



New York State

Opioid Annual Report

2019

New York State Department of Health

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1 - EXECUTIVE SUMMARY

1.1 - Charge

Public Health Law Section 3309(5)¹ requires the New York State (NYS) Commissioner of Health to publish findings on statewide opioid overdose data annually. In this report, the NYS Department of Health (DOH) shall provide information on:

- opioid overdoses and opioid overdose deaths, including age, sex, ethnicity, and geographic location;
- data on emergency room utilization for the treatment of opioid overdose;
- data on utilization of pre-hospital services;
- data on the dispensing and utilization of opioid antagonists; and
- any other information necessary to ascertain the success of the program, areas of the state which are experiencing particularly high rates of overdoses, ways to determine if services, resources and responses in particular areas of the state are having a positive impact on reducing overdoses, and ways to further reduce overdoses.

1.2 - Introduction

Death from opioid poisoning is a national issue. In 2017, in the U.S., there were 47,600 opioid overdose deaths, which included 15,482 heroin overdose deaths, and 17,029 deaths from commonly prescribed opioids.² In NYS, there were 3,224 overdose deaths among residents in 2017 of which 1,044 involved commonly prescribed opioids, 1,356 involved heroin, and 2,238 involved synthetic (i.e., man-made) opioids (other than methadone). There was a 200 percent increase in the number of opioid overdose deaths in NYS between 2010 and 2017.

The opioid epidemic is an unprecedented crisis. Besides the dramatic increase in the number of deaths identified in the past few years, this epidemic has devastated the lives of those with opioid use disorders (OUDs), along with their families and friends. We are also seeing an increase in the number of newborns diagnosed with neonatal abstinence syndrome and requiring immediate, specialized care. Those with OUDs are at higher risk for human immunodeficiency virus (HIV), hepatitis C, and chronic diseases. Finally, there is the economic impact on society with the costs to those with OUDs who are unable to hold down jobs, the healthcare costs for their treatment, costs for law enforcement efforts and emergency medical responses, and when overdose deaths occur, the costs for county coroners and medical examiners.

Since 2016, NYSDOH has been awarded more than \$7 million in funding from the Centers for Disease Control and Prevention (CDC) through the *Prescription Drug Overdose: Prevention for States* program, and an additional \$4 million awarded from the *Public Health Crisis Response* cooperative agreement. These resources have been utilized to advance interventions for prevention of opioid overdoses as outlined in this report.

Opioid overdose prevention requires a comprehensive approach that spans systems, organizations, and environments, combining treatment and intervention with prevention efforts. This report describes the opioid burden and the range of interventions currently being undertaken

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by NYSDOH around decreasing opioid use, preventing overdoses, and reducing the risks to the population's health, in addition to the data required by statute.

Developing solutions that work is the job of public health. Prior to 2016, the bedrock of the NYSDOH's response was training first responders and community members to respond to overdoses, providing access to naloxone to reverse opioid overdoses, and strengthening the Prescription Monitoring Program (PMP, also known as the Internet System for Tracking Over-Prescribing, or I-STOP). The DOH's role in fighting the opioid epidemic has been dramatically and rapidly increasing since this initial work. The NYSDOH is a key partner in a statewide multi-agency collaboration implementing NYS's comprehensive strategy to address this public health emergency, including ensuring that evidence-based treatment is affordable and accessible, enforcing the Public Health Law, educating prescribers, promoting harm reduction, and building local capacity to prevent deaths due to overdoses.

1.3 - Data Highlights

Among NYS residents, the number of overdose deaths involving any opioid increased from 1,074 in 2010 to 3,224 in 2017, with a 7 percent increase from 2016 to 2017. The age-adjusted rate of deaths involving all opioids in NYS tripled between 2010 and 2017, from 5.4 to 16.1 deaths per 100,000 population. During this time period, deaths from all opioids increased 200 percent; however, increases in deaths involving synthetic opioids (other than methadone), primarily fentanyl, drove most of the increase with a 1,194 percent increase. Between 2010 and 2017, opioid overdose deaths increasingly involved both heroin and synthetic opioids (other than methadone). A similar pattern was observed for deaths involving both cocaine and synthetic opioids (other than methadone). It is also important to note that although there have been increases in the number of deaths involving overall opioid overdoses, some of the observed increases have likely been due to raised awareness of opioid overdoses, improvements in technology and resources for toxicology testing, and improved cause-of-death reporting.

Among NYS residents, the number of hospital discharges for opioid use (including overdose, abuse, dependence and unspecified use) increased from 25,089 in 2016 to 25,567 in 2017 and crude rate per 100,000 population increased from 127.7 to 130.5. In 2017, the rate was highest among the 25-44 year-old age group and among Hispanic individuals. The rate was two and a half times higher among males than among females. New York City (NYC) had a higher rate (142.0 per 100,000) than NYS excluding NYC (121.8 per 100,000) in 2017.

In 2017, there were 12,378 visits to emergency departments (EDs) due to an opioid overdose among NYS residents, an 11 percent increase from 2016. The rate was highest among the 25-44 year-old age group in 2017, whereas the 18-24 year-old age group had the highest rate in 2016. The rate was more than two times higher among males than among females. The rate for NYS excluding NYC was almost double compared to the rate for NYC in 2017. The rate was highest among White non-Hispanic individuals.

The number of NYS residents admitted to substance use disorder treatment programs also shows that the opioid burden across the state remains high. In 2018, 62,114 unique clients reporting opioids among their substances of abuse were admitted to NYS Office of Alcoholism and Substance Abuse Services (OASAS) certified chemical dependence treatment programs. From

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2010 to 2018, the rates for NYS increased significantly from 330.7 to 368.9 per 100,000 population, while NYC rates decreased each year.

Among NYS residents, opioid burden (including outpatient ED visits and hospital discharges for non-fatal opioid overdose, abuse, dependence, and unspecified use; and opioid overdose deaths) increased from 57,354 in 2016 to 59,600 in 2017 and the crude rate per 100,000 population increased from 292.0 to 304.2, respectively. In 2017, the rate was highest among the 25-44 year-old age group and White non-Hispanic individuals. The rate was two and a half times higher among males than that among females. NYC had a higher rate than NYS excluding NYC, which is in contrast to the data from 2016. The counties with the highest rates for opioid burden include Chautauqua, Dutchess, Bronx, Ulster, Greene, Columbia, Sullivan, Suffolk, Richmond, Montgomery, Saratoga, Broome, Rensselaer, Genesee, New York and Albany.

1.4 - Prevention Efforts

1.4.1 - Primary Prevention

Primary prevention aims to prevent overdoses and substance use disorders before they ever occur. NYSDOH has engaged in educating healthcare providers on appropriate prescribing of opioids. To educate New Yorkers, NYSDOH launched an evidence-driven prescription opioid overdose prevention ad campaign to raise awareness that opioids can be addictive and dangerous, and to increase the number of individuals who avoid using opioids nonmedically.

The Prescription Monitoring Program (PMP) collects and analyzes dispensed controlled substance data from pharmacies and dispensing practitioners. NYSDOH continues to work to improve access to the PMP for prescribers. The PMP registry was redesigned to make it easier to use with a smart phone or tablet. NYSDOH has begun the necessary steps to move towards integration of the NYS PMP within a healthcare provider's Electronic Health Record. Overall, there has been a 10 percent reduction in the number of opioid analgesic prescriptions between 2017 and 2018, and a 15 percent decrease in the number of individuals who receive opioid prescriptions from five or more prescribers that were dispensed at five more pharmacies in a six month period, also known as "doctor shoppers."

1.4.2 - Secondary Prevention

The goal of public health secondary prevention activities is to reduce the impact of OUD that has already occurred. NYSDOH and the NYS OASAS have been working together to increase access to three types of Medication Assisted Treatment (MAT) to treat OUD: methadone, buprenorphine and long-acting naltrexone. Through this collaboration, *Implementing Transmucosal Buprenorphine for Treatment of Opioid Use Disorder: Best Practice Guidelines*³ was developed to assist those caring for individuals with OUD to integrate buprenorphine into their practices with the understanding that it will save lives.

In 2016, NYSDOH started the Buprenorphine Access Initiative to increase the number of healthcare practitioners certified to prescribe buprenorphine and thus, increase the number of patients receiving buprenorphine for treatment of OUD. By incorporating buprenorphine prescribing more broadly, individuals will have access to buprenorphine at various healthcare

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settings. This can help reach more of the population than traditional drug treatment settings alone, including younger opioid users and women of child-bearing age.

NYSDOH has been organizing and conducting buprenorphine waiver trainings for physicians statewide. During 2018, NYSDOH hosted 10 waiver trainings and Local Health Departments (LHDs) hosted 2 trainings, training 232 providers in 11 different counties around the state. Since the Buprenorphine Access Initiative commenced in 2016, NYSDOH has sponsored 47 trainings and trained 692 providers. As a follow-up to the trainings, participants are being contacted to see whether they have questions, and to be offered mentoring services for new providers as they begin prescribing. Targeted provider education activities are being conducted including buprenorphine academic detailing, creation of a Buprenorphine Provider Toolkit with provider and consumer materials, and development of enduring buprenorphine webinars. In 2018, NYSDOH, in partnership with State University of New York (SUNY) at Buffalo, developed an enduring online program, based on the toolkit that can be used by providers independently or to complement any buprenorphine academic/public health detailing activities.

NYSDOH developed the training, *Clinical Support for Implementation of Buprenorphine*, that is for providers who have completed all required buprenorphine waiver training, regardless of whether they have obtained their waiver or not. Many waiver training attendees request further training and technical assistance to start prescribing. This is a more intimate training with experienced buprenorphine providers that offers in-depth discussion on implementation, best practices, and the opportunity for healthcare providers to ask many questions. This training also includes guidance around the provision of buprenorphine in a variety of settings, including EDs and corrections, and with special populations such as pregnant persons, adolescents and those with co-occurring mental health issues.

Using funding from the CDC, 24 high burden counties (i.e., counties that exceeded the NYS mean number of deaths due to opioid overdoses and a burden measure combined opioid deaths, ED visits and hospitalizations) were funded to expand existing or develop new ways to address the opioid epidemic. Examples of LHD efforts in 2018 include: establishing linkages to care and facilitating incorporation of buprenorphine provision protocols in primary care, EDs, and correctional facilities; engaging first responders to develop and implement protocols that expand/integrate peer support services; increasing support to providers and health systems whereby the CDC Guideline for Prescribing Opioids for Chronic Pain were promoted; holding local buprenorphine waiver eligibility trainings to increase the number of providers who can prescribe buprenorphine in primary care, EDs, and correctional facilities; forming MAT peer-to-peer learning collaboratives; utilizing data for real-time response to improve the quality of or access to syndromic surveillance data; developing overdose spike response plans; and assessing unmet needs, service linkages, and barriers to care. By December 31, 2018, the 24 LHDs trained 134 new providers to improve local availability of buprenorphine, and 36 peer recovery coaches were trained to expand/integrate peer support services at the local level. There was a 23 percent increase in the crude rate of patients who received at least one buprenorphine prescription for OUD between 2015 and 2018.

Through efforts that began in 2018 between state and local entities, the NYSDOH collaborated with the Albany County Sheriff's Office to introduce a robust, multi-phase MAT program to

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operate within the Albany County Correctional Facility (ACCF). In the beginning stages of implementation, NYSDOH provided support to the ACCF staff in the form of remote and in-person provision of technical assistance relating to buprenorphine education and structuring of programmatic service delivery. The NYSDOH also served as the lead for developing policies and procedures for clinical staff to identify individuals with OUD, and provide buprenorphine treatment.

The NYSDOH has identified that settings such as EDs, which are on the frontline of the opioid crisis, can serve as a crucial point of engagement of people with OUD. NYSDOH has partnered with Buffalo MATTERS (Medication Assisted Treatment & Emergency Referrals) to expand access to buprenorphine in EDs. This partnership has made great strides with the expansion of buprenorphine in 17 EDs with over 40 community providers engaged as part of the referral network for ongoing care. This innovative model has altered the way EDs can intervene and serve the OUD population by integrating MAT to treat individuals with an OUD who have been admitted into the ED.

Syringe exchange programs (SEPs) were the first and have been the largest group of community programs to train people in the community to recognize overdose risks and respond when they occur. In 2018, the SEPs served 28,375 clients, 9,346 of whom were new. They furnished 9.9 million syringes to these individuals in 160,044 transactions. Of these clients, 5,749 were injection drug users under the age of 30. Twenty-nine percent of all clients received services via Peer Delivered Syringe Exchange (PDSE). These SEPs made 31,689 referrals in 2018; 22 percent for substance use treatment, 35 percent for medical/health services, 9 percent for food, and the remaining 34 percent for entitlements, housing and other supportive services.

NYSDOH continues to fund and support a novel model of care for people who use drugs called the Drug User Health Hubs (Hubs). The Hubs were started in 2016 to improve the availability and accessibility of culturally competent health care and MAT for people who use drugs (PWUD)—especially those who had not yet engaged in care or services and were at greatest risk for opioid overdose. Hubs are located at existing SEPs and enhance and expand services that are already provided at these programs, with the aim of reducing opioid overdoses primarily by providing access to MAT, providing education on the impact of fentanyl in the drug supply, and developing practical safety plans.

1.4.3 - Tertiary Prevention

The goal of tertiary prevention aims to lessen the impact of OUD that has lasting effects. This is done by helping people manage long-term, often complex health problems to prevent life-threatening adverse outcomes. NYS is a leader in the implementation of public health programming to prevent death from opioid overdoses. Its multi-pronged approach focuses on building overdose response capacity within communities throughout the State. The core of this program is for community laypersons to be trained, by organizations registered with NYSDOH, to administer naloxone (an opioid antagonist also known by the brand name Narcan) in the event of a suspected opioid overdose. There are currently more than 750 registered opioid overdose prevention programs, with over 425,000 individuals trained by them since the initiative's inception in 2006. Of these, 65,000 were public safety personnel and the rest were community responders. In 2018, there were 1,262 naloxone administration reports by law enforcement to

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NYSDOH and 2,665 reports by community programs. There was a total of 13,789 administrations reported by Emergency Medical Services (EMS) agencies during 2018, about a 35 percent increase from 10,201 administrations in 2015; a decrease of 13.5 percent occurred between 2017 and 2018.

Community pharmacies are increasingly important places for the public to obtain naloxone. They are becoming an integral component of harm reduction and opioid overdose prevention strategy. As of July 1, 2019, there were approximately 2,700 pharmacies throughout NYS with a standing order for naloxone in place. Pharmacies with this specific type of standing order do not require individuals seeking naloxone to have a prescription to obtain it.

NYS has developed the Naloxone Co-payment Assistance Program (N-CAP). Through N-CAP, individuals with prescription drug coverage have up to \$40 of their naloxone co-payments covered. There is no enrollment required. NYS only requires individuals to maintain their primary health insurance to participate in this program. This results in no or lower out-of-pocket expenses for the individual. N-CAP works with either a standing order or with a patient-specific prescription.

1.5 - Emerging Issues

The breadth and scope of opioid poisonings in NYS continues to evolve and change. In the past few years, synthetic opioids have become more prevalent. NYSDOH has initiated a rapid response project as an effort to rapidly identify where clusters of opioid overdoses are occurring. Currently, there is no method to rapidly identify new illicit drugs. This information is important to law enforcement, first responders, and medical providers, as well as to people who use drugs so they are better-informed of their risks. As new synthetic drugs are identified, it is important that both public health and public safety response be thorough and rapid. Following the syndromic surveillance model used to rapidly identify possible outbreaks or clusters of disease, NYSDOH developed an electronic syndromic surveillance system for opioid drug overdoses. This system uses near real time ED chief complaint data provided daily from 136 hospitals. Three syndromes have been developed: all drug overdoses, opioid overdoses, and heroin overdoses. A flag is created when a chief complaint matches one of the syndrome definitions. Results are currently shared through the Health Commerce System allowing localities to view overdoses by county or by hospital. In addition, patterns over time and within geographic areas are analyzed to detect clusters in zip codes.

2 - INTRODUCTION

This report reflects the work of many programs within the NYSDOH, in partnership with other agencies which have worked collaboratively to address the opioid epidemic. The principles of public health provide a useful framework for both investigating and understanding the causes and consequences of OUDs. This public health approach consists of four steps:

1. Defining the problem through the systematic collection of information about the magnitude, scope, characteristics and consequences of OUD.
2. Establishing the factors that increase or decrease the risk for OUD, and the factors that could be modified through interventions.
3. Identifying what works to prevent OUD by designing, implementing and evaluating interventions.
4. Implementing effective and promising interventions in a wide range of settings.⁴

This report provides an overview of opioid-related mortality and morbidity across NYS. It also summarizes new and expanded initiatives and collaborative cross-disciplinary efforts implemented by the NYSDOH to identify, assess, and address these problems. The report reflects the work of the NYSDOH which has collected, shared and examined data to identify where and to whom opioid overdoses are occurring, and to help inform timely, effective public health and public safety policy and practices to reduce the related deaths, disease, and social harms affecting New York's communities. Opioids include both prescription opioid pain relievers such as hydrocodone, oxycodone, fentanyl, and morphine, as well as illegal opioids such as heroin, and illicitly manufactured fentanyl and fentanyl analogues.

Death from opioid poisoning is a national issue. In 2017, in the U.S., there were 47,600 opioid overdose deaths, which included 15,482 heroin overdose deaths, and 17,029 deaths from commonly prescribed opioids.⁵ In NYS, there were 3,224 overdose deaths among residents in 2017 of which 1,044 involved commonly prescribed opioids, 1,356 involved heroin, and 2,238 involved synthetic opioids (other than methadone). There was a 200 percent increase in the number of opioid overdose deaths in NYS between 2010 and 2017.

The opioid epidemic is an unprecedented crisis. Besides the dramatic increase in the number of deaths identified in the past few years, this epidemic has devastated the lives of those with OUDs, along with their families and friends. We are also seeing an increase in the number of newborns diagnosed with neonatal abstinence syndrome. Those with OUDs are at higher risk for HIV, hepatitis C, and chronic diseases. Finally, there is the rising economic impact on society with healthcare costs for their treatment, costs for law enforcement efforts and emergency medical responses, and when overdose deaths occur, the costs for county coroners and medical examiners.

Due to the impact of this national epidemic, multiple sources of funding are being provided by federal agencies including the Substance Abuse and Mental Health Services Administration (SAMHSA) and the CDC. The Association of State and Territorial Health Officials (ASTHO) issued a 2017 and 2018 President's Challenge to address preventing substance misuse and addictions.⁶

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Since 2016, NYSDOH has been awarded more than \$7 million in funding from the CDC through the *Prescription Drug Overdose: Prevention for States* program, and an additional \$4 million awarded from the *Public Health Crisis Response* cooperative agreement. These resources have been utilized to advance interventions for prevention of opioid overdoses as outlined in this report.

Opioid poisoning prevention requires a comprehensive approach that spans systems, organizations, and environments, combining treatment and intervention with prevention efforts. This report describes the range of interventions currently being undertaken by NYSDOH addressing the prevention of opioid overdoses and reducing the risks to health.

