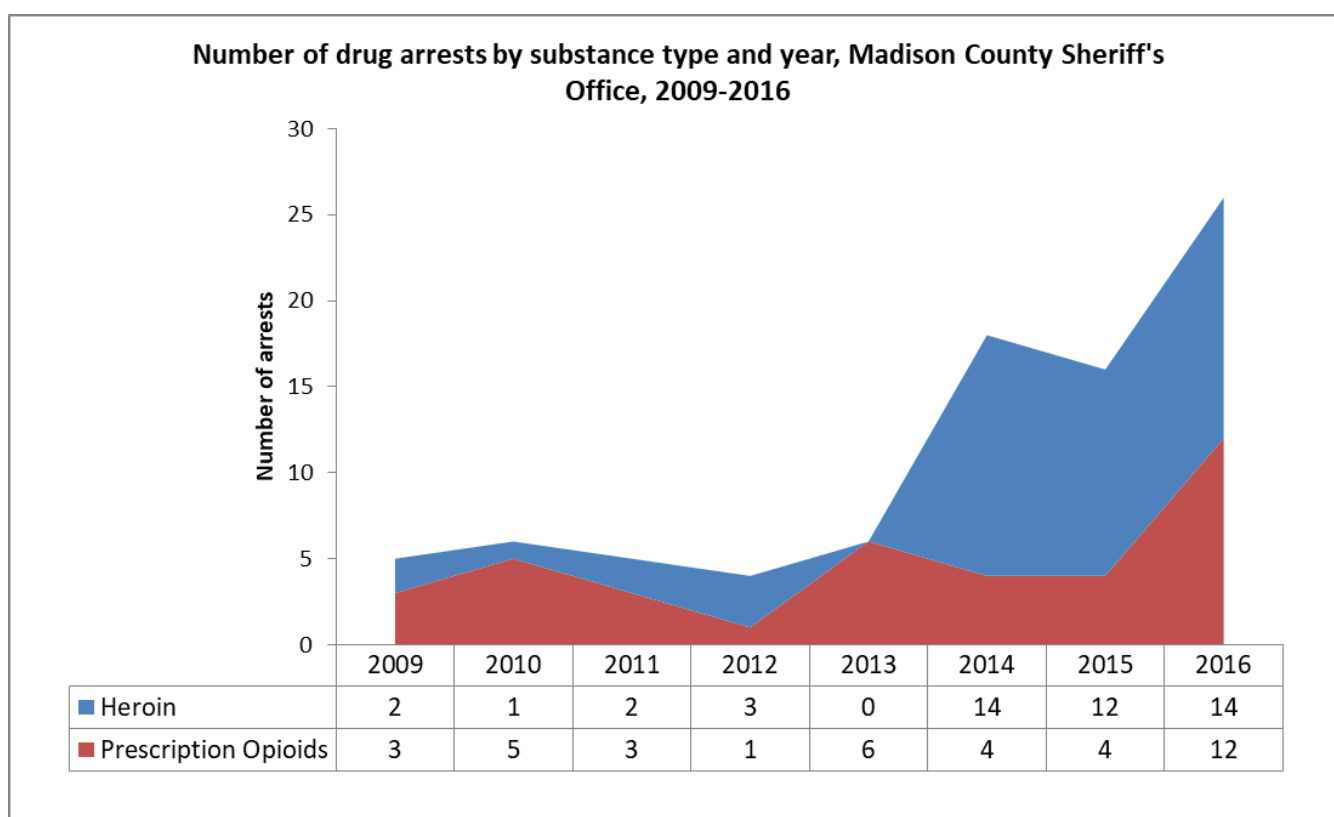


Figure 13. Annual proportion of all Madison County Sheriff's Office drug-related arrests related to heroin and opioids, 2009–2016.
Source: Madison County Sheriff's Office.

Child Neglect and Abuse

The Madison County Department of Social Services (DSS) Child Protective Services (CPS) program investigates child neglect and/or abuse reports throughout the county. Figure 14 displays statistics for 2014–2018 that include total CPS reports, total neglect/abuse petitions filed, and the number of adults/children in those petitions. The number of children where heroin/illegal use of opiates is the major reason for the neglect petition increased from 2014 to 2016 by over 50%, followed by a significant decrease in 2017 and 2018 (17 vs. 26 in 2014-2016; 14 vs. 13 in 2017-2018). Although the total number of CPS reports lowered slightly in 2018 to 1,696 reports, the number of adults and children involved with heroin/opiate cases remained consistent with the previous year.

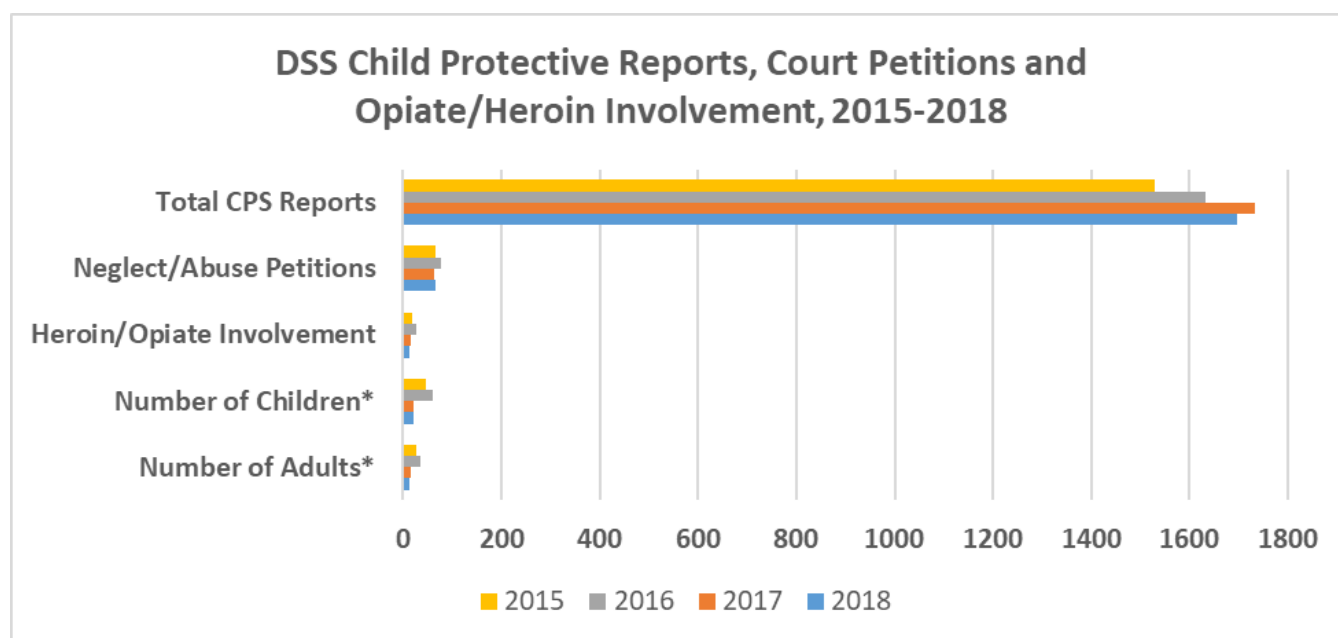


Figure 14. Madison County Department of Social Services Child Protective Services reports, 2015–2018.