Public Health Law Section 3309(5)¹ requires the NYS Commissioner of Health to publish findings on statewide opioid overdose data annually. In this report, the NYSDOH provides an overview of opioid-related mortality and morbidity across New York State, including:

- Prevalence of opioid use behaviors and opioid dependency
- Opioid overdose deaths
- Opioid overdose hospitalizations and ED visits
- Treatment admissions for opioid dependency
- Opioid prescribing
- Naloxone administration encounters

2.1 - Glossary

Acronym/Abbreviation	Definition
ACCF	Albany County Correctional Facility
ACOG	American College of Obstetricians and Gynecologists
ALS	Advanced Life Support
BLS	Basic Life Support
BNE	Bureau of Narcotic Enforcement
BWG	Buprenorphine Working Group
CDC	Centers for Disease Control and Prevention
CDS	Client Data System
CFR	Certified First Responders
CME	Continuing Medical Education
CNCP	Chronic Non-Cancer Pain
COOP	Community Opioid Overdose Prevention
DCJS	Division of Criminal Justice Services
DEA	Drug Enforcement Administration
DOCCS	Department of Corrections and Community Supervision
DOH	Department of Health
ED	Emergency Department
EMS	Emergency Medical Services
EMT	Emergency Medical Technician
e-PCR	Electronic Pre-hospital Care Reports
HCV	Hepatitis C Virus
HIDTA	High Intensity Drug Trafficking Areas
HIV	Human Immunodeficiency Virus
HRC	Harm Reduction Coalition
ICD-9	International Classification of Disease, 9th Revision
ICD-10	International Classification of Disease, 10th Revision
I-STOP	Internet System for Tracking Over Prescribing
LA	Long-acting
LGU	Local Governmental Units
LHD	Local Health Department
MAT	Medication Assisted Treatment
MATTERS	Medication Assisted Treatment and Emergency Referrals
MMC	Medicaid Managed Care
MME	Morphine Milligram Equivalents
MPEP	Medicaid Prescriber Education Program
N-CAP	Naloxone Co-payment Assistance Program
NAS	Neonatal Abstinence Syndrome
NH	Non-Hispanic
NSDUH	National Survey on Drug Use and Health
NYC	New York City

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NYS	New York State
NYS excluding NYC	New York State excluding New York City
OASAS	Office of Alcoholism and Substance Abuse Services
OFPC	Office of Fire Prevention and Control
OOPPS	Opioid Overdose Prevention Program System
OSA	Opioid Stewardship Act
ODU	Opioid Use Disorder
PCR	Pre-hospital Care Report
PDSE	Peer Delivered Syringe Exchange
PEP	Post-exposure Prophylaxis
PMP	Prescription Monitoring Program
PrEP	Pre-exposure Prophylaxis
PWUD	People Who Use Drugs
SA	Short-acting
SAMHSA	Substance Abuse and Mental Health Services
SEP	Syringe Exchange Program
SPARCS	Statewide Planning and Research Cooperative System
SUNY	State University of New York
TEAS	Technology Enhanced Access to Syringes
UCC	Urgent Care Center
YRBSS	Youth Risk Behavior Surveillance System

2.2 - Acknowledgements

This report was prepared with the invaluable assistance from the following programs:

- New York State Department of Health:
 - AIDS Institute
 - Bureau of Emergency Medical Services and Trauma Systems
 - Bureau of Narcotic Enforcement
 - Center for Community Health
 - Division of Epidemiology
 - Division of Family Health
 - Center for Environmental Health
 - Office of Health Insurance Programs
 - Office of Public Health Practice
 - Office of Quality and Patient Safety
 - Vital Records
- NYS Office of Alcoholism and Substance Abuse Services
- New York/New Jersey High Intensity Drug Trafficking Area

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3 - BACKGROUND

The NYSDOH's role in fighting the opioid epidemic has been dramatically and rapidly increasing. NYSDOH is a key partner in implementing the comprehensive NYS strategy to address this public health and public safety emergency. Prior to 2016, the bedrock of NYSDOH's response was training first responders and community members to respond to overdoses, providing access to naloxone to reverse opioid overdoses, and strengthening the Prescription Monitoring Program. The role for NYSDOH has grown since this initial work, and continues to rapidly expand.

NYSDOH is focused on protecting the health and safety of all New Yorkers. By utilizing a public health approach of research, evaluation and implementation of evidence based strategies, as well as enforcement of existing laws to protect patients and prevent diversion, NYSDOH is focused on identifying solutions to stop this epidemic while protecting all New Yorkers from the consequences of opioid misuse. Through innovation and collaboration, NYSDOH has brought together key stakeholders such as researchers, healthcare providers, insurers, treatment providers, mental health providers, law enforcement officials, and experts in information technology to expand and strengthen partnerships to secure and realign resources and create a collaborative infrastructure to implement a comprehensive approach.

NYSDOH strategies are:

- Implement and evaluate evidence-based and culturally appropriate prevention, policy and harm reduction strategies.
- Expand and enhance the use and dissemination of relevant surveillance and monitoring data.
- Optimize use of the Prescription Monitoring Program to prevent individuals from becoming addicted to controlled substances.
- Expand education for consumers, families and healthcare providers.
- Assist in building capacity to address the opioid emergency in local communities and support community coalitions.
- Expand support for and access to harm reduction interventions, including availability and use of naloxone.
- Increase access and utilization of evidence-based MAT.
- Use data, evaluation and research to inform interventions.
- Use real-time data to identify emerging hazards and target interventions.

NYSDOH implemented evidence-based interventions that will strive to combat this epidemic. Through a large-scale prescriber education program, healthcare providers are now receiving education on appropriate safe prescribing methods, and how to identify and treat addiction and pain management. We have improved access to the NYS I-STOP so that prescribers can easily access vital information about patient prescriptions. We have worked with local, state, and federal law enforcement agencies in the investigation of drug diversions, fraudulent prescribing, and pill mills. We have analyzed and disseminated county-level data such as naloxone administrations, and emergency room visits, hospitalizations and deaths related to overdose. These are provided to each county on a quarterly basis to assist communities in

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understanding their local burden. We have expanded access for people with OUD to buprenorphine due to the well-documented benefits of protection from opioid overdoses, improvement in adherence to other medications, provision of stability, reduction of disease transmission, and increase in access points for supportive and healthcare services.^{3, 7} And we have worked to provide near real-time information on ED visits to our local partners.

Developing solutions is a collaborative effort across multiple sectors at state and local levels. Ensuring that evidence-based treatment is affordable and accessible, educating prescribers and enforcing the law, and building local capacity to prevent deaths due to overdoses are all roles of the NYSDOH.

3.1 - State and Local Collaboration

There has been strong collaboration between NYSDOH with the NYS OASAS regarding opioid prevention activities. Conversations continue with the following NYS agencies: Office of Children and Family Services, Office of Mental Health, the Division of Criminal Justice Services, the NYS Education Department, the Department of Corrections and Community Supervision (DOCCS), and the NYS Police to explore data sharing and program collaboration. In addition, NYSDOH has worked with the High Intensity Drug Trafficking Areas (HIDTA) to house a Public Health Analyst to assist with data review and collaboration with HIDTA Drug Information Officers located in law enforcement.

In March 2016, the NYSDOH received funding from the CDC to assist in developing a public health response to the opioid poisoning epidemic. The initial work under this grant focused on developing an infrastructure within NYSDOH to enhance collaboration throughout the agency (Figure 1). Teams were developed linking programs in the following Centers and Bureaus located within the NYSDOH's Office of Public Health: the AIDS Institute (Office of Drug User Health and Office of Program Evaluation and Research), Center for Environmental Health (Bureau of Occupational Health and Injury Prevention), Center for Community Health (Division of Epidemiology and Division of Family Health), and the Office of Public Health Practice (Local Health Services Group and Public Health Information Group). Within the NYSDOH Office of Primary Care and Health Systems Management, the Bureau of Narcotic Enforcement and the Bureau of Emergency Medical Services and Trauma Services, and the NYSDOH Office of Health Insurance Programs are also involved. The NYSDOH Office of Quality and Patient Safety, the NYSDOH Bureau of Vital Records, and the NYS Information Technology Services offer invaluable assistance and collaboration.

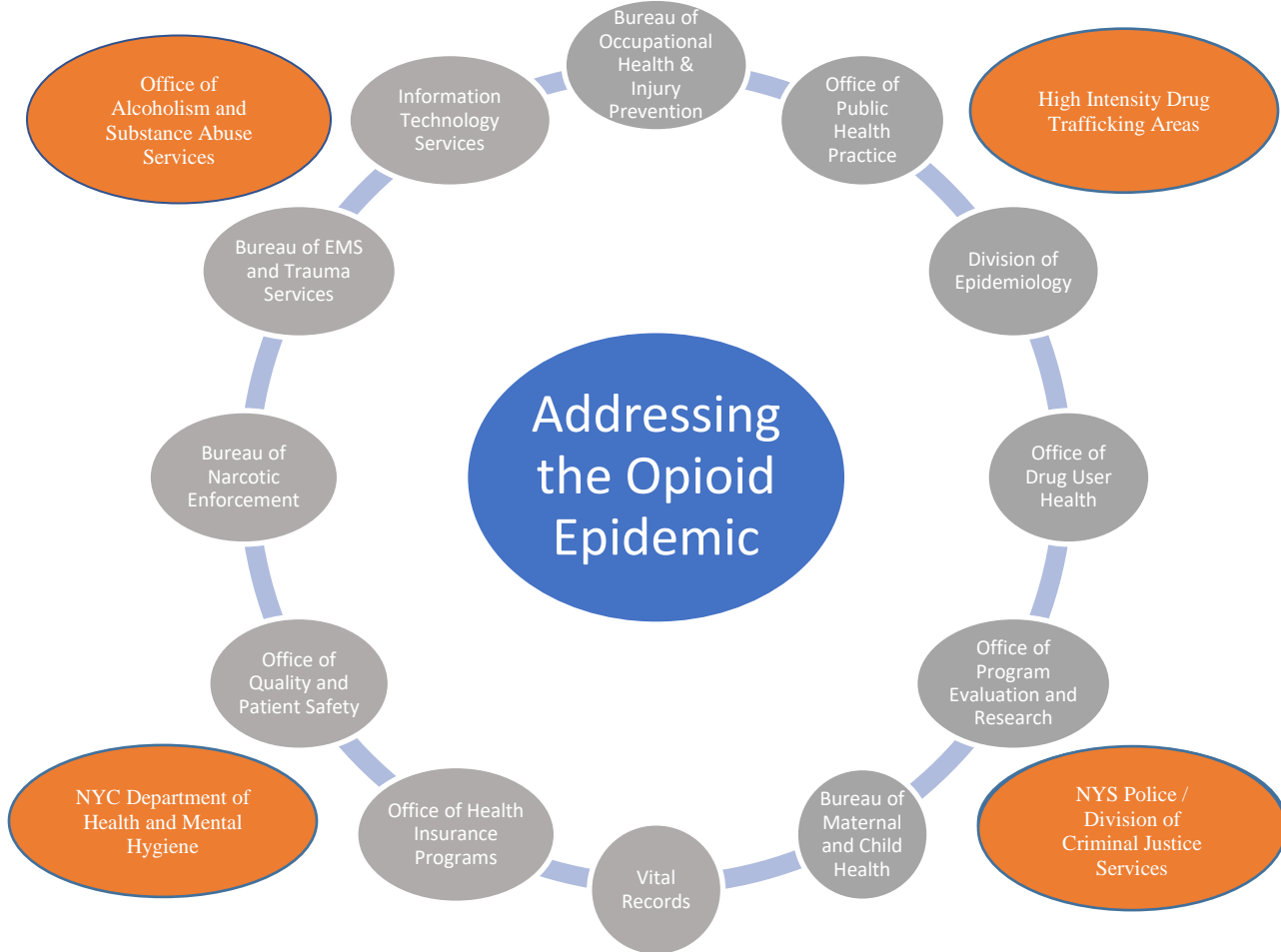
Every six years, every county health department is required to work with its local hospitals to complete a community health assessment and a community health improvement plan. Each county has an established coalition which analyzes local health data and develops plans to identify the local interventions to improve the health of their community. As part of the community health improvement process, each county must choose Prevention Agenda priorities to develop interventions to address. The Prevention Agenda⁸ is the blueprint for state and local action to improve the health of New Yorkers in five priority areas and to promote equity for racial, ethnic, disability, and low socioeconomic groups, as well as other populations who experience them using Health Across All Policies and Healthy Aging approaches. One of these priorities is to "Promote Well-Being and Prevent Mental and Substance Use Disorders." Among

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the 48 counties that selected this priority in 2013-2018, 27 chose “opioid abuse/overdose prevention” as a focus.

OASAS has encouraged its Local Governmental Units (LGUs) to collaborate with county health departments on the Promote Mental Health and Prevent Substance Abuse priority area of the Prevention Agenda. Under Mental Hygiene Law, LGUs have responsibility for oversight of the local mental hygiene system. A significant amount of local collaboration has taken place between County Health Department and LGUs on the DOH Prevention Agenda.

Figure 1. Opioid Poisoning Prevention Programs within NYS Department of Health



3.2 - Magnitude of the Opioid Burden

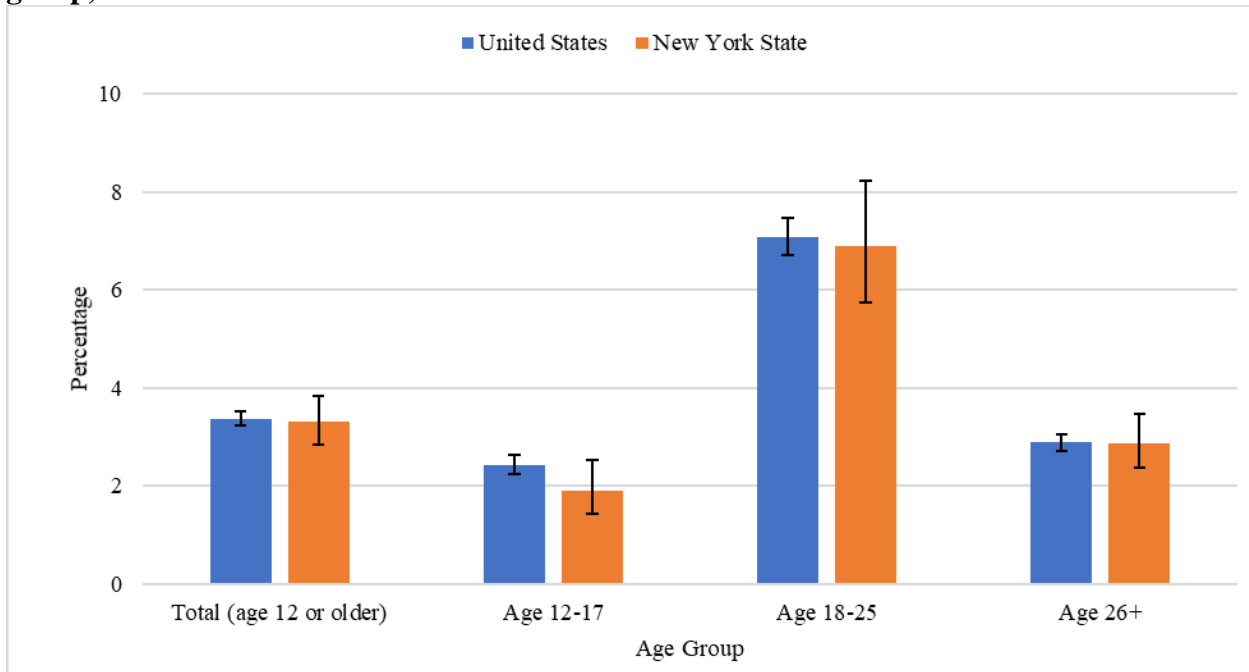
The opioid epidemic is growing nationally as well as in NYS. In 2017, drug overdose deaths involving an opioid accounted for more than 47,000 lives nationwide.⁹ Among NYS residents, the number of overdose deaths involving any opioid increased from 1,074 in 2010 to 3,224 in 2017. The age-adjusted rate of deaths involving any opioids in NYS tripled between 2010 and 2017, from 5.4 to 16.1 deaths per 100,000 population. The landscape of this epidemic has changed significantly in the last decade. While in 2002, it was still relatively rare to have an opioid overdose in most communities, it is now commonplace and has spread throughout New York by impacting every county, city and town. The increase in deaths due to opioids included a large increase in deaths due to fentanyl.¹⁰ Since approximately 2014, illicitly manufactured fentanyl has become a major part of the illicit opioid market. Often being mixed into powder heroin and even cocaine, or pressed into counterfeit pills (such as ones illicitly manufactured to resemble Vicodin, OxyContin, or Xanax), illicit fentanyl has played a significant part in the rising opioid-related death toll in the U.S.¹¹

In 2017, there were over 25,500 opioid overdose hospitalizations including opioid abuse, dependence, and unspecified use, as well as over 12,300 visits to EDs for opioid overdose (rates of 130.5 and 63.2, respectively) in NYS. The number of NYS residents admitted to treatment programs also indicates that the opioid burden across the state is high. In 2018, over 62,000 New Yorkers (368.9 per 100,000) were admitted to NYS OASAS certified treatment programs for opioids.

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The SAMHSA funds the National Survey on Drug Use and Health (NSDUH), an annual nationwide survey involving interviews with approximately 70,000 randomly selected individuals aged 12 years and older. This survey provides estimates on the use of tobacco products, alcohol, illicit drugs and mental health in the United States. These data are used to provide state and national estimates, to track trends in the use of substances, assess the consequences of substance use and abuse, and identify those groups at high risk for OUD.¹² During 2016-2017, 3.3 percent of the population aged 12 years and older in NYS and 3.4 percent of the population aged 12 years and older in the United States used illicit drugs other than marijuana in the past month (Figure 2). The percentage was highest in the 18-25 year-old age group (6.9 percent in NYS, and 7.1 percent in the U.S.), followed by ages 26 years and older (2.9 percent in NYS, and 2.9 percent in the U.S.), and the 12-17 year-old age group (1.9 percent in NYS, and 2.4 percent in the U.S.).

Figure 2. Prevalence of illicit drug use other than marijuana in the past month, by age group, 2016-2017



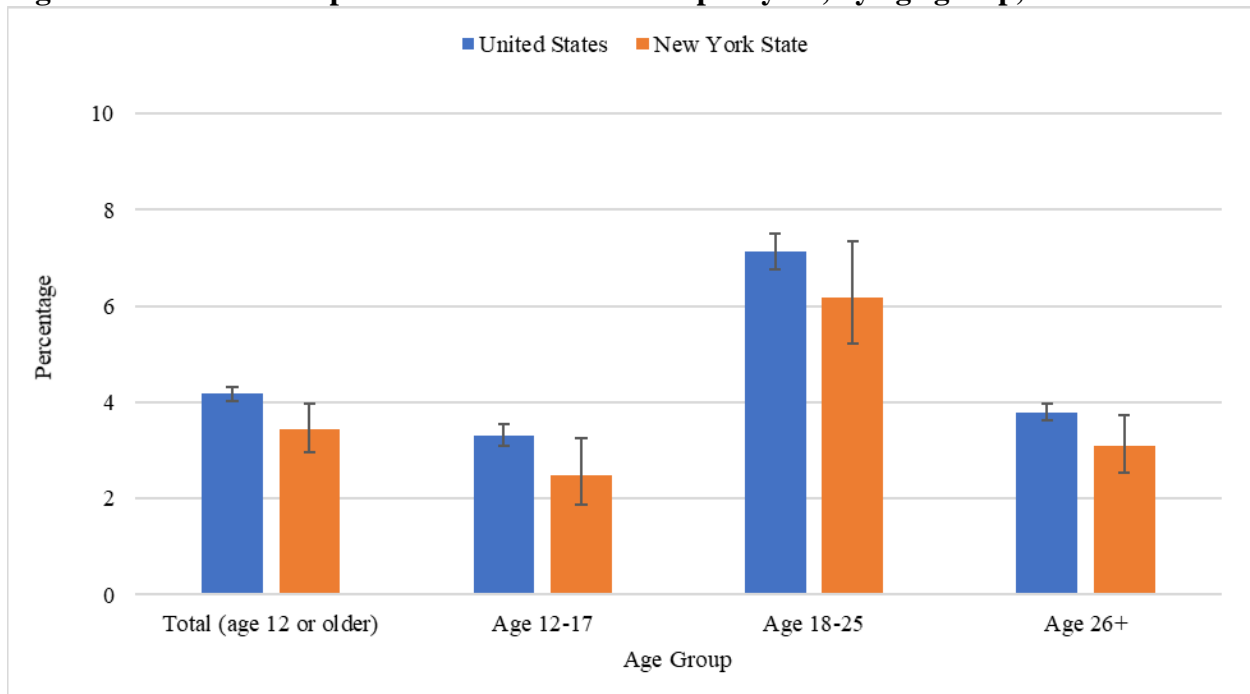
Data source: National Survey on Drug Use and Health (NSDUH); Data accessed April 2019

For complete data, see [Data Table 2, Appendix, page 20](#).

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During 2016-2017, 3.4 percent of the population aged 12 years and older in NYS and 4.2 percent of the population aged 12 years and older in the U.S. reported having misused pain relievers in the past year (Figure 3). The percentage was highest among the 18-25 year-old age group (6.2 percent in NYS, 7.1 percent in the U.S.), followed by ages 26 years and older (3.1 percent in NYS, 3.8 percent in the U.S.), and the 12-17 year-old age group (2.5 percent in NYS, 3.3 percent in the U.S.).

Figure 3. Prevalence of pain reliever misuse in the past year, by age group, 2016-2017

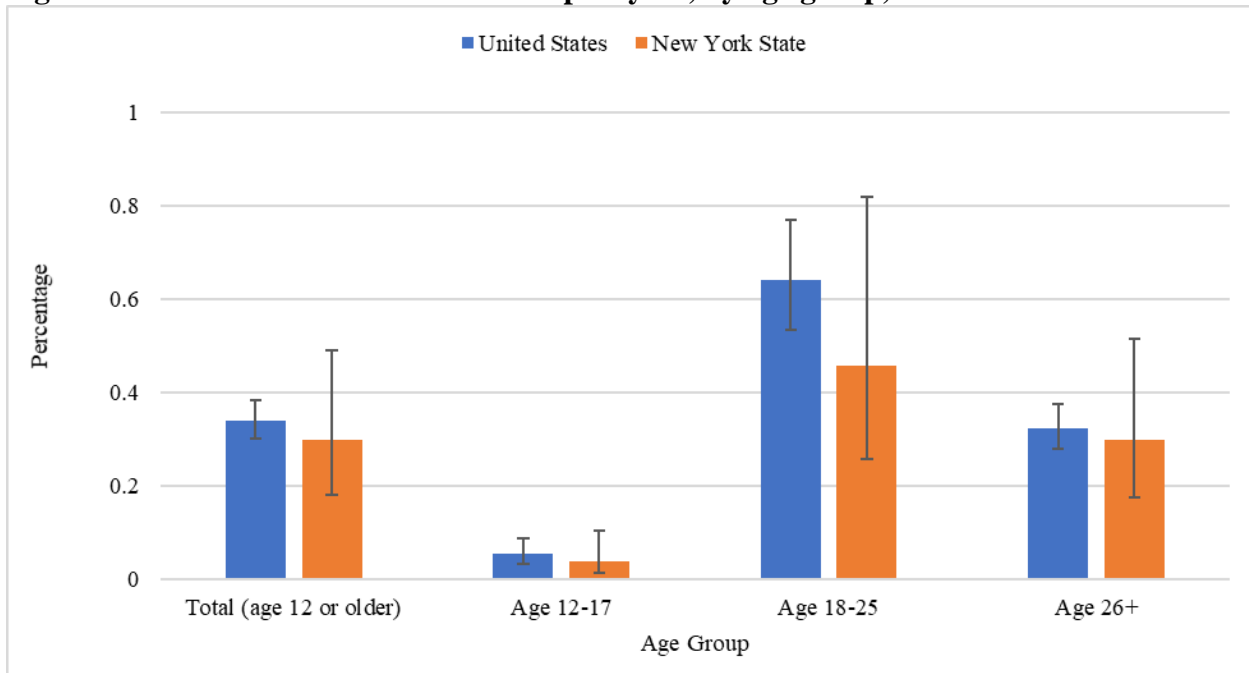


Data source: National Survey on Drug Use and Health (NSDUH); Data accessed April 2019
For complete data, see [Data Table 3, Appendix, page 20](#).

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During 2016-2017, 0.30 percent of the population aged 12 years and older in NYS and 0.34 percent of the population aged 12 years and older in the U.S. reported having used heroin in the past year (Figure 4). The percentage was highest among the 18-25 year-old age group (0.46 percent in NYS, 0.64 percent in the U.S.), followed by ages 26 years and older (0.30 percent in NYS, 0.32 percent in the U.S.), and the 12-17 year-old age group (0.04 percent in NYS, 0.05 percent in the U.S.).

Figure 4. Prevalence of heroin use in the past year, by age group, 2016-2017

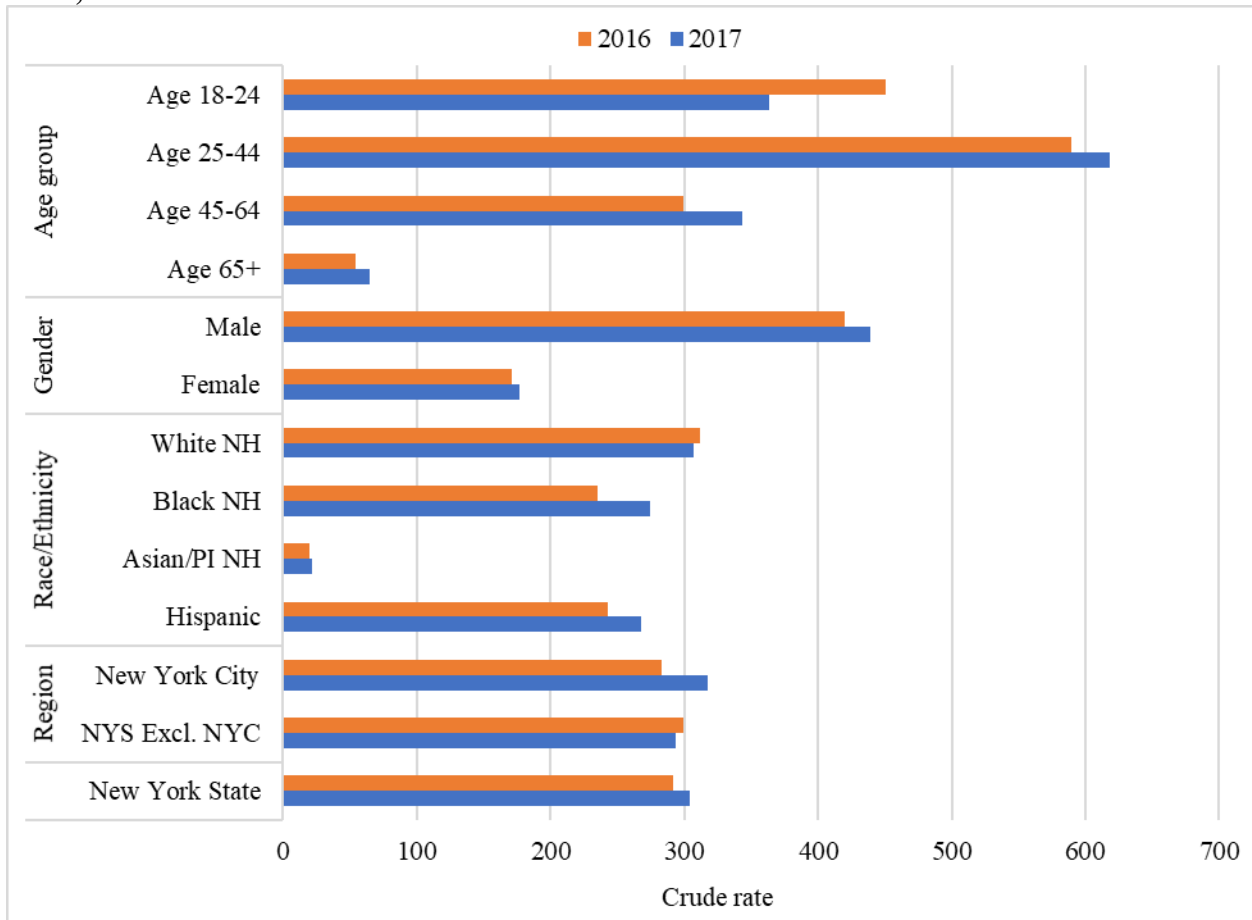


Data source: National Survey on Drug Use and Health (NSDUH); Data accessed April 2019
For complete data, see [Data Table 4, Appendix, page 20](#).

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Among NYS residents, the number of opioid burden events (including outpatient ED visits and hospital discharges for non-fatal opioid overdose, abuse, dependence, and unspecified use; and opioid overdose deaths) increased from 57,354 in 2016 to 59,600 in 2017 and the crude rate per 100,000 population increased from 292.0 to 304.2 (Figure 5). In 2017, the rate was highest among the 25-44 year-old age group (617.9 per 100,000), followed by the 18-24 year-old age group (363.3 per 100,000) and the 45-64 year-old age group (343.6 per 100,000). The rate was two and a half times higher among males (439.4 per 100,000) than that among females (176.7 per 100,000). The rate was highest among White non-Hispanic (NH) individuals (307.4 per 100,000), followed by the rates among Black NH individuals (274.7 per 100,000) and Hispanic individuals (268.1 per 100,000). NYC had a higher rate (317.7 per 100,000) than NYS excluding NYC (294.0 per 100,000) in 2017, whereas NYS excluding NYC (299.0 per 100,000) had a higher rate than NYC (282.8 per 100,000) in 2016.

Figure 5. Opioid burden (including outpatient emergency department visits and hospital discharges for non-fatal opioid overdose, abuse, dependence, and unspecified use; and opioid overdose death), crude rate per 100,000 population, by sub-population, New York State, 2016 and 2017

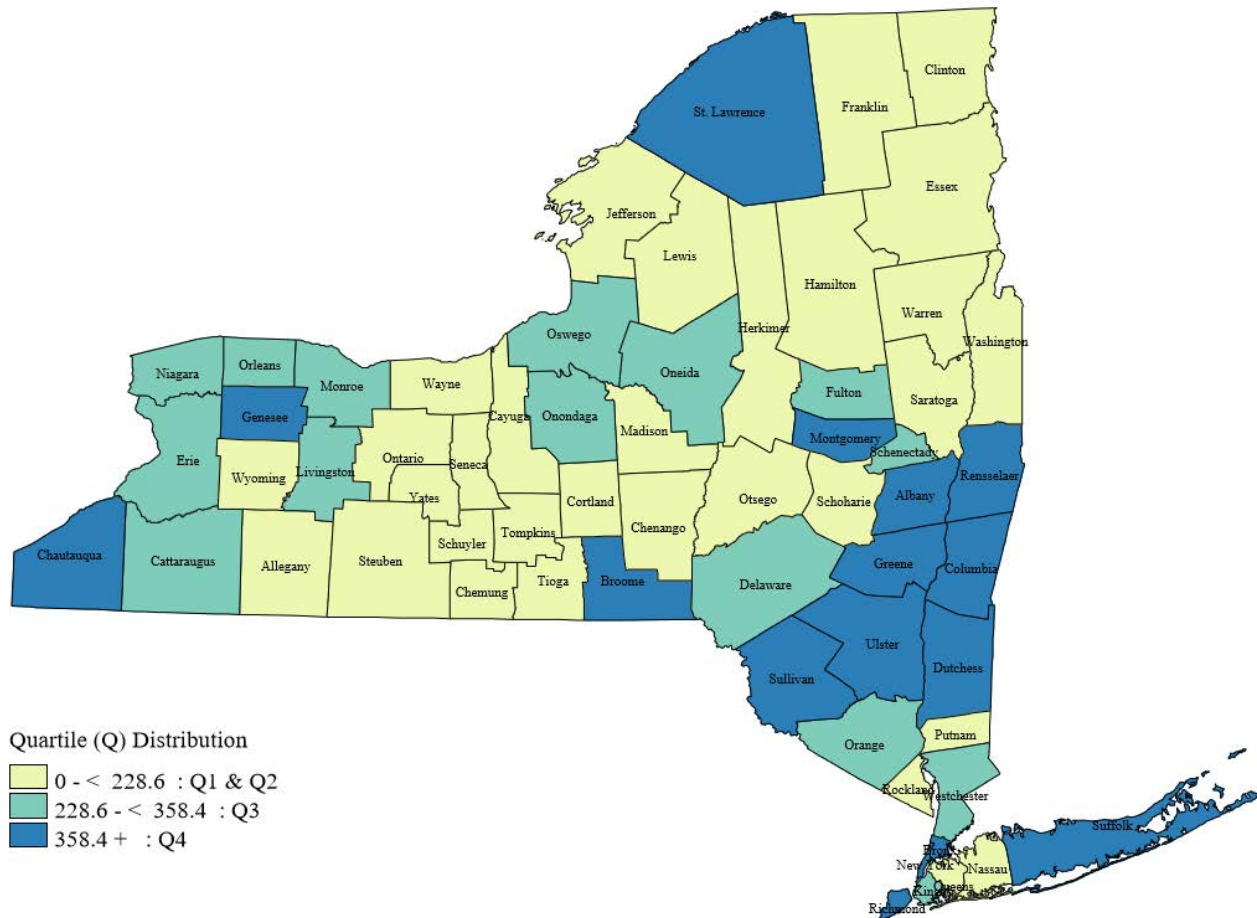


Data sources: CDC WONDER, Data accessed May 2019; NYSDOH Statewide Planning and Research Cooperative System (SPARCS); Data as of May 2019
 For complete data, see [Data Table 5, Appendix, page 21](#).

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In 2017, the 16 counties with opioid burden (including outpatient ED visits and hospital discharges for non-fatal opioid overdose, abuse, dependence, and unspecified use; and opioid overdose deaths) in the highest quartile (crude rates greater than or equal to 358.4 per 100,000 population) were: Chautauqua, Dutchess, Bronx, Ulster, Greene, Columbia, Sullivan, Suffolk, Richmond, Montgomery, St. Lawrence, Broome, Rensselaer, Genesee, New York, and Albany (Figure 6).

Figure 6. Opioid burden (including outpatient emergency department visits and hospital discharges for non-fatal opioid overdose, abuse, dependence, and unspecified use; and opioid overdose death), crude rate per 100,000 population, by county, New York State, 2017

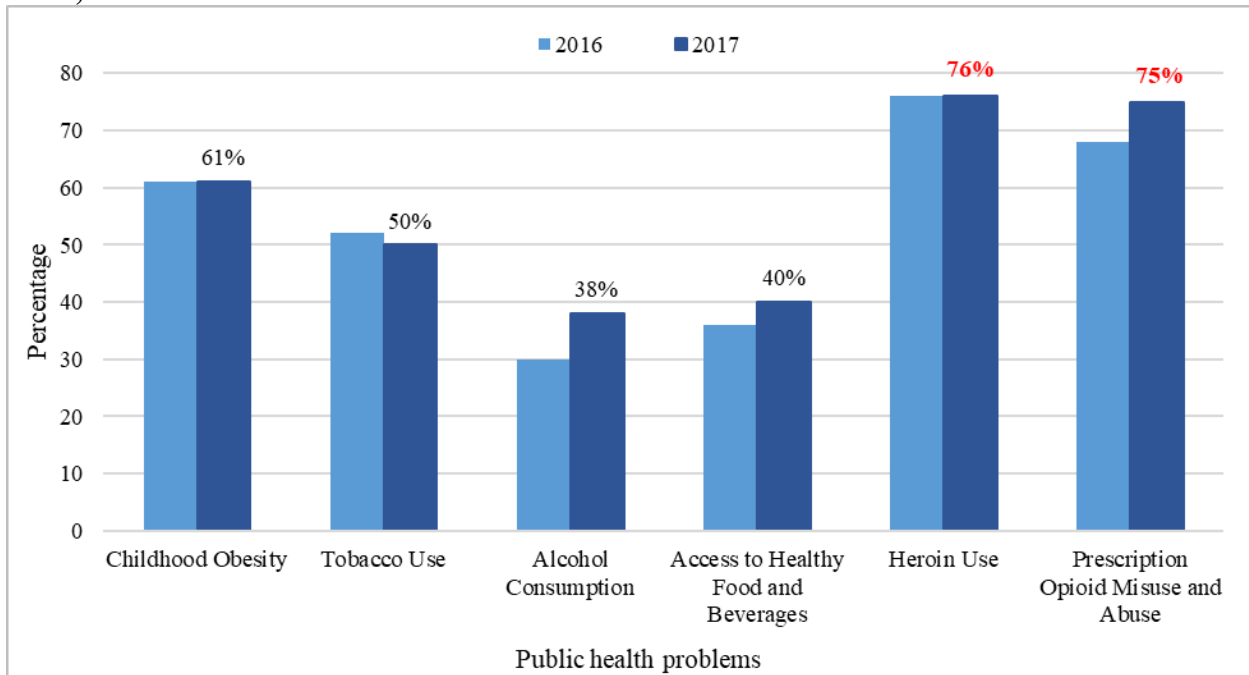


Data sources: NYS Excl NYC death data from New York State Department of Health, Bureau of Vital Statistics; as of May 2019; NYC death data from CDC WONDER, accessed May 2019; New York State Department of Health Statewide Planning and Research Cooperative System (SPARCS), as of May 2019. For complete data, see [Data Table 6, Appendix, page 22](#).

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Approximately 75 percent of New Yorkers consider prescription opioid misuse and abuse to be a “very serious” public health problem. Similarly, about 76 percent of New Yorkers consider heroin use to be a “very serious” public health problem (Figure 7). Perception of opioids as a serious public health problem is not restricted to a single geographic region of NYS. Across the state, most New Yorkers surveyed reported that they consider heroin use and prescription opioid misuse and abuse to be a “very serious public health problem.” Compared to the percentage of New Yorkers who consider other issues to be “very serious” public health problems, a greater percentage of New Yorkers consider heroin use and prescription opioid misuse and abuse to be a “very serious” public health problem.