*Number of children and adults involved with heroin/opiate cases only

Source: Madison County Department of Social Services. Accessed 03/2019.

Youth Drug Use

In 2014, the Madison County Youth Bureau, in cooperation with Madison-Oneida BOCES and the chief school officers of the 9 participating school districts (Canastota, Cazenovia, Chittenango, DeRuyter, Hamilton, Madison, Morrisville-Eaton, Oneida and Stockbridge Valley) administered the Teen Assessment Project (TAP) survey. The survey is part of an ongoing process to assess the risk and protective factors, developmental assets, and resources present in the lives of adolescents in Madison County. The survey has also been administered in other counties throughout New York State, including Herkimer (2013) and Oneida (2015).

A total of 2,388 Madison County students, from grades 7-12 participated in 2014. With prescription drug and heroin use only beginning to emerge as a commonly recognized public health issue, some new survey questions were added to the 2014 questionnaire.

Figure 15 shows that about three quarters of teen students think that using prescription drugs not prescribed to them can cause some, or a lot of harm. Regarding the use of prescription drugs within the past year, there is not an obvious trend (Figure 16). In 2014, the proportion of students reporting use within the past year (4.2%) declined compared to 2010, and is similar to the most recent proportions in the other counties.

Another question that was added in 2014 asked about heroin or other opiate use within the past year (Figure 17). Two and a half percent (2.5%) of students surveyed reported this behavior, which was higher than what was reported in Oneida County.

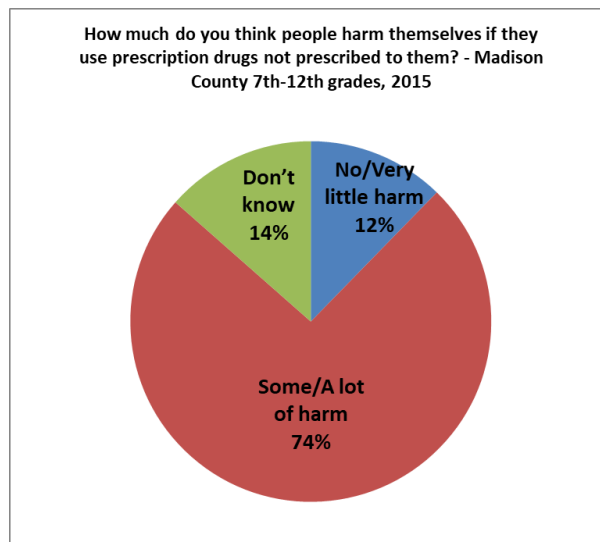


Figure 15. Adolescent perception of harm from prescription drug use, Madison County, 2014.
Source: Madison County Youth Bureau, 2014.

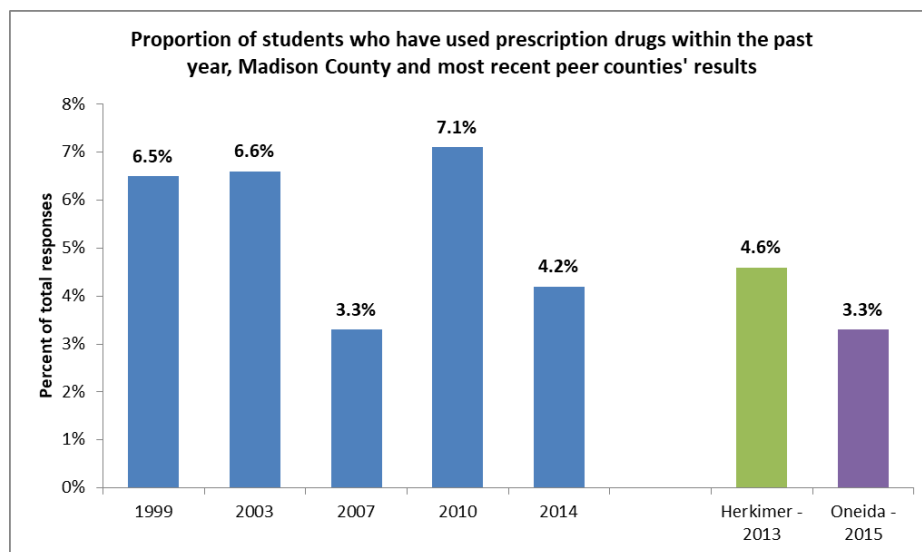


Figure 16. Adolescent prescription drug use with the past year, Madison County, 2014.

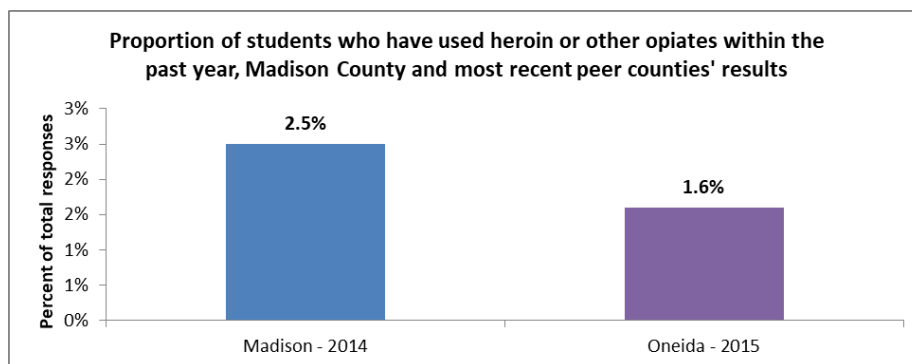


Figure 17. Adolescent heroin or opiate use with the past year, Madison County, 2014.
Source: Madison County Youth Bureau, 2014; Herkimer-Oneida Counties Comprehensive Planning Program, 2015.

Treatment and Other Interventions

Opioid-Related Treatment Facility Admissions

The NYS Office of Alcoholism and Substance Abuse Services (OASAS) certified chemical dependence treatment programs report admissions of people served in programs throughout NYS. Since 2007, the annual number of opioid-related treatment admissions to OASAS certified chemical dependence treatment programs among Madison County residents has significantly increased (Figure 18). In 2016 there were a total of 502 admissions (more than 5 times the amount in 2007). The vast majority, 490 (98%) were at treatment facilities outside of the county. It is important to note that admissions are not unique counts of people. A person could be admitted more than once in a given year.

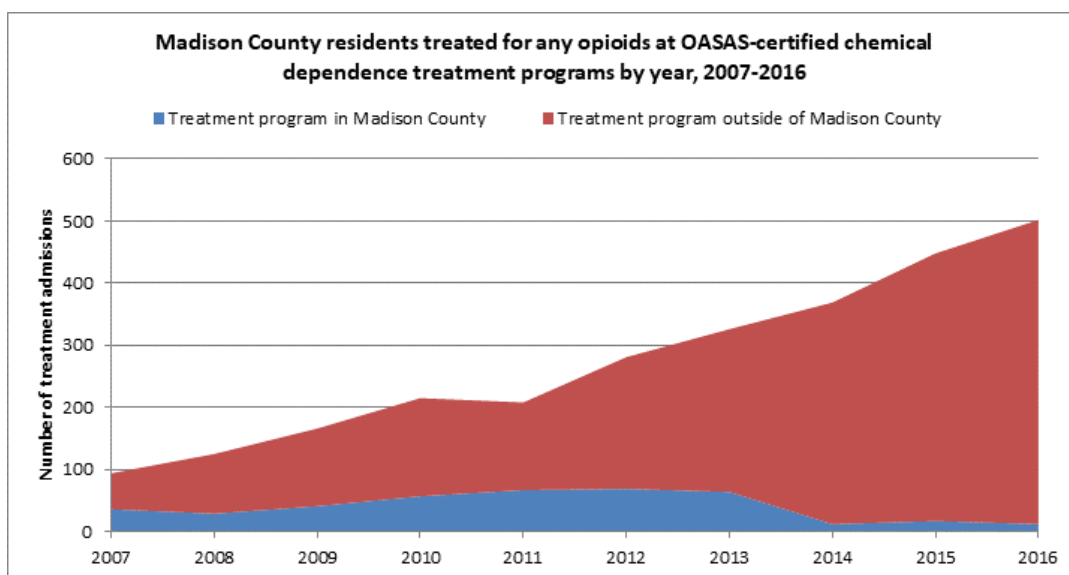


Figure 18. Admissions rates to OASAS-certified treatment programs for use of heroin and/or any opioid. Source: NYSDOH, OASAS Data Warehouse. Requested 3/2017.

Beginning in 2015, OASAS made data available that show the number of unique clients admitted to one of these programs, by county of most recent residence. Figure 19 shows the admission rates of unique individuals to OASAS-certified treatment programs for Madison County residents by quarter. Admission rates for both heroin and any opioids have fluctuated since 2015.

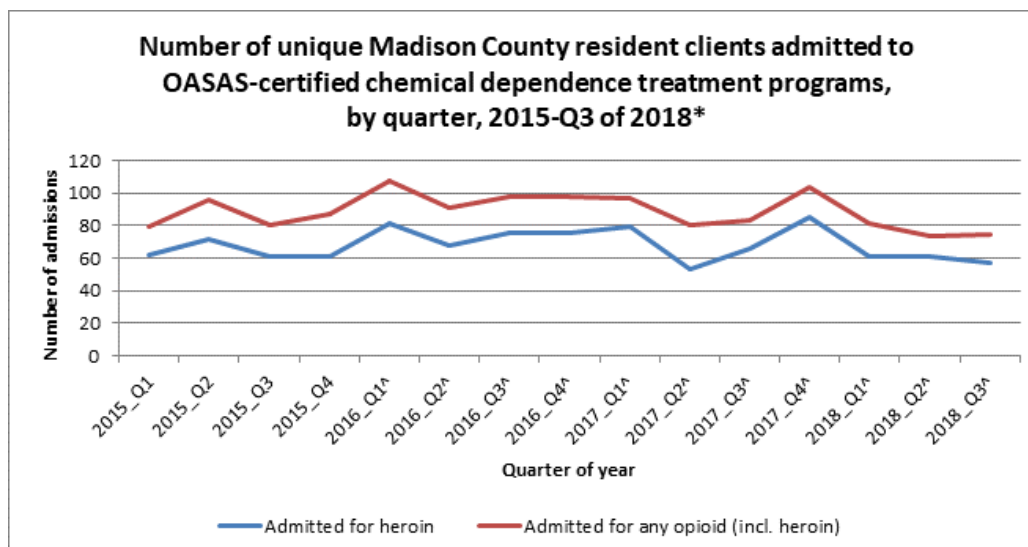


Figure 19. Admissions rates to OASAS-certified treatment programs for use of heroin and/or any opioid.

^Counts are not final Source: NYSDOH, County Opioid Quarterly Report For Counties Outside of New York City. Accessed 05/2019.

Medication Collection Program

Since 2009, BRiDGES, the Madison County Council on Alcoholism and Substance Abuse, Inc., in collaboration with the Madison County Sheriff's Office and Solid Waste, has offered medication drop boxes to the public. There are 4 medication disposal kiosks at various locations throughout Madison County. They are located at DSS and Department of Motor Vehicles in Wampsville, Chittenango Police Department, Hamilton Village Police Department, and NYS Trooper barracks in Oneida, with pick up at each kiosk occurring regularly. There are also bi-annual pill collection events at the Madison County Landfill.

The charts below (Figure 20) show the total amount (pounds) of pills collected at 2 of the 4 kiosk sites, and the Solid Waste bi-annual collection events. Over 9,500 pounds of pills have been collected since the program began in 2009. The total amount of pounds collected in 2018 alone (2,606) has been the highest since the program began. During the collections, the type of substance and the number of households utilizing the service can also be tracked. In 2018, the total amount of controlled substances (2 pounds) significantly decreased from the amount in 2017 (11 pounds). Furthermore, fewer households participated in the 2018 collection events compared to 2017 (172 vs. 227 households).