Figure 7. Perceptions of public health problems as “Very Serious” by adults in New York State, 2016 and 2017



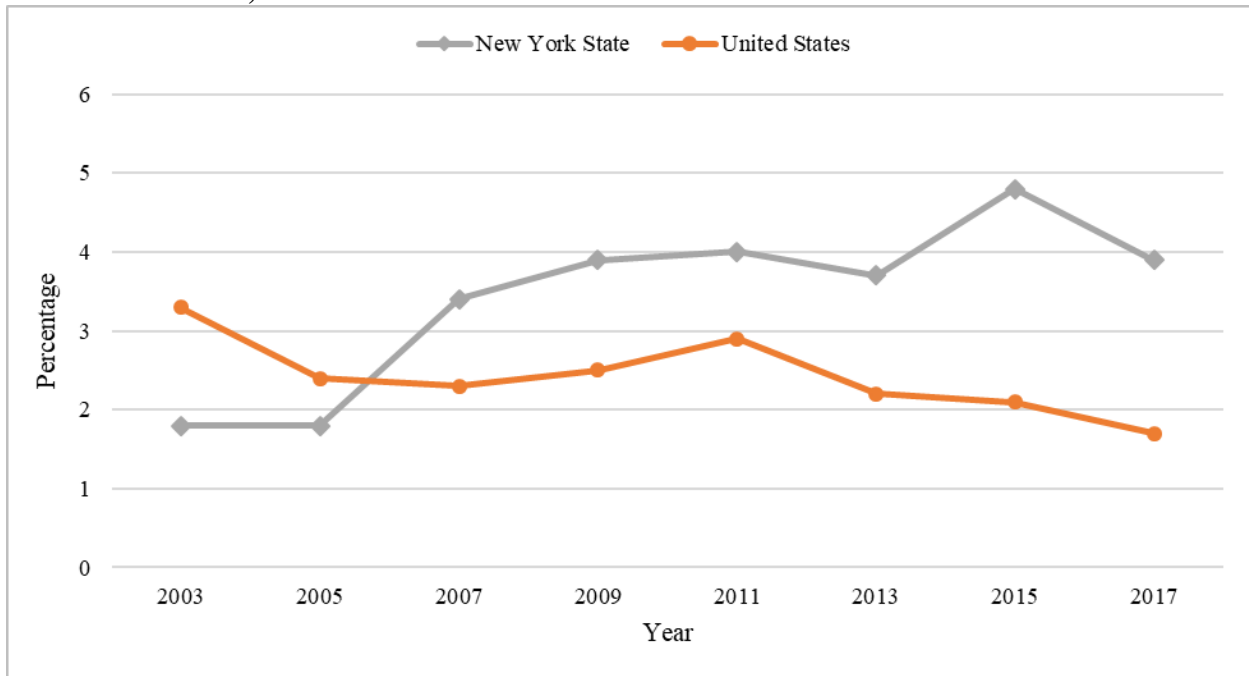
Data Source: NYSDOH, Division of Chronic Disease Prevention Public Opinion Poll; Data accessed July 2019

For complete data, see [Data Table 7, Appendix, page 24](#).

3.2.1 - Youth

The Youth Risk Behavior Surveillance System (YRBSS) collects information from high school students about risky behavior patterns. According to the survey, the percentage of high school students in NYS who reported ever using heroin increased from 1.8 percent in 2003 to 4.8 percent in 2015. In 2017, that percentage reduced to 3.9 percent. The percentage of students who reported ever using heroin has, since 2007, been consistently higher in NYS than nationally (Figure 8). The data suggests that primary prevention efforts are needed for students in junior high or middle school, or earlier, and should continue throughout their high school careers. The percentage of all high school students self-reporting having used heroin has steadily increased since at least 2003, but there is not a clear pattern in percentage within grade levels (trend data not shown).

Figure 8. Percentage of high school students reporting ever using heroin, New York State and United States, 2003-2017



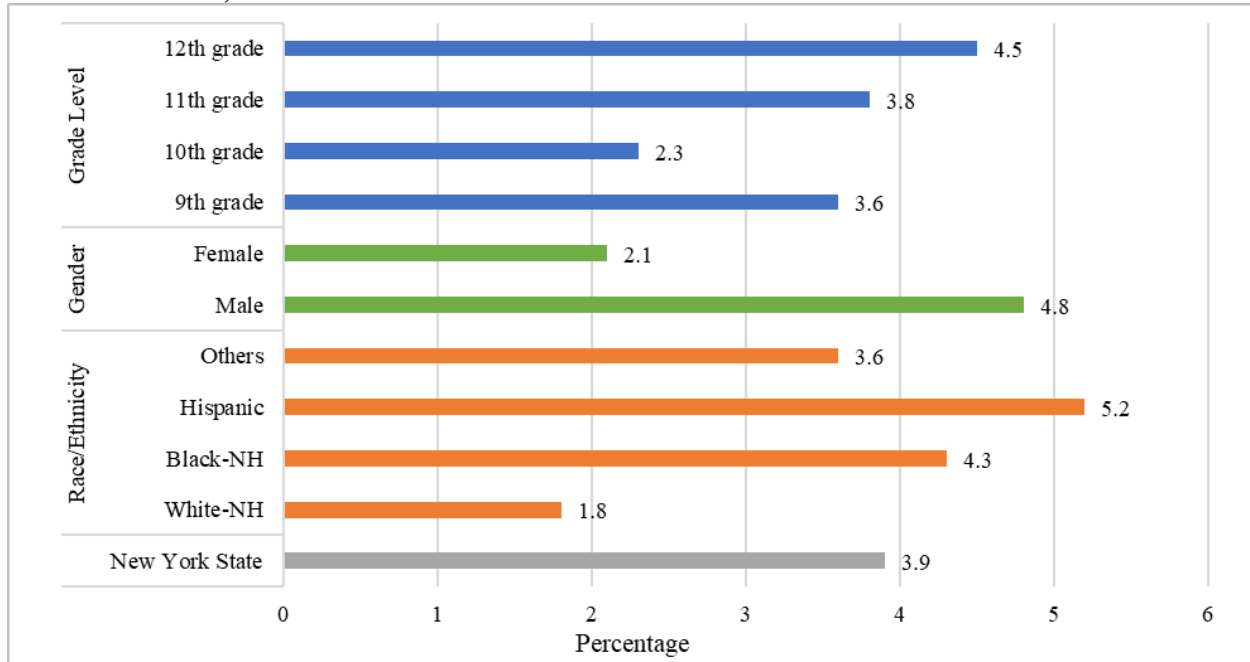
Data source: Youth Risk Behavior Surveillance System (YRBSS); Data accessed August 2018
 Survey Question: During your life, how many times have you used heroin (also called smack, junk, or China White)?

For complete data, see [Data Table 8, Appendix, page 24](#).

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In NYS during 2017, 3.9 percent of all high school students reported ever using heroin statewide (Figure 9). This was higher among male (4.8 percent), Black non-Hispanic (4.3 percent), Hispanic (5.2 percent), and 12th grade (4.5 percent) students.

Figure 9. Percentage of high school students reporting ever using heroin, by subpopulation, New York State, 2017



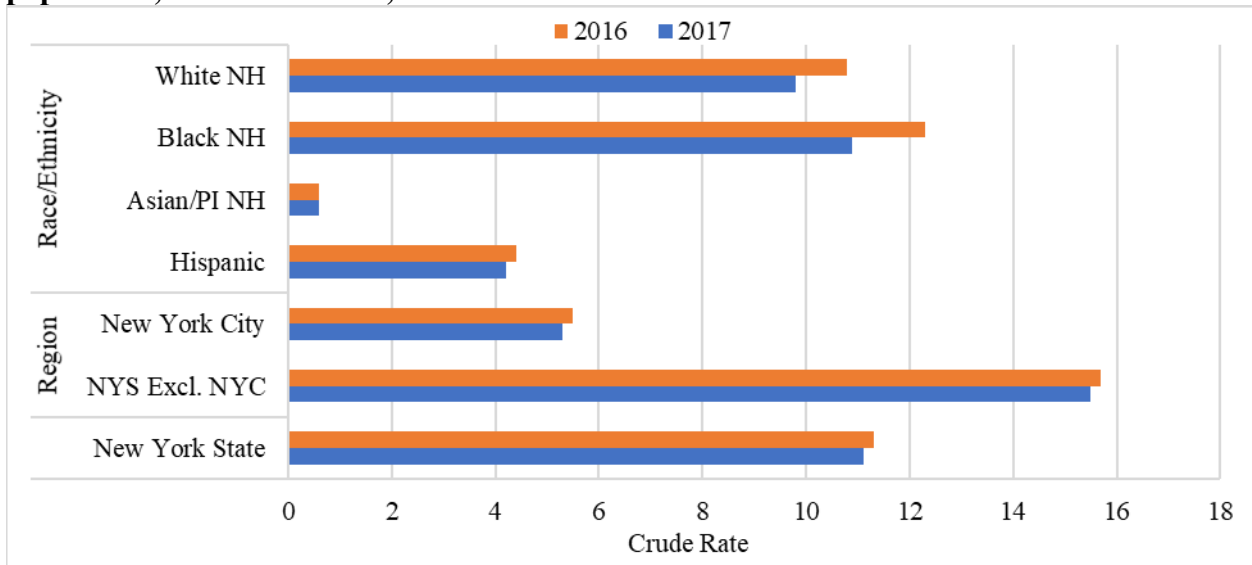
Data source: Youth Risk Behavior Surveillance System (YRBSS); Data accessed August 2018
Survey Question: During your life, how many times have you used heroin (also called smack, junk, or China White)?

For complete data, see [Data Table 9, Appendix, page 25](#).

3.2.2 - Neonatal Abstinence Syndrome

Among NYS residents, the number of newborns with Neonatal Abstinence Syndrome (NAS) and/or affected by maternal use of drugs of addiction decreased from 2,218 in 2016 to 2,177 in 2017 and the crude rate per 1,000 newborn discharges decreased from 11.3 to 11.1 (Figure 10). The rate in 2017 was highest among Black NH newborns (10.9 per 1,000), followed by the rates among White NH (9.8 per 1,000) and Hispanic newborns (4.2 per 1,000). NYS excluding NYC (15.5 per 1,000) had nearly three times higher a rate than NYC (5.3 per 1,000). It is important to note that data on the long-term effects of NAS on developmental outcomes are limited.¹³

Figure 10. Newborns with neonatal abstinence syndrome and/or affected by maternal use of drugs of addiction (any diagnosis), crude rate per 1,000 newborn discharges, by sub-population, New York State, 2016 and 2017



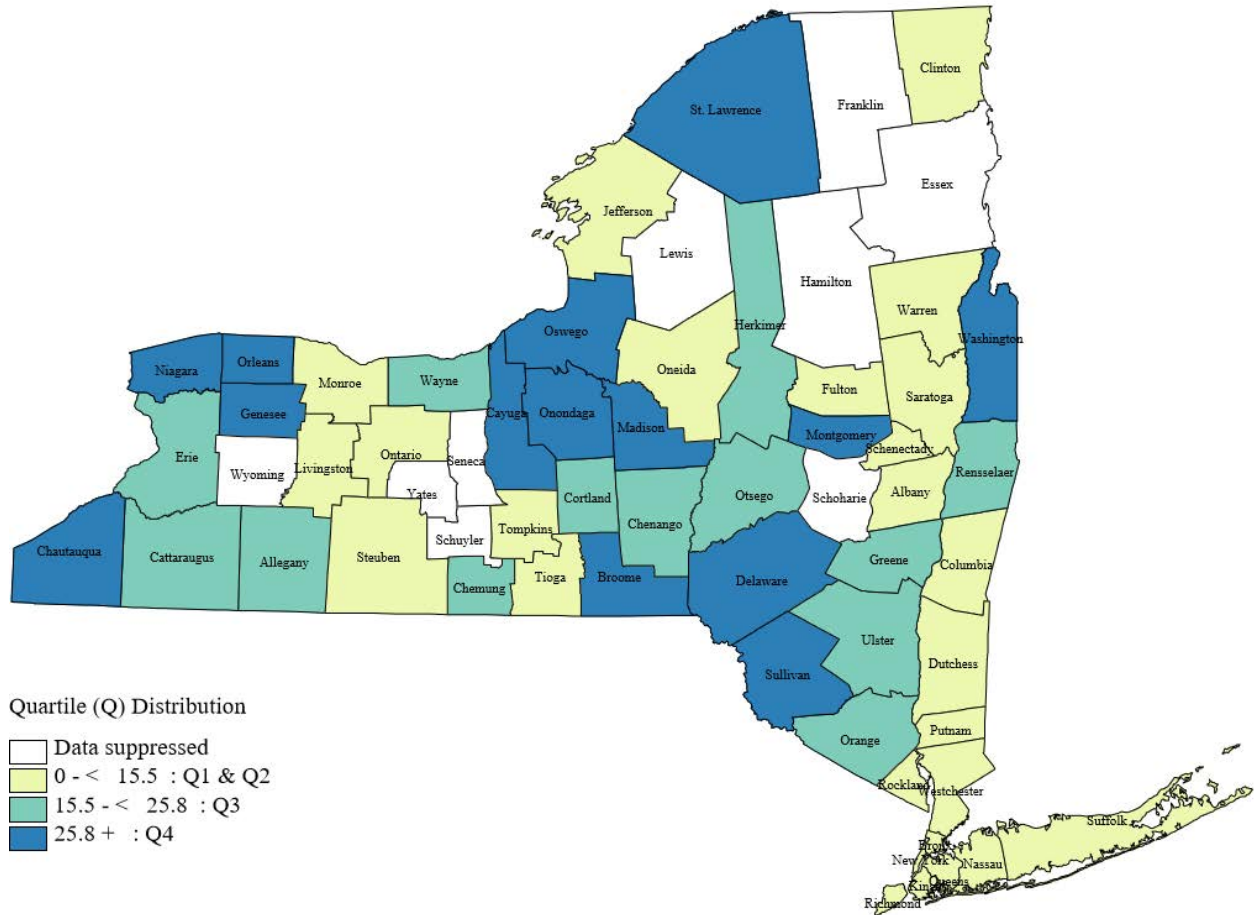
Data source: NYSDOH Statewide Planning and Research Cooperative System (SPARCS); Data as of May 2019

For complete data, see [Data Table 10, Appendix, page 25](#).

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In 2017, the 14 counties in the highest quartile (crude rates greater than or equal to 25.8 per 1,000 newborn discharges) for newborns with neonatal abstinence syndrome and/or affected by maternal use of drugs of addiction were Oswego, St. Lawrence, Niagara, Chautauqua, Onondaga, Sullivan, Delaware, Broome, Montgomery, Madison, Genesee, Orleans, Washington and Cayuga (Figure 11).

Figure 11. Newborns with neonatal abstinence syndrome and/or affected by maternal use of drugs of addiction (any diagnosis), crude rate per 1,000 newborn discharges, by county, New York State, 2017



Data source: NYSDOH Statewide Planning and Research Cooperative System (SPARCS); Data as of May 2019

For complete data, see [Data Table 11, Appendix, page 26](#).

4 - OPIOID-RELATED OVERDOSE DATA IN NYS

NYSDOH has initiated several surveillance activities to further understand opioid poisoning prevalence and mortality. An interagency opioid surveillance workgroup to coordinate data sources and indicators to monitor and address opioid overdoses has been formed. The NYSDOH has led this effort, and established an opioid data core team to analyze all available databases, and incorporate results into comprehensive surveillance data reports and a dashboard for distribution to appropriate audiences. As a result of these ongoing efforts, local communities are better informed of opioid trends within their areas, officials are empowered to respond as needed and determine where improvements may be occurring.

The NYSDOH Opioid Prevention Program's surveillance team is responsible for analyzing and reporting on a wide array of opioid measures to the CDC so that NYS data can be compared with other states and be a part of a national opioid prevention program (www.cdc.gov/drugoverdose/states/state_prevention.html) to assess progress made by various intervention strategies. These efforts include improving timely opioid overdose reporting to key stakeholders and providing opioid-related data from various sources to offer information on major outcomes such as the prevalence of illicit drug use (including heroin) and non-medical use of prescription pain relievers; opioid overdose ED visits, hospitalizations and deaths; opioid dependency and abuse ED visits and hospitalizations; and neonatal abstinence syndrome. This information is a valuable tool for planning, and can help identify where communities are struggling, help tailor interventions, and show improvements.

Most of these data measures are used in various sections of this 2019 Annual Opioid Report to provide a comprehensive description on opioid burden in NYS, highlight early impacts of prevention initiatives, as well as indicate gaps and challenges for future directions and improvement.

In accordance with the recommendations of the NYS Heroin and Opioid Task Force and 2016 legislation, the NYSDOH Opioid Prevention Program's surveillance team provided opioid overdose quarterly data (deaths, ED visits, and hospitalizations) by county in the first quarterly report released and made available on the opioid website in October 2016. To date, multiple quarterly reports and annual reports have been published on the NYSDOH Opioid Data website: <https://health.ny.gov/statistics/opioid/>. The surveillance team has been working with a broad group of stakeholders to systematically incorporate new data sources and measures as they become available. Since the first report, additional opioid-related data have been added on naloxone administrations by Emergency Medical Services (EMS), law enforcement and registered Community Opioid Overdose Prevention (COOP) programs; admission for opioid misuse or dependency to OASAS-certified chemical dependence treatment programs across the state were also added to subsequent reports. Each quarter, in addition to being posted on the Opioid Data website, these reports are emailed to county officials, including 57 county health departments, county executives, NYC borough presidents, and the NYC Department of Health and Mental Hygiene. Recent reports were also disseminated to the state and local law enforcement agencies in the state. An opioid data dashboard – an interactive visual presentation

of indicators tracking opioid data at state and county levels – has been launched at: <https://www.health.ny.gov/opioiddashboard>.

4.1 - Opioid Overdose Mortality

The confirmation and recording of opioid-related deaths are often delayed due to factors such as pending toxicology tests results and the strain on capacity due to the epidemic. The decentralized coroner/medical examiner system in NYS means that methods used to conduct toxicology studies to determine which drugs have caused or contributed to people’s deaths are not standardized. Likewise, the completion of death certificates is inconsistent, causing variations in coding affecting the ability to identify the extent of the public health problem. This epidemic has created a shortfall of funding for conducting autopsies and toxicology tests deemed necessary for the appropriate identification of substances involved in deaths. This may result in misidentification or lack of identification of deaths due to opioid overdose. The county, available resources, and whether the case is investigated by a coroner or medical examiner will impact the extent of the toxicology testing conducted. This means that some counties may be able to test for novel substances such as fentanyl analogs, while other counties may rely on private laboratories for testing or law enforcement forensic reports to confirm the substance. Occurring simultaneously with the opioid epidemic is a national suicide epidemic. Intentionality of drug overdoses (including the use of other drugs in conjunction with opioids) is difficult to define, and it is unknown how many suicides may be misclassified as drug overdoses based on the manner of death.

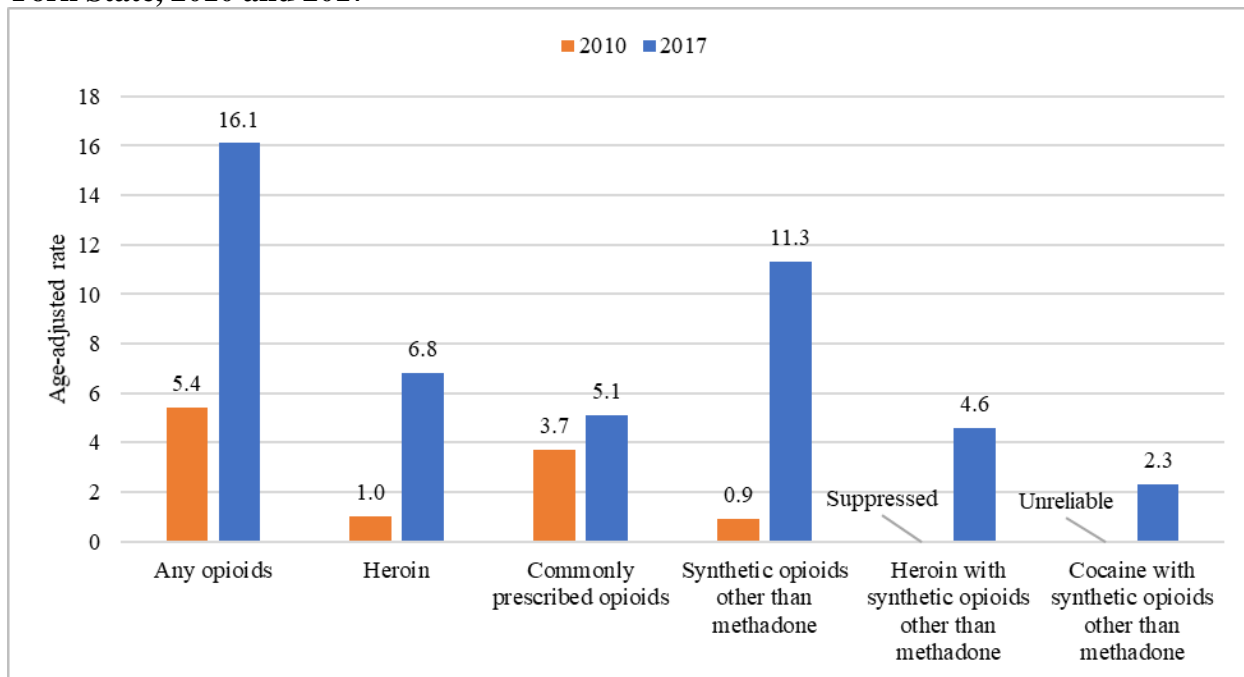
Fentanyl is a very potent synthetic opioid with legitimate medical uses; as such, it is classified in the International Classification of Disease, 10th Revision (ICD-10) category “synthetic opioids (other than methadone),” along with other synthetic opioid analgesics, such as tramadol. Fentanyl is 50-100 times more potent than morphine.¹⁴ Prescription fentanyl is primarily prescribed to manage acute and chronic pain associated with advanced cancer. Non-pharmaceutical grade fentanyl is illicitly manufactured. Illegal fentanyl is often mixed with heroin or cocaine, and has also been identified in counterfeit pills, formed to look like oxycodone and other prescription medications.¹⁴ Because it is not possible to distinguish illicit fentanyl from medically administered fentanyl in postmortem toxicology testing, all fentanyl-related deaths are classified in the same way – as “synthetic opioids (other than methadone),” assigned ICD-10 code T40.4. The increase in deaths due to opioids included a large increase in the age-adjusted rate of deaths involving the code T40.4. Due to the potency of these drugs, multiple doses of naloxone are often required to revive individuals who have overdosed on fentanyl and/or fentanyl analogs.

In NYS, increases in deaths involving synthetic opioids (other than methadone) drove most of the increase in the age-adjusted rate of deaths involving any opioid, from 0.9 per 100,000 population in 2010 to 11.3 in 2017, a 1,194 percent increase (Figure 12). According to available death certificate data, an overwhelming majority of these deaths involved fentanyl.^{15,16} In light of this, the category that includes fentanyl is shown separately from other commonly prescribed opioids, such as hydrocodone and oxycodone (ICD-10 codes T40.2 and T40.3). Rates of overdose death involving commonly prescribed opioids increased from 3.7 per 100,000 in 2010 to 5.1 in 2017. There has not been a simultaneous increase in the fentanyl prescribing rates, indicating this increase is driven primarily by illicitly manufactured fentanyl. While most of this

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increase can be attributed to the increased supply and availability of illicitly manufactured fentanyl and fentanyl analogs, it is also partially due to the increase in testing for this by coroners and medical examiners across the state, thereby allowing it to be detected.

Figure 12. Overdose deaths, age-adjusted rate per 100,000 population, by substance, New York State, 2010 and 2017



Data source: CDC WONDER; Data accessed April 2019

Note: Death count and rate are suppressed for categories with fewer than 10 deaths.

Note: Rate is marked as 'unreliable' when the count is fewer than 20 deaths. The categories are not mutually exclusive.

Multiple cause of death ICD-10 definitions: Any opioids – T40.0 (Opium), T40.1 (Heroin), T40.2 (Other opioids), T40.3 (Methadone), T40.4 (Synthetic opioids other than methadone), T40.6 (Other and unspecified narcotics); Heroin – T40.1; Commonly prescribed opioids – T40.2, T40.3 (e.g., hydrocodone, oxycodone); Synthetic opioids other than methadone – T40.4; Heroin with synthetic opioids other than methadone – T40.1 AND T40.4; Cocaine with synthetic opioids other than methadone – T40.5 (cocaine) AND T40.4.

For complete data, see [Data Table 12, Appendix, page 28](#).

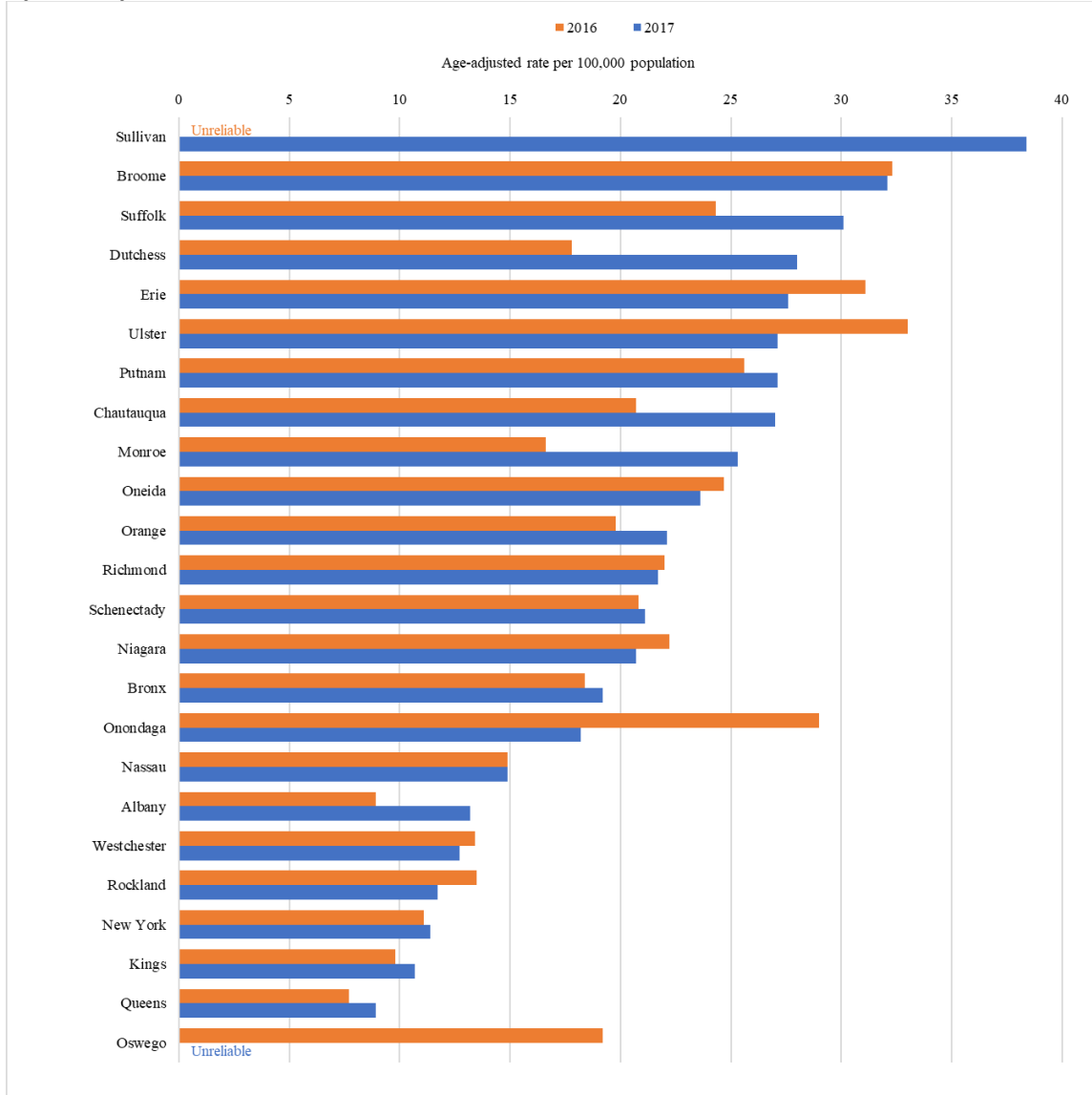
Categories of opioids and other substances involved in overdose deaths are not mutually exclusive, as a death can involve multiple substances (Figure 12). Between 2010 and 2017, opioid overdose deaths increasingly involved both heroin and synthetic opioids (other than methadone) together, growing to an age-adjusted rate of 4.6 per 100,000. A similar pattern was observed for deaths involving both cocaine and synthetic opioids (other than methadone), with a 2017 rate of 2.3.

It is also important to note that although there have been increases in the number of overdose deaths involving opioids and cocaine, some of the observed increase has likely been due to raised awareness of opioid overdoses, improvements in technology and resources for toxicology testing, and improved cause-of-death reporting.

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In NYS during 2017, the age-adjusted rate per 100,000 population for overdose deaths involving any opioid was highest in Sullivan County (38.4 per 100,000) (Figure 13). Among counties in 2017 with 20 or more overdose deaths involving any opioid, counties with the ten highest age-adjusted rates were located in the Mid-Hudson (Sullivan, Dutchess, Ulster, Putnam), Southern Tier (Broome), Long Island (Suffolk), Western NY (Erie, Chautauqua), Finger Lakes (Monroe), and Central NY (Oneida) regions.

Figure 13. Overdose deaths involving any opioid, age-adjusted rate per 100,000 population, by county, New York State, 2016 and 2017



Note: Counties with fewer than ten deaths, annually, in either 2016 and 2017 are not shown.

Note: Rates are marked as “unreliable” for counties in years with fewer than 20 deaths.

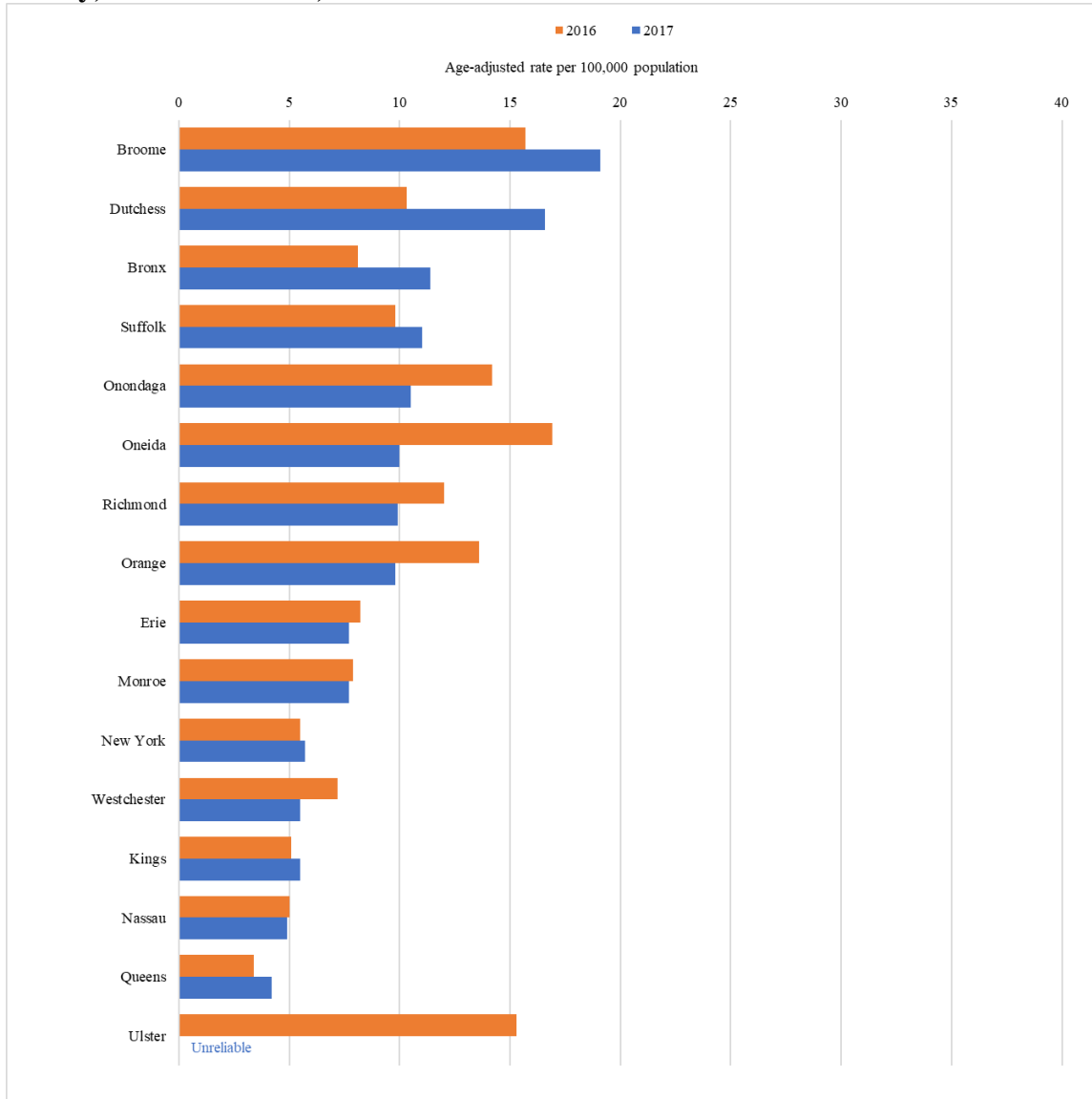
Data source: CDC WONDER; Data as of April 2019

For county data on overdose deaths involving any opioid, see [Data Table 13, Appendix, page 29](#).

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In NYS during 2017, the age-adjusted rate per 100,000 population for overdose deaths involving heroin was highest in Broome County (19.1 per 100,000) (Figure 14). Among counties in 2017 with 20 or more overdose deaths involving heroin, counties with the ten highest age-adjusted rates were located in the Southern Tier (Broome), Mid-Hudson (Dutchess, Orange), NYC (Bronx, Richmond), Long Island (Suffolk), Central NY (Onondaga, Oneida), Western NY (Erie), and Finger Lakes (Monroe) regions.

Figure 14. Overdose deaths involving heroin, age-adjusted rate per 100,000 population, by county, New York State, 2016 and 2017



Note: Counties with fewer than ten deaths, annually, in either 2016 and 2017 are not shown.

Note: Rates are marked as “unreliable” for counties in years with fewer than 20 deaths.

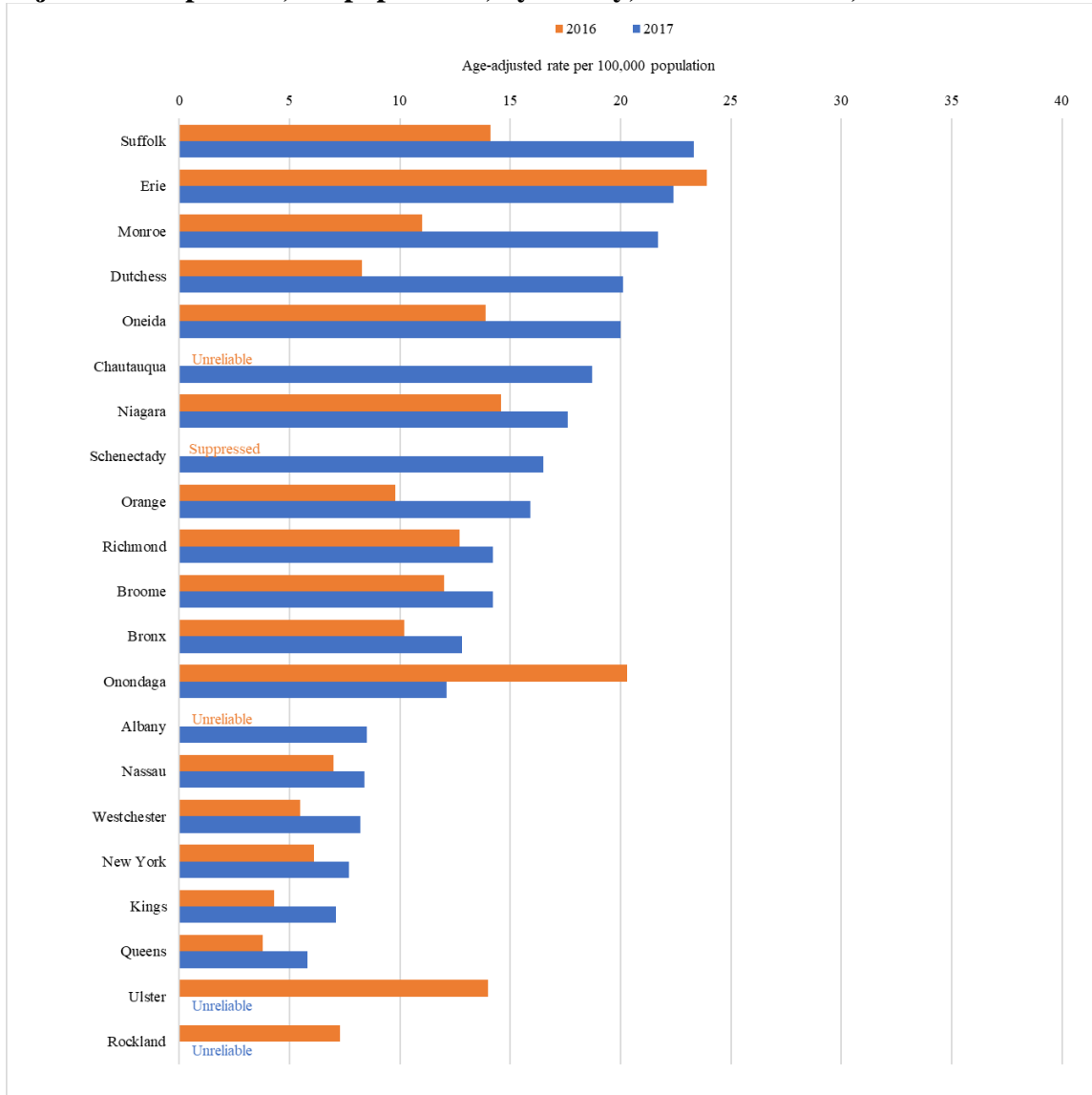
Data source: CDC WONDER; Data as of April 2019

For county data on overdose deaths involving heroin, see [Data Table 14, Appendix, page 31](#).