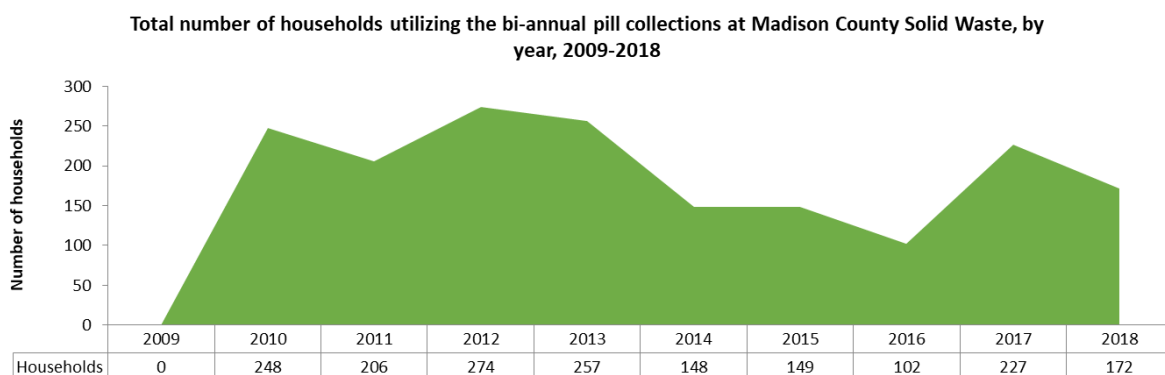
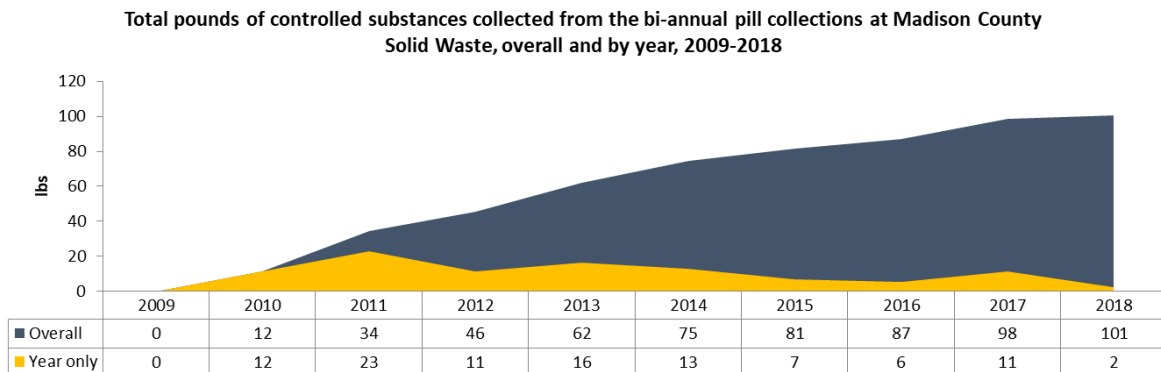
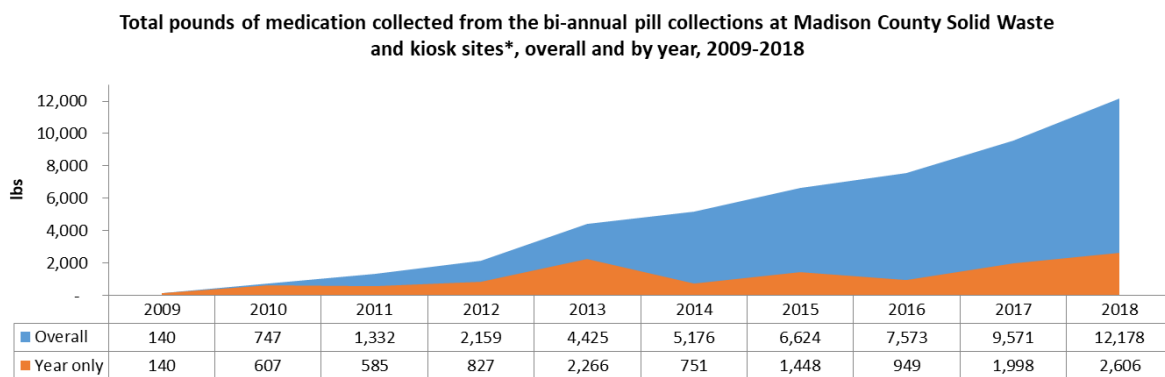


Figure 20. Medication collection program totals and usage by year, Madison County.

*These numbers do not include the medication collected at the NYS Troopers at Troop D or the kiosk at Chittenango P.D. Source: BRiDGES.

Naloxone Use to Prevent Overdose Deaths

Naloxone is a life-saving drug that can reverse the effects of a prescription opioid and/or heroin overdose when administered in time. Naloxone is non-addictive, and expanding training on how to administer the drug can help emergency medical service (EMS) staff reverse an opioid overdose and save more lives. In New York State, Naloxone administration reporting is mandated under regulation.

The number of reports of Naloxone administration by quarter of the year in Madison County is shown in Figure 21. Usage by EMS more than doubled from the beginning of 2015 through the second quarter of 2016, but then declined over the next year. There was a slight increase in the 3rd quarter of 2017 before declining again. Since the beginning of 2015, there was an increase in the amount of Naloxone administrations by law enforcement through 2016. However, Naloxone use by law enforcement declined in early 2017. The number of administrations by the Community Opioid Overdose Prevention (COOP) has remained relatively low from 2015 to 2018. Throughout New York State (excluding NYC), this decline has not been observed. Since the 2nd quarter of 2016, statewide EMS Naloxone use leveled off, and law enforcement usage continued to increase.

Increases and decreases may represent expansion or contraction of the program and may or may not indicate overdose events. Furthermore, Naloxone data in this chart reflect the county in which the overdose occurred and in which the Naloxone was administered, not necessarily the county of the overdosed person's residence. These data are based on self-report; therefore, we may not be fully reporting the use of Naloxone in Madison County.

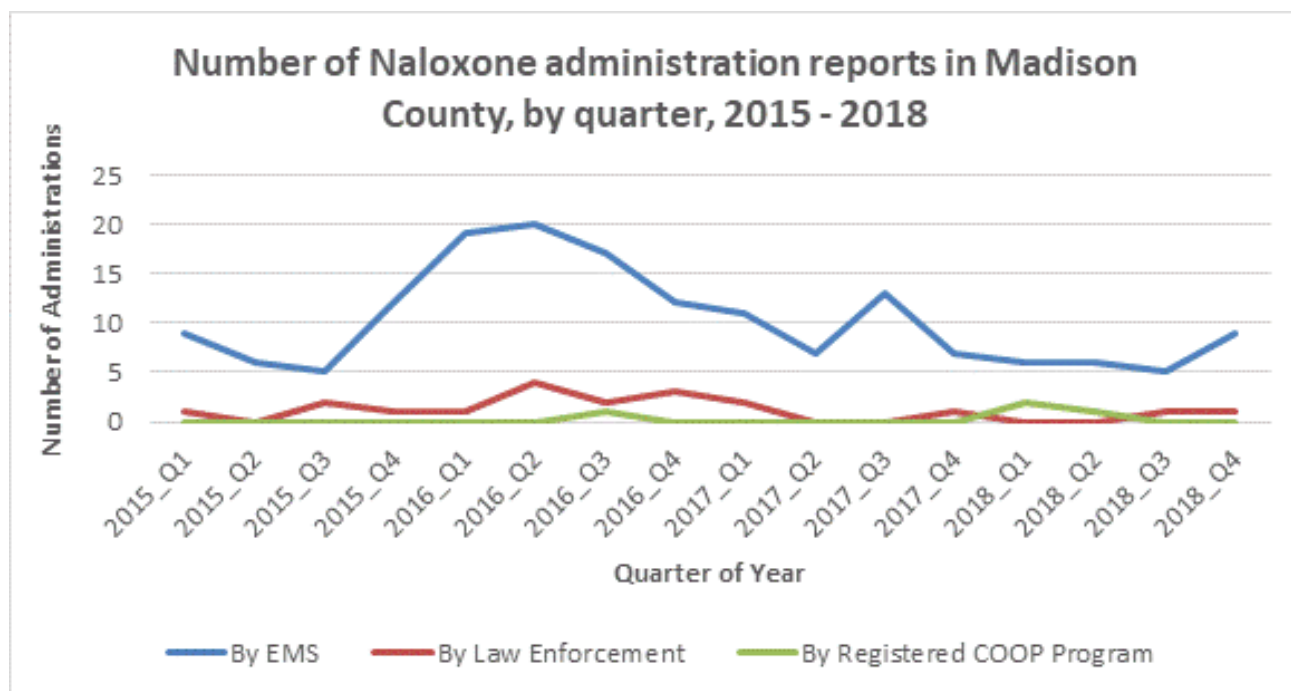


Figure 21. Frequency of Naloxone administration reports in Madison County, by quarter of the year (2015-2018).