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In NYS during 2017, the age-adjusted rate per 100,000 population for overdose deaths involving synthetic opioids (other than methadone) was highest in Suffolk County (23.3 per 100,000) (Figure 15). Among counties in 2017 with 20 or more overdose deaths involving synthetic opioids (other than methadone), counties with the ten highest age-adjusted rates were located in the Long Island (Suffolk), Western NY (Erie, Chautauqua, Niagara), Finger Lakes (Monroe), Mid-Hudson (Dutchess, Orange), Central NY (Oneida), Capital Region (Schenectady), and NYC (Richmond) regions.

Figure 15. Overdose deaths involving synthetic opioids (other than methadone), age-adjusted rate per 100,000 population, by county, New York State, 2016 and 2017



Note: Counties with fewer than ten deaths, annually, in both 2016 and 2017 are not shown.

Note: Rates are marked as “unreliable” for counties in years with fewer than 20 deaths.

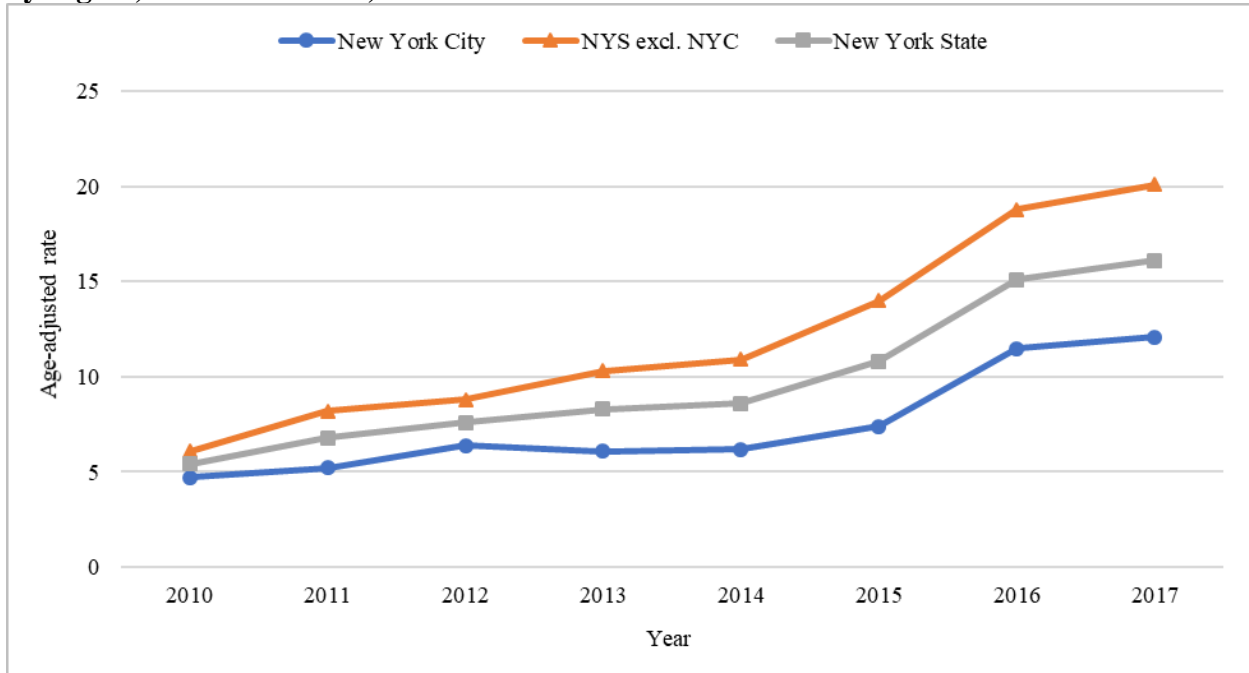
Data source: CDC WONDER; Data as of April 2019

For county data on overdose deaths involving synthetic opioids other than methadone, see [Data Table 15, Appendix, page 33](#).

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The age-adjusted rate of overdose deaths involving any opioid increased in both NYC and NYS excluding NYC between 2010 and 2017 (Figure 16). The rate for NYC was lower in 2017 (12.1 per 100,000) than the rate for NYS excluding NYC (20.1 per 100,000).

Figure 16. Overdose deaths involving any opioid, age-adjusted rate per 100,000 population, by region, New York State, 2010-2017

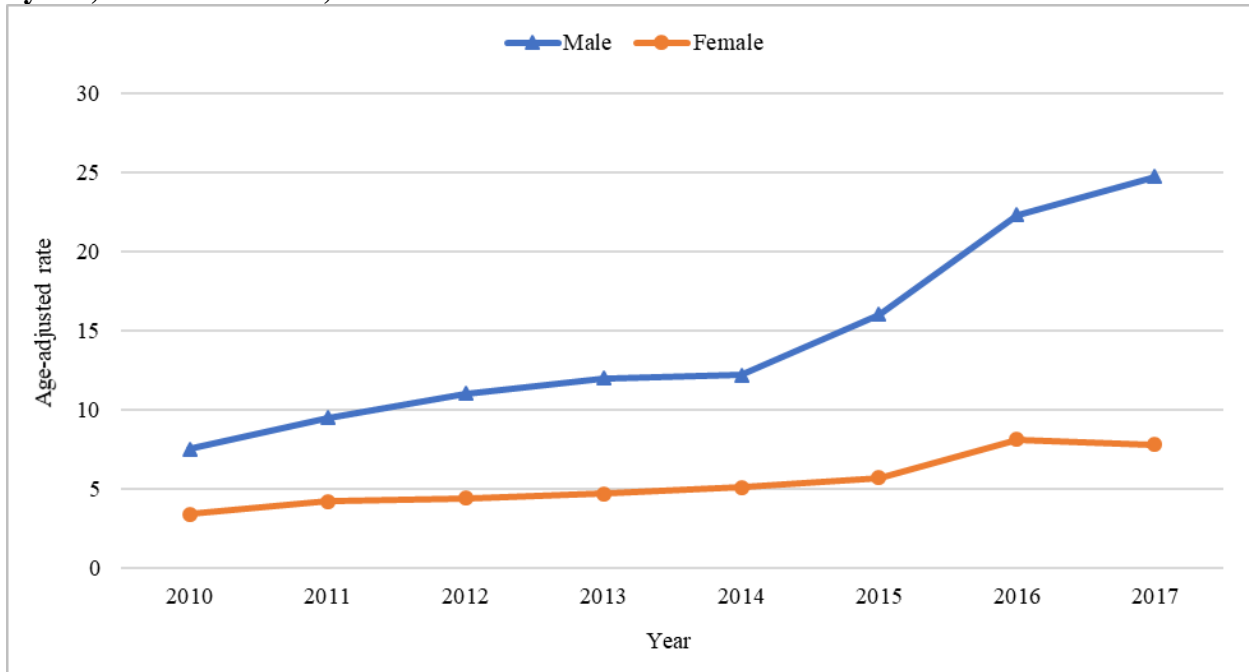


Data source: CDC WONDER; Data accessed April 2019
For complete data, see [Data Table 16, Appendix, page 35](#).

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Since 2010 in NYS, the age-adjusted rate per 100,000 population of overdose deaths involving any opioid was higher among males than among females (Figure 17). There was a larger increase in the rate among males (from 7.5 per 100,000 in 2010 to 24.7 per 100,000 in 2017) than there was in the rate among females (from 3.4 per 100,000 in 2010 to 7.8 per 100,000 in 2017).

Figure 17. Overdose deaths involving any opioid, age-adjusted rate per 100,000 population, by sex, New York State, 2010-2017

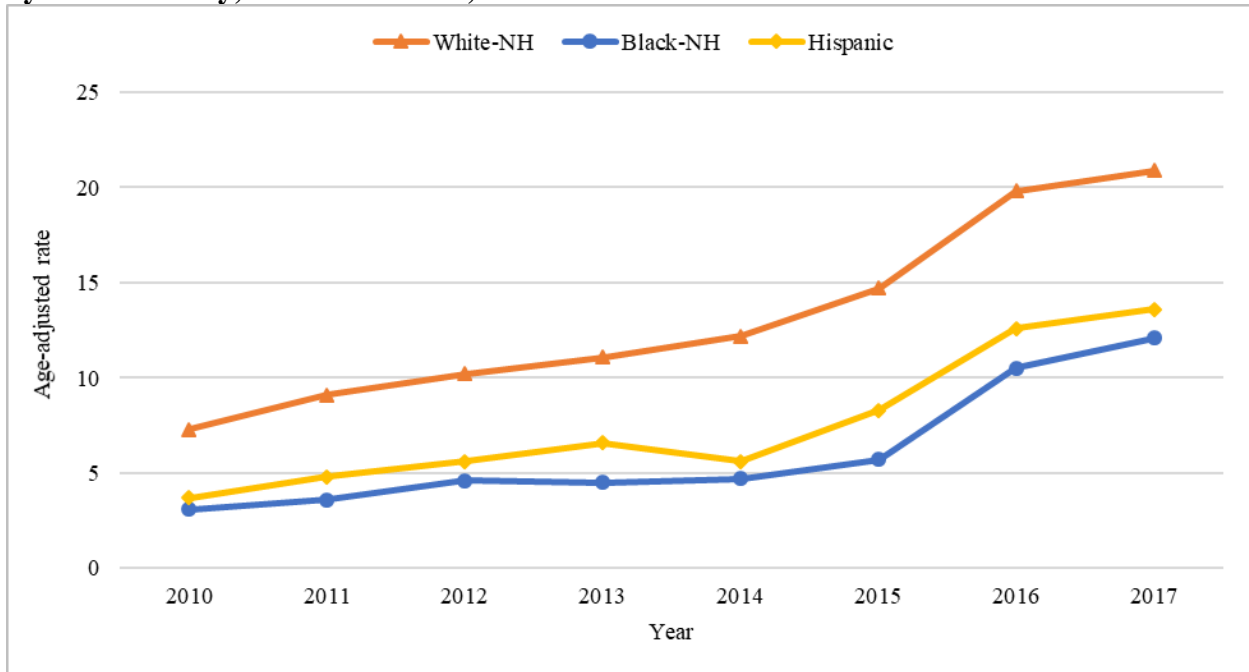


Data source: CDC WONDER; Data accessed April 2019
For complete data, see [Data Table 17, Appendix, page 35](#).

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The age-adjusted rates of overdose deaths involving any opioids in NYS among White non-Hispanic, Black non-Hispanic, and Hispanic populations increased between 2010 and 2017 (Figure 18). The White non-Hispanic population had the highest age-adjusted rate for each year during this time period.

Figure 18. Overdose deaths involving any opioid, age-adjusted rate per 100,000 population, by race/ethnicity, New York State, 2010-2017

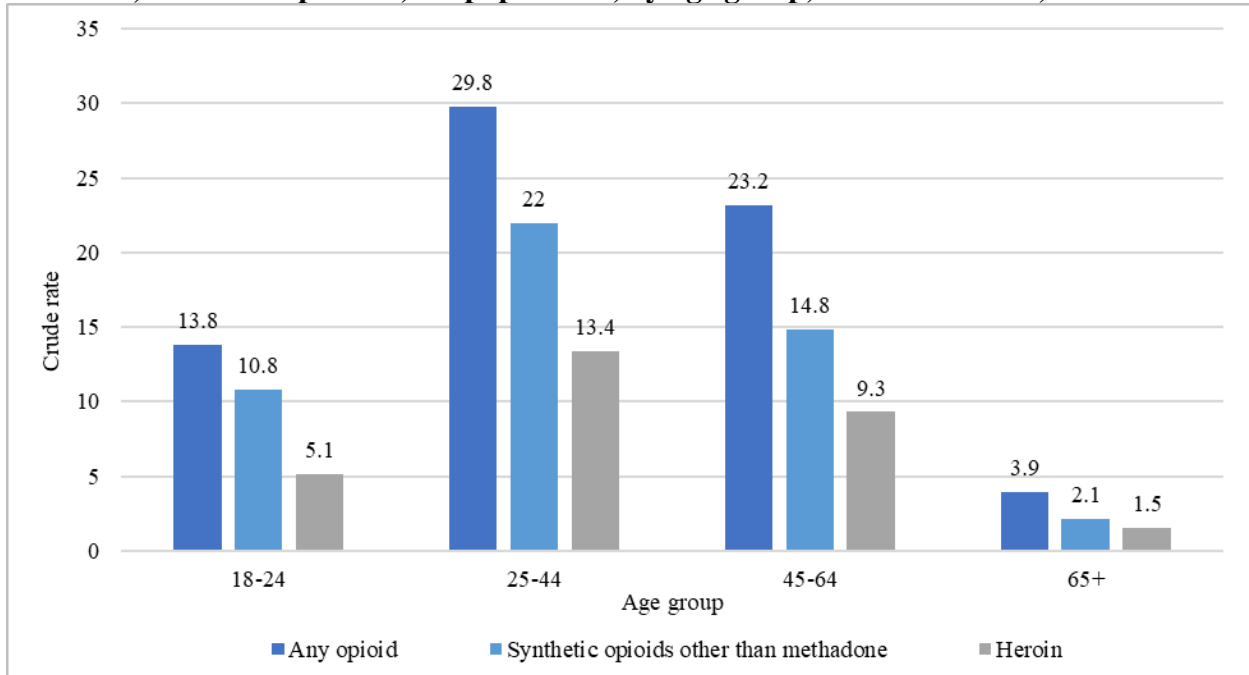


Data source: CDC WONDER; Data accessed April 2019
For complete data, see [Data Table 18, Appendix, page 36](#).

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In NYS during 2017, the crude rate of overdose deaths involving any opioids was highest among the 25-44 year-old age group (29.8 per 100,000 population), followed by the 45-64 year-old age group (23.2 per 100,000), and 18-24 year-old age group (13.8 per 100,000) age groups (Figure 19). The crude rate of overdose deaths involving synthetic opioids (other than methadone) was also highest among the 25-44 year-old age group (22 per 100,000), again followed by the 45-64 year-old age group (14.8 per 100,000), and 18-24 year-old age group (10.8 per 100,000) age groups. The crude rate of overdose deaths involving heroin followed the same pattern, but with lower crude rates compared to those for synthetic opioids (other than methadone).

Figure 19. Overdose deaths involving any opioid, synthetic opioids (other than methadone), or heroin, crude rate per 100,000 population, by age group, New York State, 2017

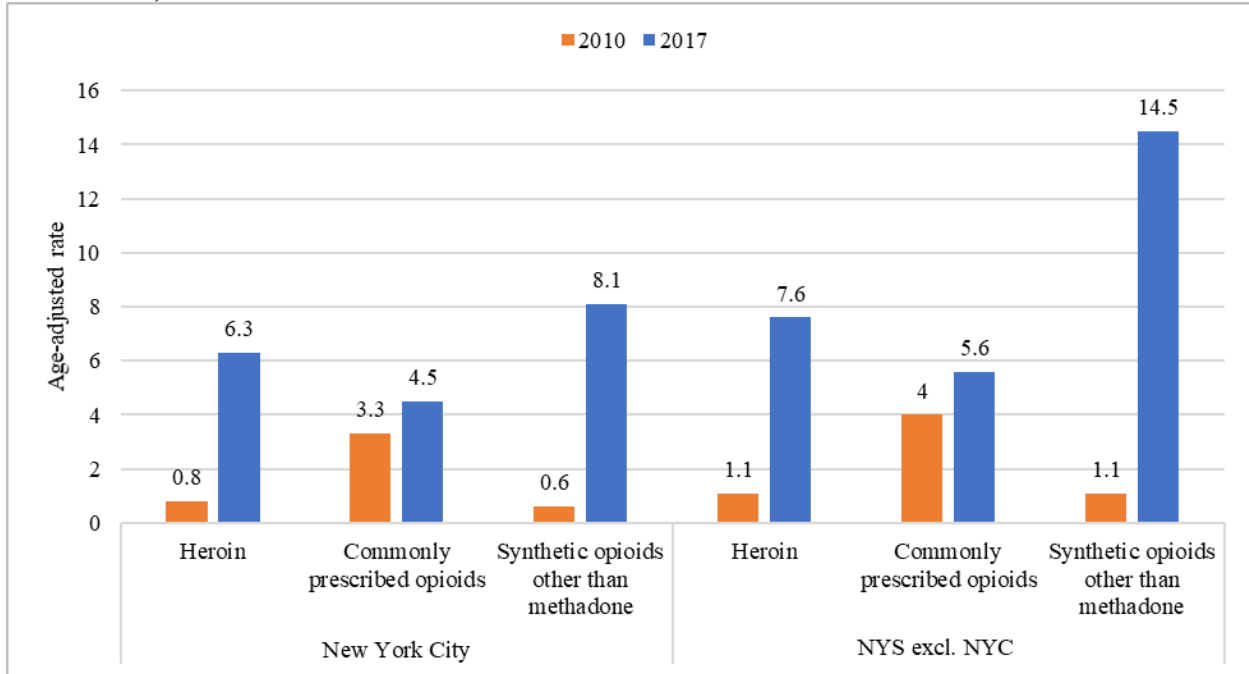


Data source: CDC WONDER; Data accessed April 2019
For complete data, see [Data Table 19, Appendix, page 36](#).

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From 2010 to 2017, the age-adjusted rates of overdose deaths involving heroin, commonly prescribed opioids, and synthetic opioids (other than methadone) increased both in NYC and NYS excluding NYC. While both regions experienced increases, the rates were higher in NYS excluding NYC than they were in NYC in both 2010 and 2017 (Figure 20). However, the rate of the increase in overdose deaths involving synthetic opioids (other than methadone) from 2010 to 2017 was higher in NYC (1,250 percent) as compared to NYS excluding NYC (1,218 percent).