Source: NYSDOH, County Opioid Quarterly Report For Counties Outside of New York City. Accessed 05/2019.

COOP – Community Opioid Overdose Prevention

Note: Naloxone administration reporting is mandated under regulation. All Naloxone administration data are based on self-report.

Naloxone data in the report reflect the county in which the overdose occurred and in which the naloxone was administered—not necessarily the county of the overdosed person's residence. Increases may represent expansion of program and may or may not indicate an increase in overdose events.

Local Efforts to Address the Heroin/Opiate Problem:

New Efforts in 2018

The **Conference of Local Mental Hygiene Directors** advocated for state funding for **jail substance abuse services**. The funding was included in this year's state budget. The **Madison County Mental Health Department** issued an RFP for the jail substance abuse services and **Family Counseling Services of Cortland County** was the recipient of the award. The funding will provide for a qualified health professional to provide substance abuse services to all jail inmates in need, and will work closely with the jail social worker and the discharge planning coordinator.

In a cooperative effort, the Sheriff's office, 911 Center, and Emergency Management Services have launched the **Overdose Detection Mapping Application Program (ODMAP)** in Madison County. ODMAP offers real-time data to support public safety and public health efforts to mobilize an immediate response to a sudden increase in overdose events. In addition to immediate response from first responders during spike events, the tool can be utilized for strategic initiatives.

In March 2018, LeMoyne College awarded **Oneida Healthcare** grant funding to provide **ED physicians education on the judicious use and prescribing of opioids for the treatment of pain**. This included analysis of internal data and the review and tracking of prescribing patterns. In addition, physicians were given scripting guidelines for having difficult discussions with patients about opioids when non-opioid medications were prescribed. This educational information was shared with affiliated primary care physicians, and the offices were supplied with patient education materials on opioid use.

On June 19, 2018, **Dr. Ofrona Reid, the Oneida Health CMO**, was part of a community **public forum panel discussion** of opioids at the Oneida Public Library.

Oneida Health is also participating in the **Iroquois Healthcare Association (IHA) Opioid Alternative Project** with the goal of reducing opioid administrations in the ED. This project employs new pain management guidelines, focusing on **Alternatives To Opioids (ALTO)** as a first resort in treating painful conditions. Oneida Health's goal is still to manage painful conditions for ED patients and return them to a maximum quality of life while also recognizing and controlling the inherent risks of prescribing highly addictive medications like opioids. **Dr. Kirby Black, ED Medical Director**, is spearheading this project, providing education and **training to the ED providers on the new treatment guidelines**.

Oneida Health has also been approved by the NYS Department of Health to be a member of the **Registered Opioid Overdose Prevention Program**. This will allow emergency department providers to give out Naloxone kits to someone that comes into the ED that has overdosed or has a loved one that is at risk of overdose.

Ongoing Efforts

Safe Pill collection events are held each spring and fall at the county landfill since 2009. This is a collaboration between Solid Waste, the Sheriff's Office, and BRiDGES. These collection events are in addition to the national DEA collections. Permanent drug collection kiosks were purchased and set up at DMV, DSS, and Chittenango Police Department. Additional kiosks have been set up at the NYSP barracks in Oneida and the Hamilton Police Department. More than 9,500 pounds of medication has been collected since 2009.

Ongoing Efforts

The Health Department implemented a targeted public awareness campaign. Materials and messaging from the national **multi-media campaign, Lock Your Meds®** (below) have been incorporated into Department Facebook messaging, and displayed in area movie theaters and on roadway billboards. The campaign focuses on three key messages: 1) locking up one's medications; 2) disposing of prescription medications properly; and 3) asking for alternatives. Further efforts will include promoting the Madison County medication disposal program, and conducting educational forums. Please see Appendix A (page 23) for campaign results.



The Madison County Opioid Task Force is working to address the various aspects of the problem locally. The group consists of mental health, public health, social services, emergency management, Sheriff's Office, BRiDGES Council on Alcoholism and Substance Abuse, and community providers all coming together to address the problem with heroin and opiates and to develop strategies to address concerns.

HEAL— Heroin Epidemic Action League, a grassroots group formed in Cazenovia in spring of 2016. The group has met with the Governor and other Legislators to advocate for laws and services, and hosts monthly sober activities called "Saturday Nights Live." as started a support group for those impacted by heroin and opiate addiction that meets weekly at the Cazenovia Library. Support groups have also started in Morrisville, NY and Brookfield, NY. Members of HEAL started a Narcotics Anonymous group, and they advocate for issues related to heroin and opiate prevention, treatment, and recovery.

The **Central Region Addiction Resource Center (CRARC)** has been working to increase knowledge of and access to appropriate services for Substance Use Disorders in Cayuga, Cortland, Madison, Onondaga, and Oswego counties since 2017 as part of the NYS OASAS response. In 2018, the CRARC hosted four Naloxone trainings at BRiDGES and one panel discussion on opioids at the Oneida Public Library. While partnering with H.E.A.L. of Madison County, the CRARC financially supported the start of monthly sober recreational activities in Cazenovia. Through 2019, those activities will continue in multiple areas across Madison County. Across the region, the CRARC partnered with numerous organizations to host more than 22 educational events and activities. The CRARC continued to build a resource guide for the community and released the CRARC app for download on any devices. The app contains names, locations, phone numbers, and websites for all Substance Use Disorder providers in the five-county region and is free to download.

A **Celebrate Recovery group** has started meeting at Church on the Rock. They have many other plans, and have established a Facebook page. BRiDGES has been attending some meeting to hand out resources and materials aimed at increasing the message around prevention and recovery.

Community members are active **participants on alcohol and substance use coalitions** at the state, regional, county, local, and college level where this problem is addressed.

Ongoing Efforts (cont.)

Many school districts in the county have been teaching the **Botvin's Life Skills Training Program**, which is a research-validated substance abuse prevention program proven to reduce the risks of alcohol, tobacco, drug abuse, and violence by targeting the major social and psychological factors that promote the initiation of substance use and other risky behaviors. A opioid-specific lesson is taught by BRiDGES staff members during a 15-week curriculum in local school districts. 475 youth were impacted by this program in 2018.

Helio Health's Center of Treatment Innovation is now available in Madison County. It provides outreach and mobile services to individuals struggling with an opioid use disorder. They offer peer-to-peer support networks, assistance with transportation, counseling services, personalized treatment programs, medication assisted treatment, and patient education. For more information please visit <https://www.sbh.org/center-treatment-innovation-coti/>.

BRiDGES, along with pharmacies such as Walmart have begun to provide **safe and effective prescription disposal kits** when prescriptions are filled, or if individuals are interested. These kits consist of a substance that is added to left over prescription pills in a pill bottle or bag, which is then mixed with water to separate the medication into a biodegradable "paste" so it can be safely thrown out. Furthermore, drugs treated with this method are both physically and chemically sequestered and cannot be extracted for abuse or pollute landfills and water supplies.

Madison County Jail started a **Vivitrol program** in the jail, beginning in July 2016. This program screens inmates for opiate problems and provides the first dose of Vivitrol while the inmate is in jail. While many jails and prisons only offer counseling and support groups for drug-addicted inmates, a growing number are treating inmates with drugs such as methadone, an opioid-based substance that eases withdrawal symptoms, or Vivitrol, a non-opioid, injectable medication that blocks the effects of both alcohol and heroin.

Previous Efforts 2015-2017

In September 2017, there was a **community walk** at Higinbotham Park in Oneida, NY, organized by Lyndon Joslyn. Over 100 people showed up to hear speeches, walk in Oneida, and learn about community resources. The goal was to raise awareness of opioid and heroin addiction that grips the community. The Mayor spoke, among others.

Community-wide meeting to discuss the problem & solutions convened in the fall of 2015.

Current Trends trainings were delivered to community members, parents, teachers, and others. Distributed information and posters about the opiate problem and where to seek help.

Survey of all local pharmacies to determine level of problems in Madison County, and how they dispose of medications. Hundreds of safe disposal handbills distributed to local pharmacies, both independent and chains.

Town Hall Meeting on Heroin and Opiates was held at Chittenango High School in March 2016 and was attended by more than 200 teens and adults.

Community Forum on Heroin and Opiates was held at Cazenovia High School in May 2016.

First responders and many others in the community have been **trained to use Naloxone**, anti-overdose drug.

BRiDGES and other regional providers, including Oneida Healthcare, brought the Executive Director of **Physician's for Responsible Opiate Prescribing, Dr. Andrew Kolodny**, to this region in October 2016. This conference was promoted to and open to doctors and other prescribers in a five-county region. Other community members also attended.

Previous Efforts 2015-2017

In October 2016, Madison County Mental Health Department hosted a week of training for law enforcement called **Crisis Intervention Training**.

OASAS has provided funding for a half-time peer engagement specialist to work in hospital Emergency Departments (ED) to assist people who have presented to the ED because of an overdose or other issue related to addiction. The position serves Oneida Healthcare and their affiliate practices, and will expand to Community Memorial Hospital in Hamilton.

Appendix A. Billboard Campaign Results

Campaign Details

Madison County Health Department launched an opioid public awareness campaign from December 26, 2017 until June 25, 2018. A national campaign called *Lock Your Meds* was selected based on the findings from a previous provider detailing project and the Madison County Opioid Report. The campaign consisted of billboards, pharmacy fliers, and movie theater advertisements.

- ◆ Billboards ran on the following schedule:
 - Rt. 365 @ Jct. Sconondoa St. Dec-17 and Jan-18
 - S Rt. Jct. Rt. 13 Canastota Feb-18, Mar-18, and Apr-18
 - Rt. 20 Bouckville/ Madison Dec-17 and Jan-18
 - Rt. 12B Hamilton May-18
- ◆ Fliers were distributed to all area pharmacies for display and distribution
- ◆ Ads ran at both Oneida and Hamilton movie theaters

Measures

To assess the impact of the campaign the Health Department surveyed area residents before and after. The survey was created in survey monkey and distributed by email, Facebook, and through partnering community agencies.

Findings

The goal of this campaign was to increase public awareness and encourage proper disposal of unused medications. The post survey indicated the following. There was an overall increase in awareness of children abusing prescription drugs and locking your medications. We observed an increase in the proportion of people that reported seeing the ads on campaign billboards and in movie theaters. While storage habits did not change, more people are utilizing medication drop off site opposed to flushing them down the toilet.

Limitations

This campaign was run simultaneously with a New York State campaign, outreach by numerous community organizations, and during a time of increased coverage of the Opioid Crisis on a national level. The campaign goals were met however may not produce the same results at a later time.

Billboard Campaign Results (cont.)