Figure 20. Overdose deaths involving heroin, commonly prescribed opioids, and synthetic opioids (other than methadone), age-adjusted rate per 100,000 population, by region, New York State, 2010 and 2017

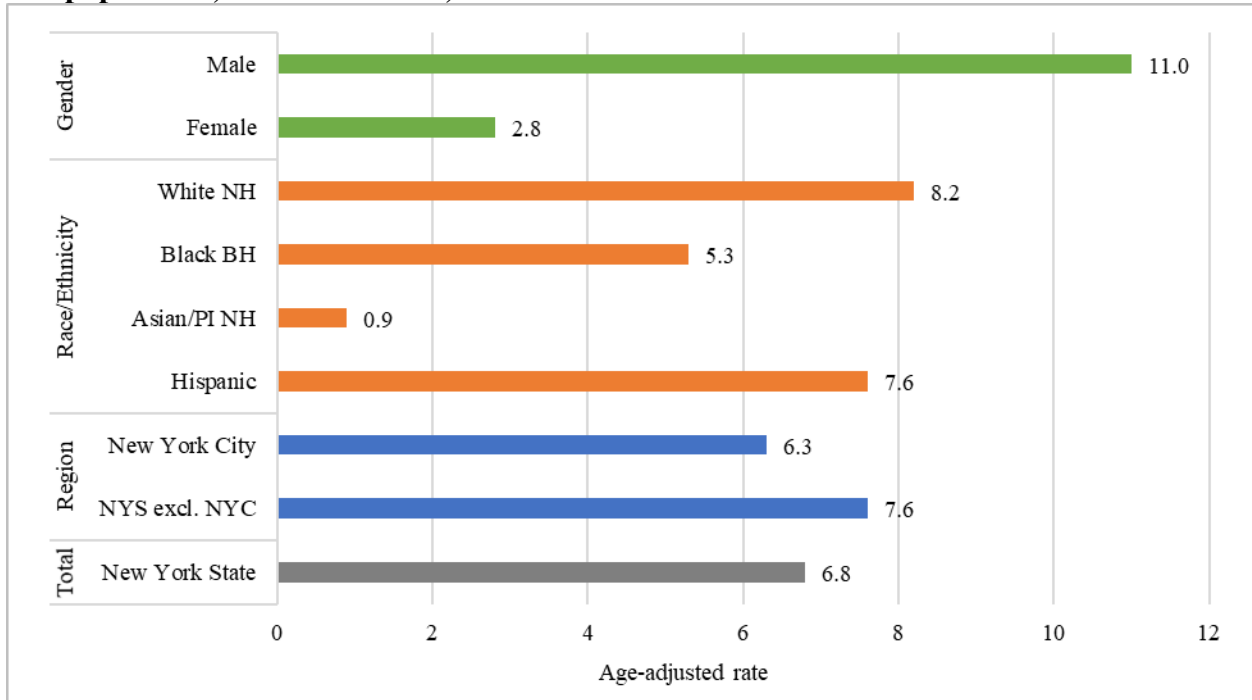


Data source: CDC WONDER; Data accessed April 2019
 For complete data, see [Data Table 20, Appendix, page 37](#).

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In NYS during 2017, the age-adjusted rates of overdose deaths involving heroin were highest among males (11.0 per 100,000), White non-Hispanics (8.2 per 100,000), Hispanics (7.6 per 100,000), and NYS residents outside of NYC (7.6 per 100,000) (Figure 21).

Figure 21. Overdose deaths involving heroin, age-adjusted rate per 100,000 population, by sub-population, New York State, 2017

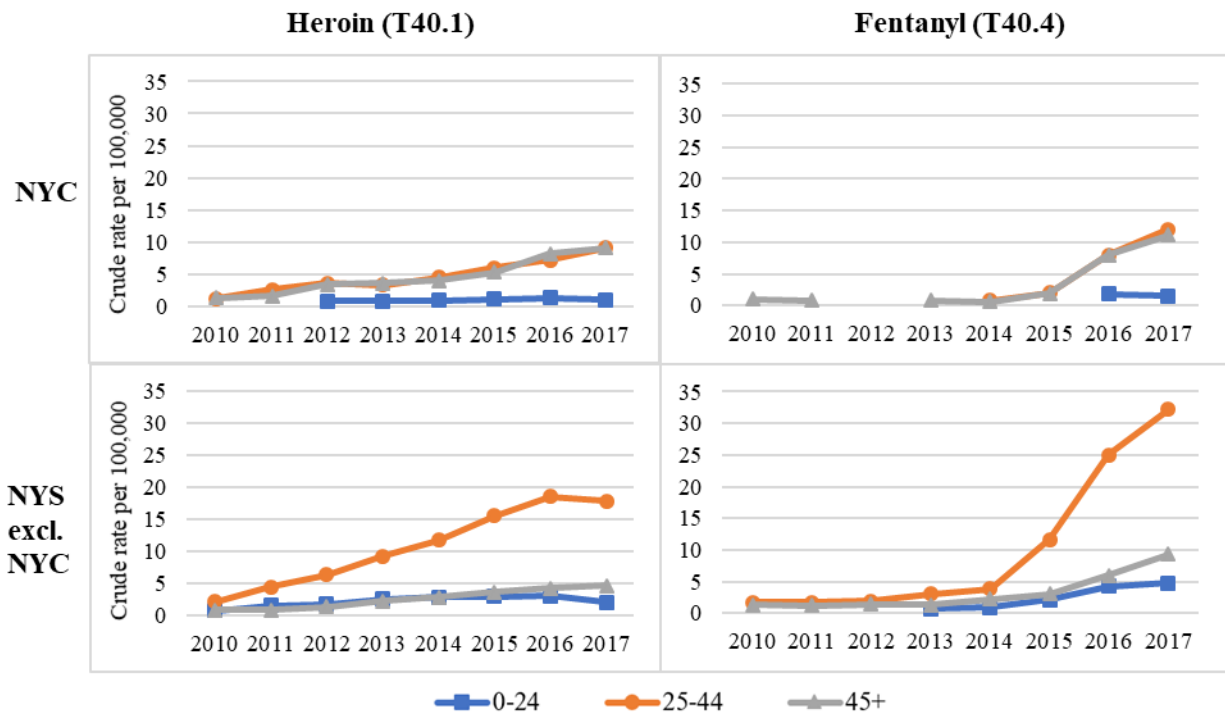


Data source: CDC WONDER; Data accessed April 2019
For complete data, see [Data Table 21, Appendix, page 37](#).

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Among New Yorkers aged 25-44 years, the crude rate of overdose deaths involving heroin was lower in NYC than it was in NYS excluding NYC for every year during 2010-2017 (Figure 22). In particular, the 2017 crude rate of overdose deaths involving heroin among those aged 25-44 years was almost two times higher in NYS excluding NYC (17.8 per 100,000 population) than it was in NYC (9.1 per 100,000). Similarly, among New Yorkers aged 25-44 years, the crude rate of overdose deaths involving fentanyl was lower in NYC than it was in NYS excluding NYC for every year during 2010-2017. The 2017 crude rate of overdose deaths involving fentanyl among those aged 25-44 years was about two and a half times higher in NYS excluding NYC (32.2 per 100,000 population) than it was in NYC (12.0 per 100,000).

Figure 22. Overdose deaths involving heroin (T40.1) vs. overdose deaths involving fentanyl (T40.4),* crude rate per 100,000, by region, year, and substance, New York State, 2010-2017

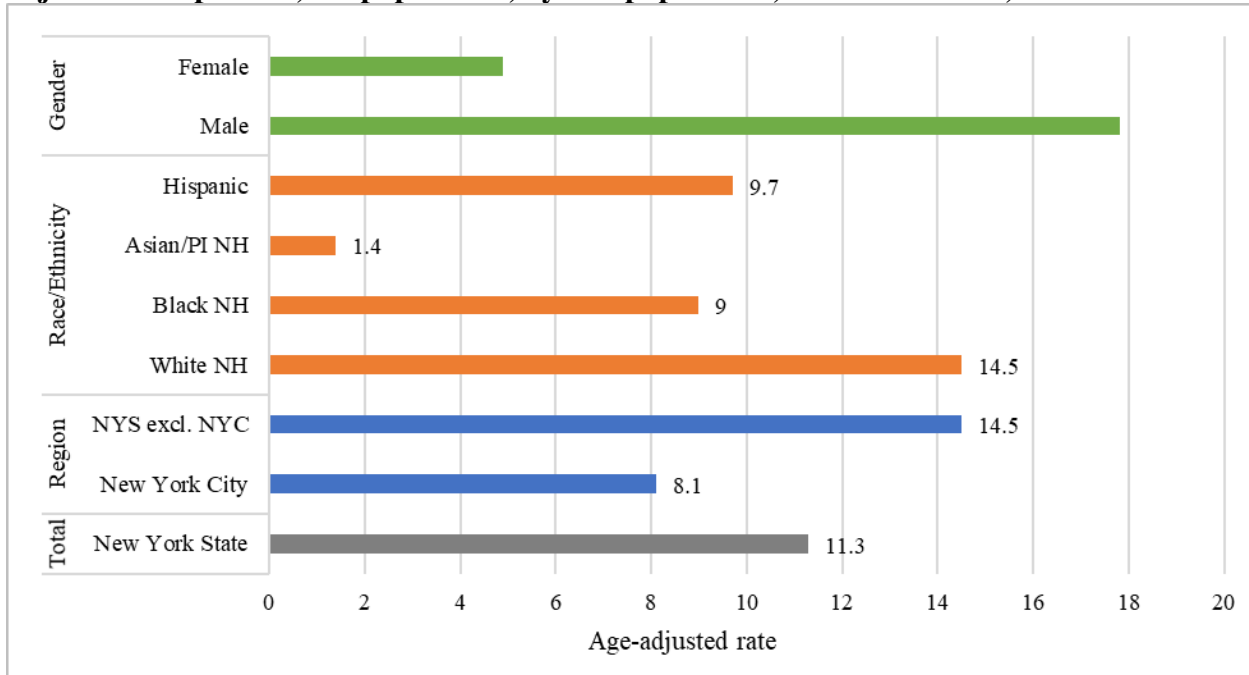


Data source: CDC WONDER; Data accessed July 2019
 * ICD-10 code T40.4 is used as a proxy for fentanyl.
 For complete data, see [Data Table 22, Appendix, page 38](#).

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In NYS during 2017, the age-adjusted rates of overdose deaths involving synthetic opioids (other than methadone) were highest among males (17.8 per 100,000), White non-Hispanics (14.5 per 100,000), and residents of NYS excluding NYC (14.5 per 100,000) (Figure 23).

Figure 23. Overdose deaths involving synthetic opioids (other than methadone),* age-adjusted rate per 100,000 population, by sub-population, New York State, 2017



Data source: CDC WONDER; Data accessed April 2019

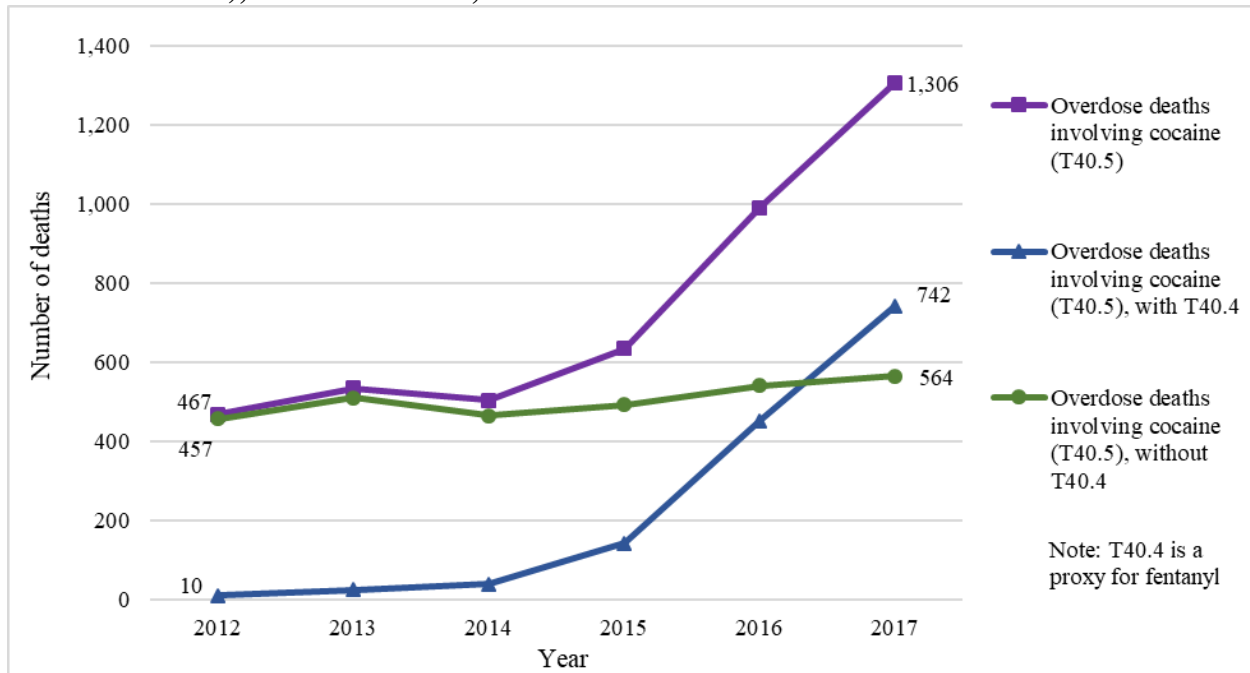
* ICD-10 code T40.4, "synthetic opioids other than methadone," is used as a proxy for fentanyl.

For complete data, see [Data Table 23, Appendix, page 38](#).

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The number of overdose deaths involving cocaine in NYS increased from 467 in 2012 to 1,306 in 2017, a 180 percent increase. This increase was largely driven by the involvement of synthetic opioids (other than methadone) (ICD-10 code T40.4), predominantly illicit (Figure 24).^{16,17} The number of overdose deaths involving cocaine but no T40.4 increased by 107 deaths from 2012 to 2017, a 23 percent increase, while the number of overdose deaths involving cocaine and T40.4 increased by 732 deaths over the same period, a 7,320 percent increase.

Figure 24. Overdose deaths involving cocaine with and without synthetic opioids (other than methadone), New York State, 2012-2017



Note: Cocaine overdose is identified by ICD-10 code, T40.5; synthetic opioids other than methadone overdose is identified by ICD-10 code T40.4, a proxy for fentanyl, which is a highly potent opioid now commonly found in the illicit drug market.

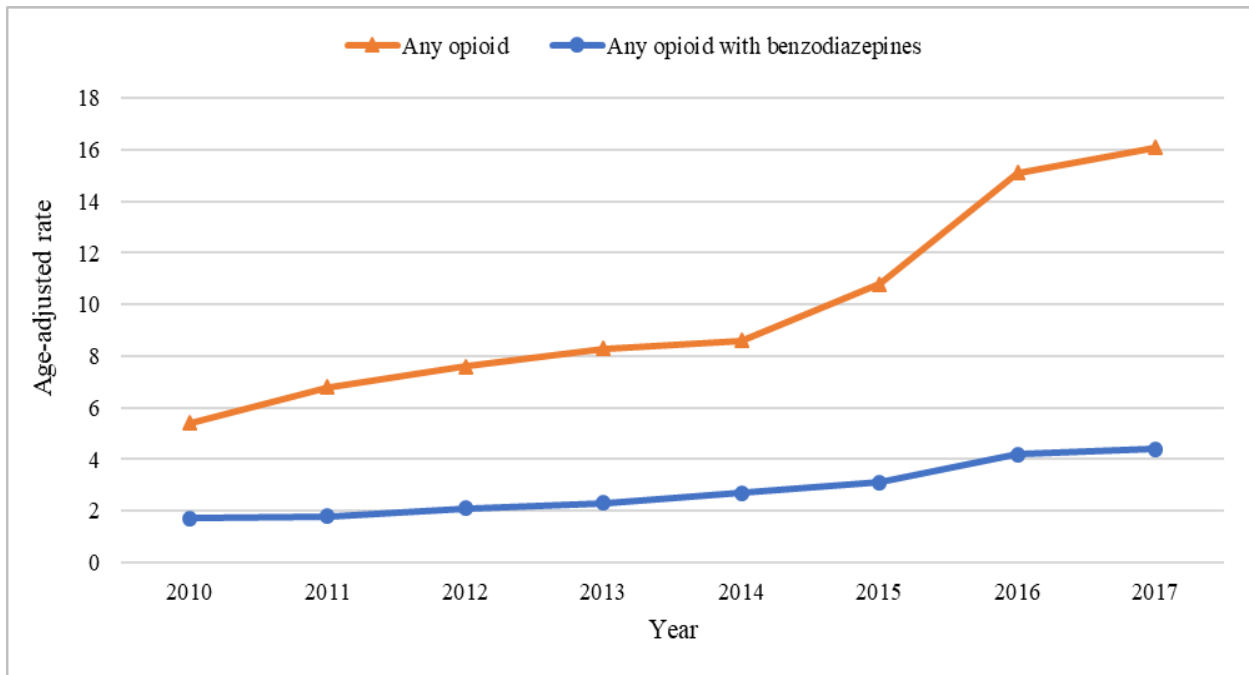
Data source: CDC WONDER; Data accessed January 2019

For complete data, see [Data Table 24, Appendix, page 39](#).

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The risk of opioid overdose increases when taken in combination with benzodiazepines (e.g., Xanax® [alprazolam], Valium® [diazepam]). In NYS, the age-adjusted rate of overdose deaths involving the concurrent use of any opioids with benzodiazepines increased from 1.7 per 100,000 population in 2010 to 4.4 per 100,000 in 2017 – a smaller increase than was seen over the same period in the age-adjusted rate of overdose deaths involving any opioid (Figure 25). While the rates of overdose death involving any opioid with benzodiazepines are increasing more slowly than the rates of overdose deaths involving any opioid, it is important to monitor the involvement of other substances and to provide information to the public about the increased risk of overdose when combining opioids and other substances.

Figure 25. Overdose deaths involving any opioid and overdose deaths involving any opioid with benzodiazepines, age-adjusted rate per 100,000 population, New York State, 2010-2017

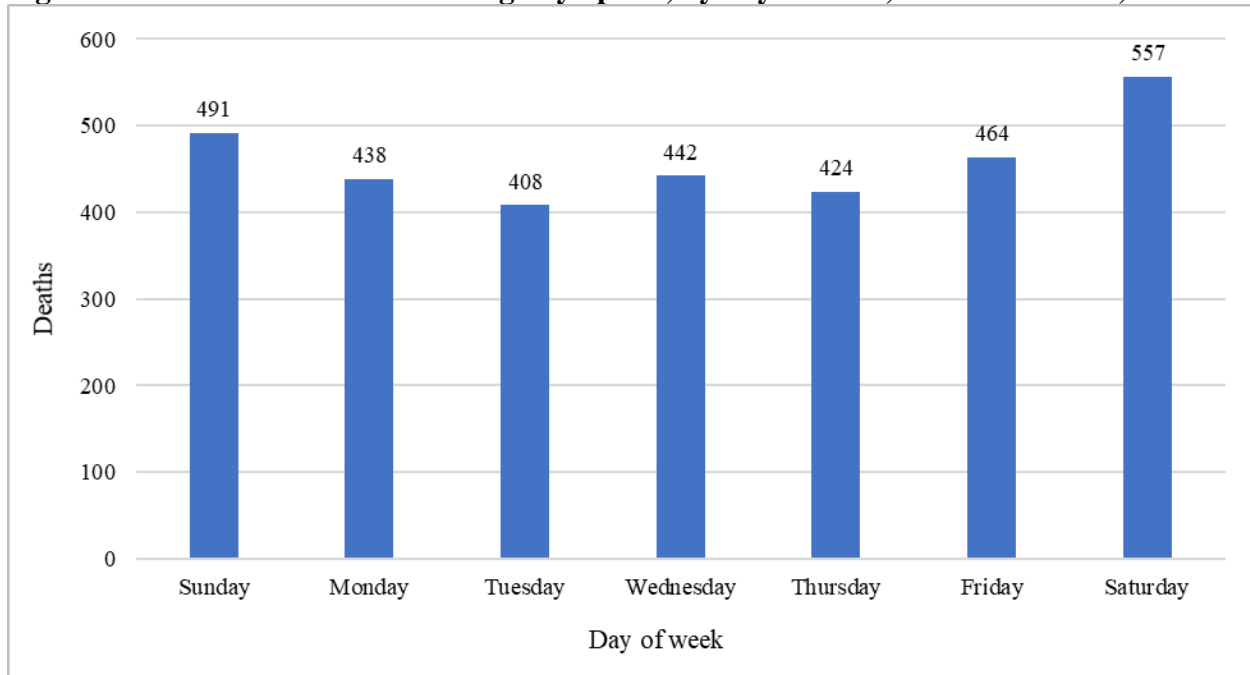


Data source: CDC WONDER; Data accessed May 2019
For complete data, see [Data Table 25, Appendix, page 39](#).