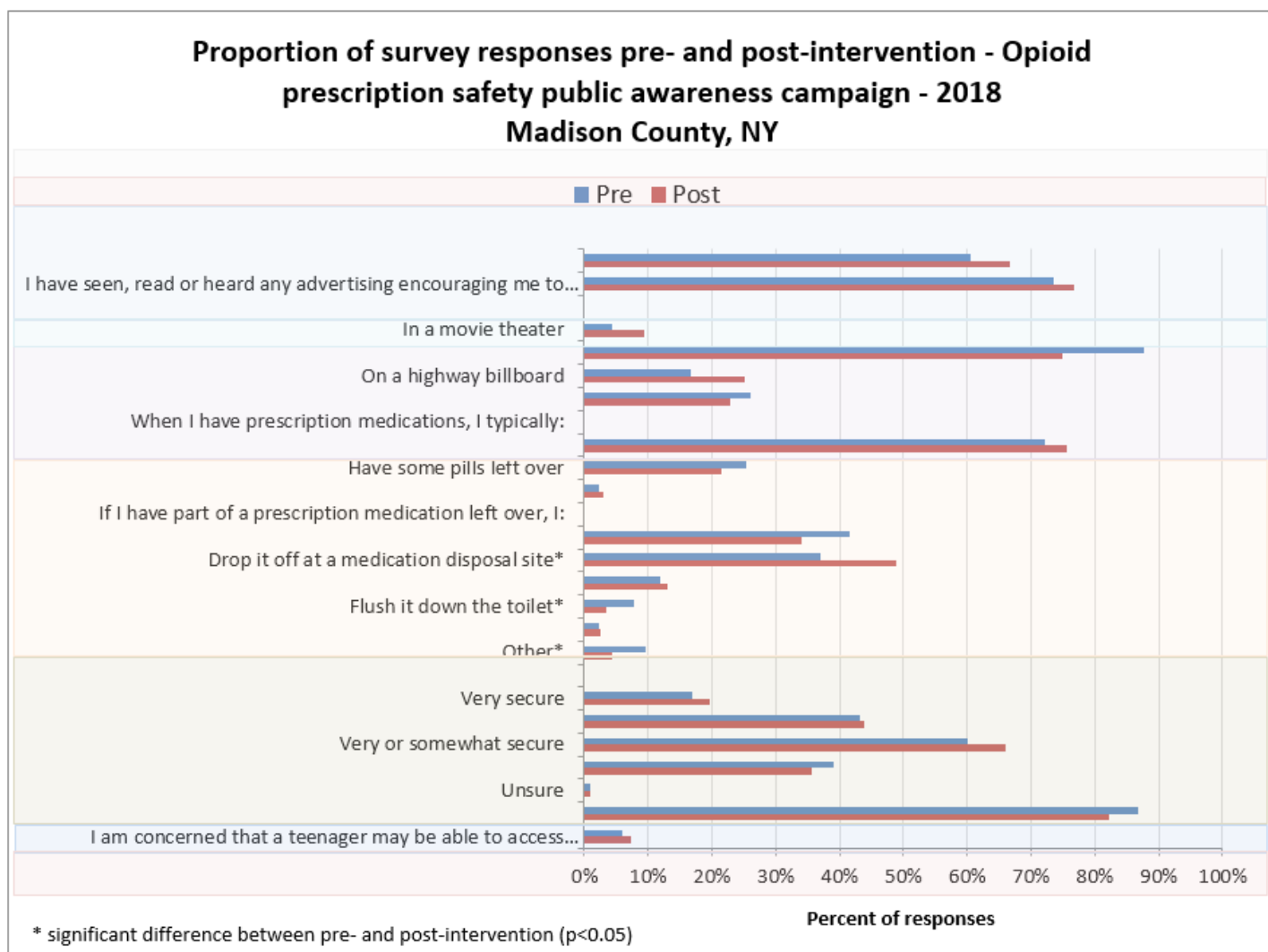


Figure 22. The proportion of survey responses reporting an awareness before and after the Opioid Prescription Safety Public Awareness Campaign (2018) in Madison County.

Appendix B. Data Tables

Overdose Deaths — Madison County

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018**^
All opioid overdoses*	2	6	4	6	4	4	8	7	14	3	8
Heroin overdoses	0	1	0	2	1	1	3	2	9	0	6
Overdoses involving opioid pain relievers	2	6	4	5	3	3	5	7	11	3	7

*Indicators are not mutually exclusive. Decedents and patients may have multiple substances in their system. Thus, overdoses involving heroin and overdoses involving prescription opioid pain relievers will not add up to the overdoses involving all opioids.

**January to September of 2018.

^Counts are not final, death certificates could still be pending/under investigation (data as of 05/2019).

Source: 2008-2013 — NYSDOH Vital Statistics; 2014-2018 — NYSDOH, New York State County Opioid Quarterly Reports. Accessed 05/2019.

Hospitalization and Emergency Department Visit Rates (per 100,000 population) for Overdoses Involving Any Opioid

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018*
Hospitalizations rate														
Madison County	s	8.5	s	s	8.6	s	9.5	12.4	12.4	16.6	11.1	22.3	14.0	s
CNY	9.4	9.3	10.0	9.4	13.6	14.8	16.1	16.7	18.6	17.4	18.6	21.1	16.3	9.7
NYS (excl. NYC)	8.8	9.8	10.6	12.1	13.0	14.3	16.1	16.2	16.9	17.3	16.7	16.9	17.4	10.3
Emergency department visit rate														
Madison County	s	s	8.6	8.6	s	13.6	9.5	12.4	26.2	51.1	45.9	73.8	37.9	26.8
CNY	8.0	12.7	11.2	12.4	12.9	14.9	17.5	22.5	32.3	37.4	53.8	89.9	66.1	45.9
NYS (excl. NYC)	8.5	9.7	9.3	11.3	11.7	13.2	15.8	18.0	25.0	30.2	41.0	59.4	64.4	38.8

s: Data for indicator are suppressed for confidentiality purposes if there are less than 6 discharges.

*January to September of 2018.

Source: NYSDOH, New York State County Opioid Quarterly Reports. Accessed 05/2019.

Opioid Analgesic Prescription Age-Adjusted Rate (per 1,000 population)

	2012	2013	2014	2015	2016	2017
Madison County	682.4	699.4	698.4	687.5	640.4	580.0
CNY	601.1	646.9	630.3	612.9	561.9	509.9
NYS (excl. NYC)	545.4	566.4	543.6	537.6	496.2	453.1

Source: NYSDOH, New York State County Opioid Quarterly Reports. Accessed 03/2019.

Data Tables (cont.)

Neonatal Abstinence Syndrome 3-year Average Rate (per 1,000 newborn discharges)

	2005- 2007	2006- 2008	2007- 2009	2008- 2010	2009- 2011	2010- 2012	2011- 2013	2012- 2014
Madison County	2.8	3.4	3.4	4.6	5.6	6.1	6.6	9.1
CNY	2.5	3.0	3.6	4.0	5.1	5.8	6.7	7.6
NYS (excl. NYC)	2.0	2.4	2.9	3.4	4.3	5.1	6.4	7.4

Source: NYSDOH, New York State County Opioid Quarterly Reports. Accessed 03/2019.

Neonatal Abstinence Syndrome Rate per 1,000 newborn discharges (any diagnosis)*

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2016
Madison	0	0	0	0	0	9.8	0	0	11.7	15.7	25.2
CNY	2.2	2.1	3.3	3.7	3.8	4.6	7	5.7	7.4	9.8	30
NYS (excl. NYC)	1.7	1.9	2.4	3.0	3.4	3.9	5.6	5.7	7.9	8.5	16.0

*The reported cases are based on the county of residence. Opioids include both prescription opioid pain relievers such as hydrocodone, oxycodone, and morphine, as well as heroin and opium. 2015 data excluded due to transition from ICD-9 to ICD-10.

Source: NYSDOH, New York State County Opioid Quarterly Reports. Accessed 03/2019.

Drug Sales (Kilograms of Opioid Pain Relievers Sold per 100,000 population)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
CNY	42.1	45.7	47.5	50.2	52.4	53.2	51.5	48.6	45.6	44.5	38.9	34.1
NYS	34.6	38.3	39.7	41.9	42.9	44.3	42.4	40.0	38.4	38.6	35.7	31.8

Drug sales data collected for: CNY zip codes 130XX-135XX; New York statewide; and drugs: Codeine, Fentanyl, Hydrocodone, Hydromorphone, Meperidine (Pethidine), Methadone, Morphine, and Oxycodone. Source: Automated Reports and Consolidated Ordering System (ARCOS).

Madison County Sheriff's Department Drug-related Arrests

	2009	2010	2011	2012	2013	2014	2015	2016
Heroin	2	1	2	3	0	14	12	14
Prescription Opioids	3	5	3	1	6	4	4	12

Source: Madison County Sheriff's Office.

Madison County Department of Social Services (DSS) Child Protective Reports, Court Petitions, and Opiate/Heroin Involvement

	2014	2015	2016	2017	2018
CPS Reports	1,463	1,529	1,634	1,733	1,696
Neglect/Abuse Petitions	72	65	78	64	65
Heroin/Opiate Involvement	17	19	26	14	13
Number of Adults	25	27	36	14	89
Number of Children	29	47	60	20	166

Source: Madison County Department of Social Services.

Data Tables (cont.)

Opioid Analgesic Prescription Age-Adjusted Rate (per 1,000 population) and percent change (2012 vs. 2017), for all New York State Counties

County	2012	2017	Percent change
Albany	465.7	429.6	-8%
Allegany	734.8	717.6	-2%
Bronx	394.4	357.8	-9%
Broome	710.1	639.0	-10%
Cattaraugus	801.5	741.1	-8%
Cayuga	556.7	563.4	1%
Chautauqua	745.9	653.7	-12%
Chemung	758.3	727.8	-4%
Chenango	689.3	641.8	-7%
Clinton	715.4	742.7	4%
Columbia	605.7	586.7	-3%
Cortland	621.3	603.3	-3%
Delaware	527.5	520.6	-1%
Dutchess	522.7	476.2	-9%
Erie	689.1	614.3	-11%
Essex	623.1	614.3	-1%
Franklin	642.7	627.7	-2%
Fulton	659.1	636.2	-3%
Genesee	668.5	634.3	-5%
Greene	772.6	715.6	-7%
Hamilton	638.7	624.0	-2%
Herkimer	665.5	616.1	-7%
Jefferson	655.1	651.1	-1%
Kings	267.8	238.0	-11%
Lewis	516.4	564.5	9%
Livingston	510.4	503.4	-1%
Madison	693.4	650.2	-6%
Monroe	528.8	479.7	-9%
Montgomery	865.9	802.5	-7%
Nassau	382.6	347.9	-9%
New York	325.0	273.6	-16%
Niagara	803.7	722.7	-10%

County	2012	2016	Percent change
Oneida	665.3	603.8	-9%
Onondaga	586.4	516.4	-12%
Ontario	528.9	481.5	-9%
Orange	553.8	515.7	-7%
Orleans	732.3	676.4	-8%
Oswego	723.4	644.6	-11%
Otsego	641.6	551.3	-14%
Putnam	459.9	436.6	-5%
Queens	249.5	215.6	-14%
Rensselaer	618.4	548.3	-11%
Richmond	521.4	442.2	-15%
Rockland	353.1	321.4	-9%
Saratoga	518.4	466.3	-10%
Schenectady	598.3	542.5	-9%
Schoharie	621.3	566.3	-9%
Schuyler	691.1	650.7	-6%
Seneca	582.3	559.0	-4%
St. Lawrence	647.8	686.5	6%
Steuben	600.8	598.7	0%
Suffolk	549.0	466.1	-15%
Sullivan	813.2	716.2	-12%
Tioga	537.4	515.8	-4%
Tompkins	599.7	538.6	-10%
Ulster	712.0	649.5	-9%
Warren	673.5	660.6	-2%
Washington	720.2	682.3	-5%
Wayne	646.6	578.2	-11%
Westchester	347.1	305.4	-12%
Wyoming	550.1	496.3	-10%
Yates	714.6	638.7	-11%
NYS	446.5	400.3	-10%
NYS, excl. NYC	544.8	453.1	-17%

Source: NYSDOH, New York State County Opioid Quarterly Reports. Accessed 03/2019.

Data Tables (cont.)

Teen Assessment Project (TAP) Survey Results — Madison County

	1999	2003	2007	2010	2014
How much do you think people harm themselves if					
No/Very little harm					12.3%
Some/A lot of harm					74.2%
Don't know					13.5%
How often you use prescription drugs (such as Oxy-Contin, Percocet, Vicodin, Codeine, Adderall, Ritalin, or Xanax) without a doctor's prescription?					
Never used	88.3%	89.1%	94.6%	89.3%	93.3%
Did use, but stopped	5.2%	4.3%	2.1%	3.6%	2.5%
Have used within the last year	6.5%	6.6%	3.3%	7.1%	4.2%
How often you use Heroin or other Opiates?					
Never used					96.7%
Did use, but stopped					0.8%
Have used within the last year					2.5%

Source: Madison County Youth Bureau, 2014

Data Tables (cont.)

Prescription Opioid Awareness Pre/Post Survey Results — Madison County (2018)

	Pre	Post	Pre vs. Post	
	n (%)	n (%)	OR (95% CI)	p-value (x ²)
I have seen, read or heard any advertising about children abusing prescription drugs	134 (60.6%)	154 (66.7%)	1.30 (0.88-1.91)	0.1824
I have seen, read or heard any advertising encouraging me to lock up my medications to prevent prescription drug abuse	162 (73.6%)	177 (76.6%)	1.17 (0.77-1.80)	0.4630
I recall seeing or hearing this ad:				
In a movie theater	7 (4.3%)	16 (9.4%)	2.30 (0.92-5.75)	0.0678
Online*	143 (87.7%)	128 (74.9%)	0.42 (0.23-0.74)	0.0026
On a highway billboard	27 (16.6%)	43 (25.1%)	1.69 (0.99-2.90)	0.0541
What I saw, read, or heard caused me to change my prescription medication storage habits	55 (25.9%)	50 (22.8%)	0.84 (0.54-1.31)	0.4517
When I have prescription medications, I typically:				
Take them until they are gone	159 (72.3%)	173 (75.5%)	1.19 (0.78-1.81)	0.4296
Have some pills left over	56 (25.5%)	49 (21.4%)	0.80 (0.51-1.24)	0.3100
Unsure	5 (2.3%)	7 (3.1%)	1.36 (0.42-4.34)	0.6066
If I have part of a prescription medication left over, I:				
Keep it in case I need it later	91 (41.6%)	78 (34.1%)	0.79 (0.50-1.07)	0.1020
Drop it off at a medication disposal site*	81 (37%)	112 (48.9%)	1.63 (1.12-2.38)	0.0109
Throw it in the trash	26 (11.9%)	30 (13.1%)	1.12 (0.64-1.96)	0.6944
Flush it down the toilet*	17 (7.8%)	8 (3.5%)	0.43 (0.18-1.02)	0.0491
Return it to the pharmacy	5 (2.3%)	6 (2.6%)	1.15 (0.35-3.83)	0.8178
Other*	21 (9.6%)	10 (4.4%)	0.43 (0.20-0.94)	0.0295
When I think about where I keep my medications, I think it is:				
Very secure	37 (16.8%)	45 (19.7%)	1.22 (0.75-1.97)	0.4245
Somewhat secure	95 (43.2%)	100 (43.9%)	1.03 (0.71-1.49)	0.8850
Very or somewhat secure	132 (60%)	145 (65.9%)	1.29 (0.87-1.90)	0.1994
Not secure	86 (39.1%)	81 (35.5%)	0.86 (0.59-1.26)	0.4354
Unsure	2 (0.9%)	2 (0.9%)	0.96 (0.13-6.91)	0.9714
I agree with the CDC labeling prescription drug abuse a national epidemic.	191 (86.8%)	190 (82.3%)	0.70 (0.42-1.18)	0.1806
I am concerned that a teenager may be able to access medications in my home.	13 (5.9%)	17 (7.4%)	1.27 (0.60-2.68)	0.5283
Total Responses	221	231	—	—

Source: Madison County Department of Health. Not all respondents responded to all questions. P-value determined by chi-squared test (x²).

*Significant difference between pre- and post-intervention (p<0.05)

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