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During 2017, there did not appear to be a seasonal pattern to the monthly numbers of overdose deaths involving any opioids in NYS. Saturday was the day of the week with the highest number of overdose deaths involving any opioids (Figure 26). The day of the week with the fewest overdose deaths involving any opioids was Tuesday.

Figure 26. Overdose deaths involving any opioid, by day of week, New York State, 2017

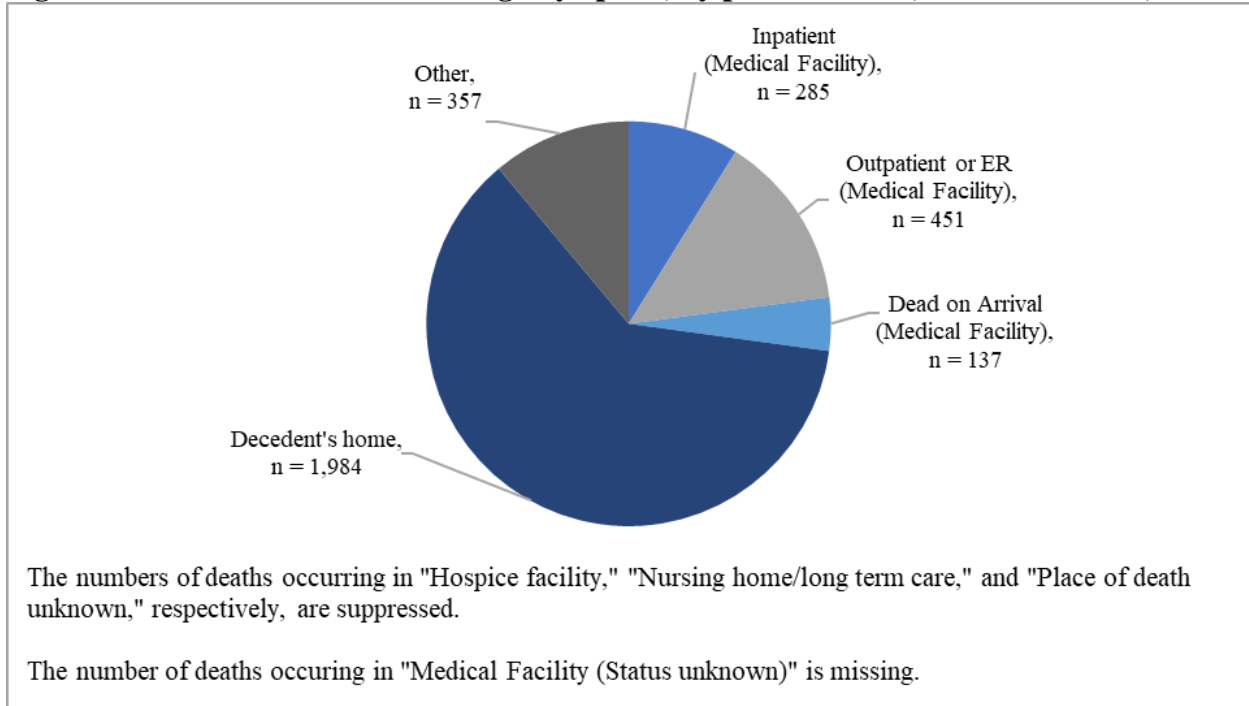


Data source: CDC WONDER; Data accessed April 2019
For complete data, see [Data Table 26, Appendix, page 40](#).

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In NYS during 2017, most overdose deaths involving any opioids occurred at the decedent's home (61.5 percent) (Figure 27).

Figure 27. Overdose deaths involving any opioid, by place of death, New York State, 2017



Data source: CDC WONDER; Data accessed April 2019
For complete data, see [Data Table 27, Appendix, page 40](#).

4.2 - Opioid Overdose Morbidity

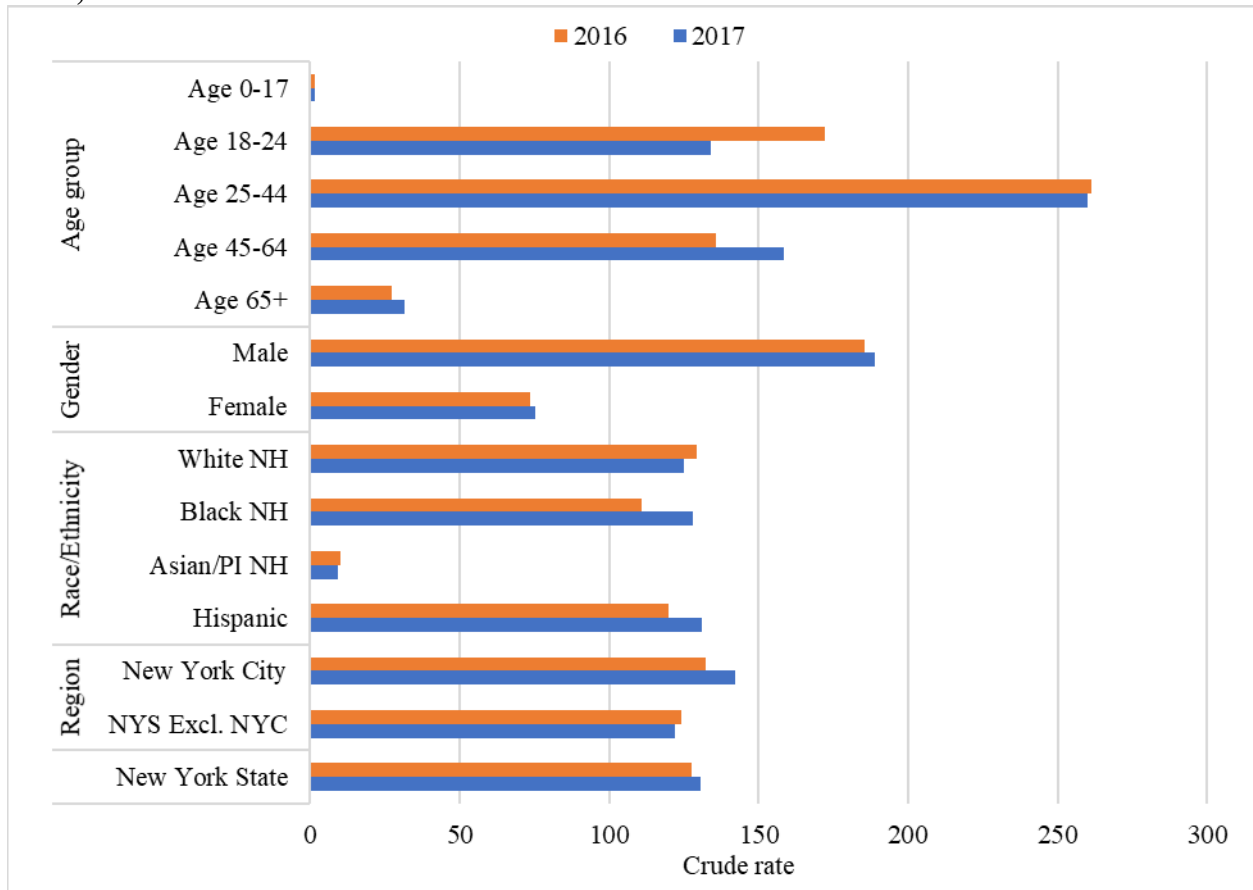
Hospitals, through both ED visits and inpatient admissions, play an important role in the treatment of drug poisoning, and they also see many individuals who are at risk for opioid overdoses. Information for ED visits and hospitalizations is obtained from the Statewide Planning and Research Cooperative System (SPARCS) database.

Morbidity indicators are based on diagnosis codes (ICD-9-CM codes prior to October 1, 2015 and ICD-10-CM on/after October 1, 2015) reported in the data by the EDs and hospital facilities, is limited by the quality of reporting and coding by the facilities. The indicators are defined based on the principal diagnosis code or first-listed, valid, external cause of injury code only. The change from the ICD-9-CM to ICD-10-CM coding system has caused inconsistency in defining measures over time for opioid overdose, dependency and abuse. For some measures, definitions using ICD-10-CM codes tend to generate lower counts than definitions using the previous ICD-9-CM codes. This impacts the ability to compare burden over time, especially during the transitioning period between the two ICD-coding systems.

4.2.1 - Hospital Discharges

Among NYS residents, the number of hospital discharges for opioid use (including overdose, abuse, dependence and unspecified use) increased from 25,089 in 2016 to 25,567 in 2017, and the crude rate per 100,000 population increased from 127.7 to 130.5 (Figure 28). In 2017, the rate was highest among the 25-44 year-old age group (260.2 per 100,000), followed by the 45-64 year-old age group (158.5 per 100,000) and the 18-24 year-old age group (133.9 per 100,000). In 2016, however, the 25-44 year-old age group had the highest rate (261.1 per 100,000), followed by the 18-24 year-old age group (172.2 per 100,000) and the 45-64 year-old age group (135.8 per 100,000). The 2017 rate among males (188.9 per 100,000) was two and a half times higher than that among females (75.4 per 100,000). The rate was highest among Hispanic individuals (130.9 per 100,000), followed by the rates among Black NH individuals (127.9 per 100,000) and White NH individuals (124.9 per 100,000) in 2017, whereas White NH individuals (129.2 per 100,000) had the highest rate in 2016. NYC (142.0 per 100,000) had a higher rate than NYS excluding NYC (121.8 per 100,000) in 2017.

Figure 28. Hospital discharges involving opioid use (including overdose, abuse, dependence and unspecified use), crude rate per 100,000 population, by sub-population, New York State, 2016 and 2017



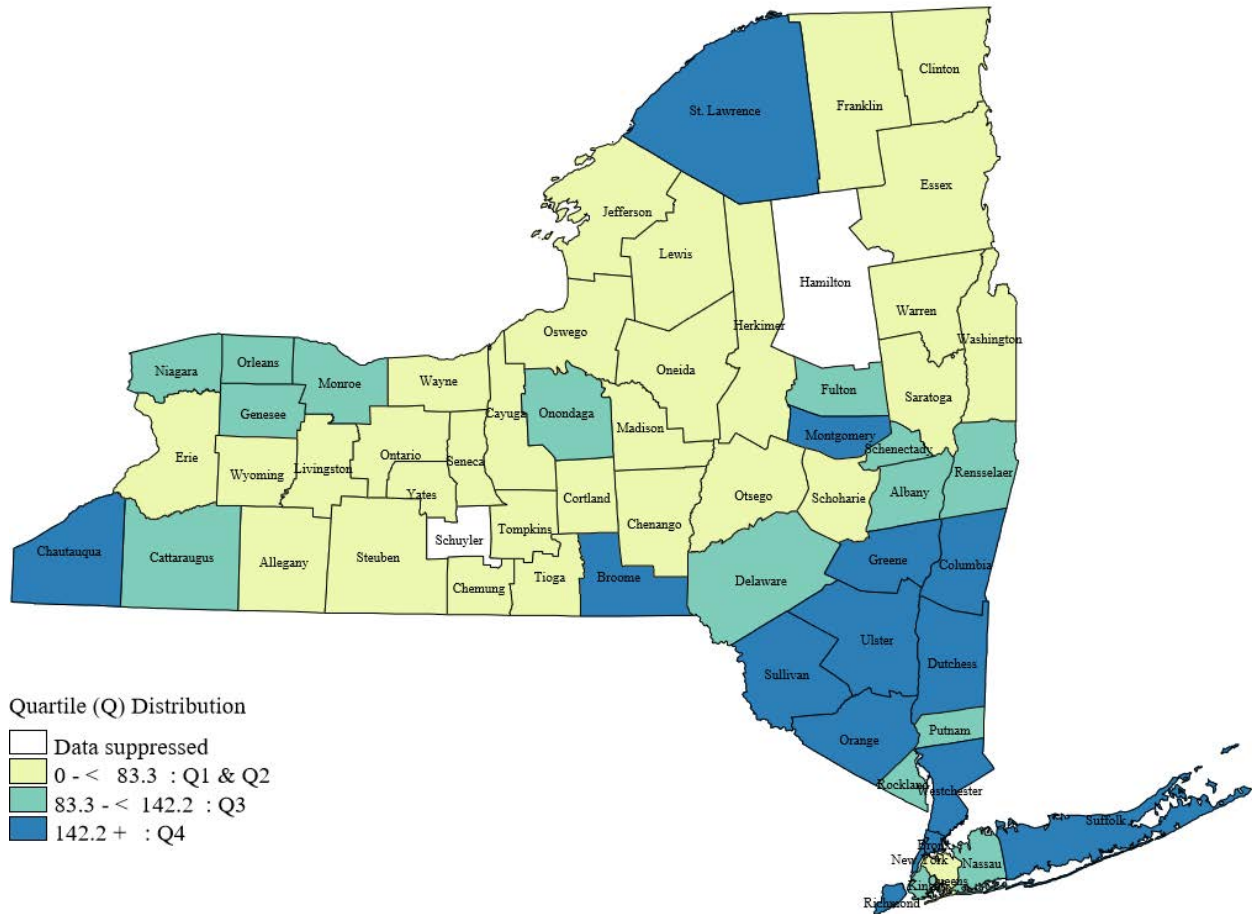
Data source: NYSDOH Statewide Planning and Research Cooperative System (SPARCS); Data as of May 2019.

For complete data, see [Data Table 28, Appendix, page 41](#).

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In 2017, the 15 counties in the highest quartile (crude rates greater than or equal to 142.2 per 100,000 population) for hospital discharges involving opioid use (including overdose, abuse, dependence and unspecified use) were Chautauqua, St. Lawrence, Bronx, Ulster, Dutchess, Greene, Richmond, Sullivan, Suffolk, Broome, Montgomery, Columbia, Orange, New York and Westchester (Figure 29).

Figure 29. Hospital discharges involving opioid use (including overdose, abuse, dependence and unspecified use), crude rate per 100,000 population, by county, New York State, 2017



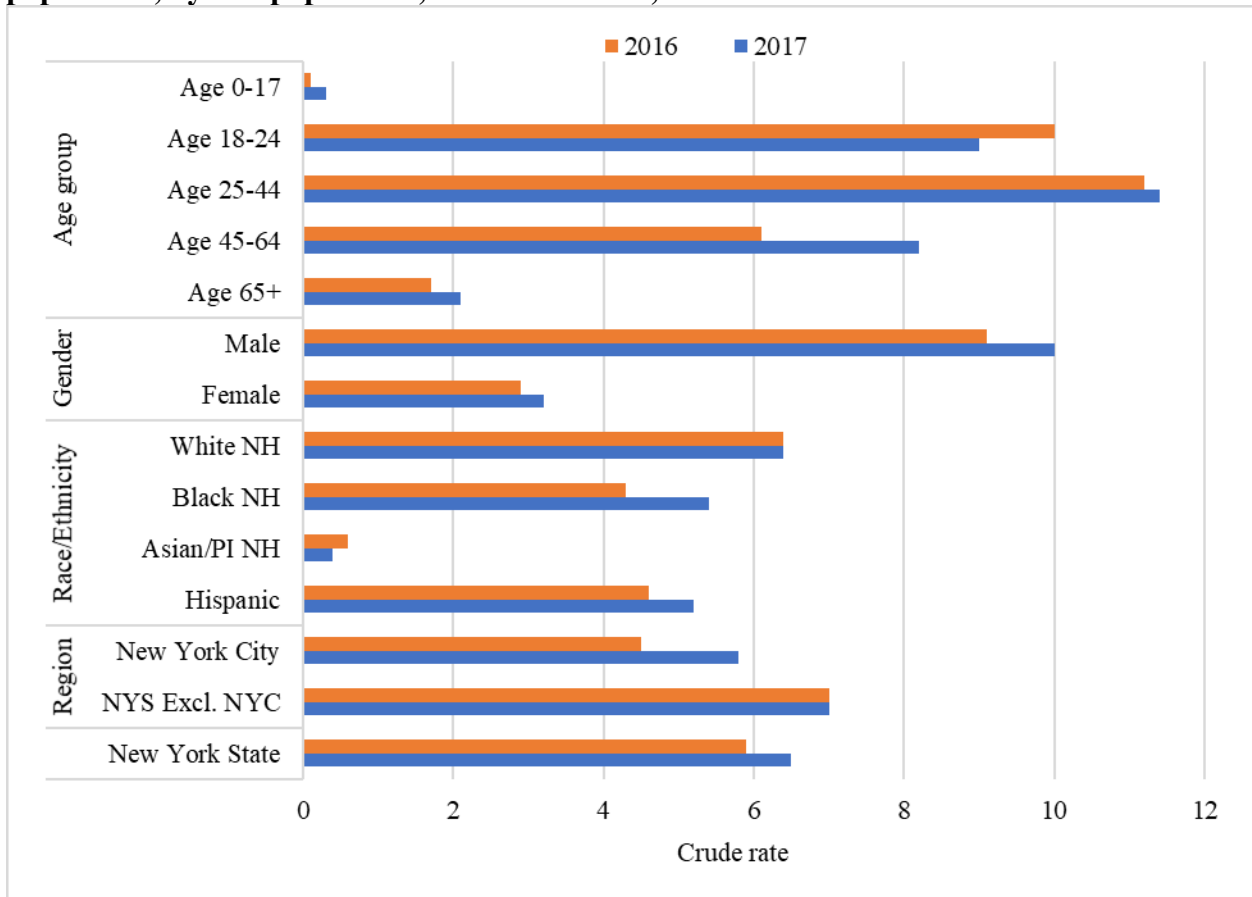
Data source: NYSDOH Statewide Planning and Research Cooperative System (SPARCS); Data as of May 2019

For complete data, see [Data Table 29, Appendix, page 42.](#)

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Among NYS residents, the number of hospital discharges involving heroin overdose increased from 1,161 in 2016 to 1,271 in 2017 such that the crude rate per 100,000 population increased from 5.9 to 6.5 (Figure 30). In 2017, the rate was highest among the 25-44 year-old age group (11.4 per 100,000), followed by the 18-24 year-old age group (9.0 per 100,000) and the 45-64 year-old age group (8.2 per 100,000). The rate was three times higher among males (10.0 per 100,000) than that among females (3.2 per 100,000). The rate was highest among White NH individuals (6.4 per 100,000), followed by the rates among Black NH individuals (5.4 per 100,000) and Hispanic NH individuals (5.2 per 100,000). NYS excluding NYC (7.0 per 100,000) had a higher rate than NYC (5.8 per 100,000).

Figure 30. Hospital discharges involving heroin overdose, crude rate per 100,000 population, by sub-population, New York State, 2016 and 2017



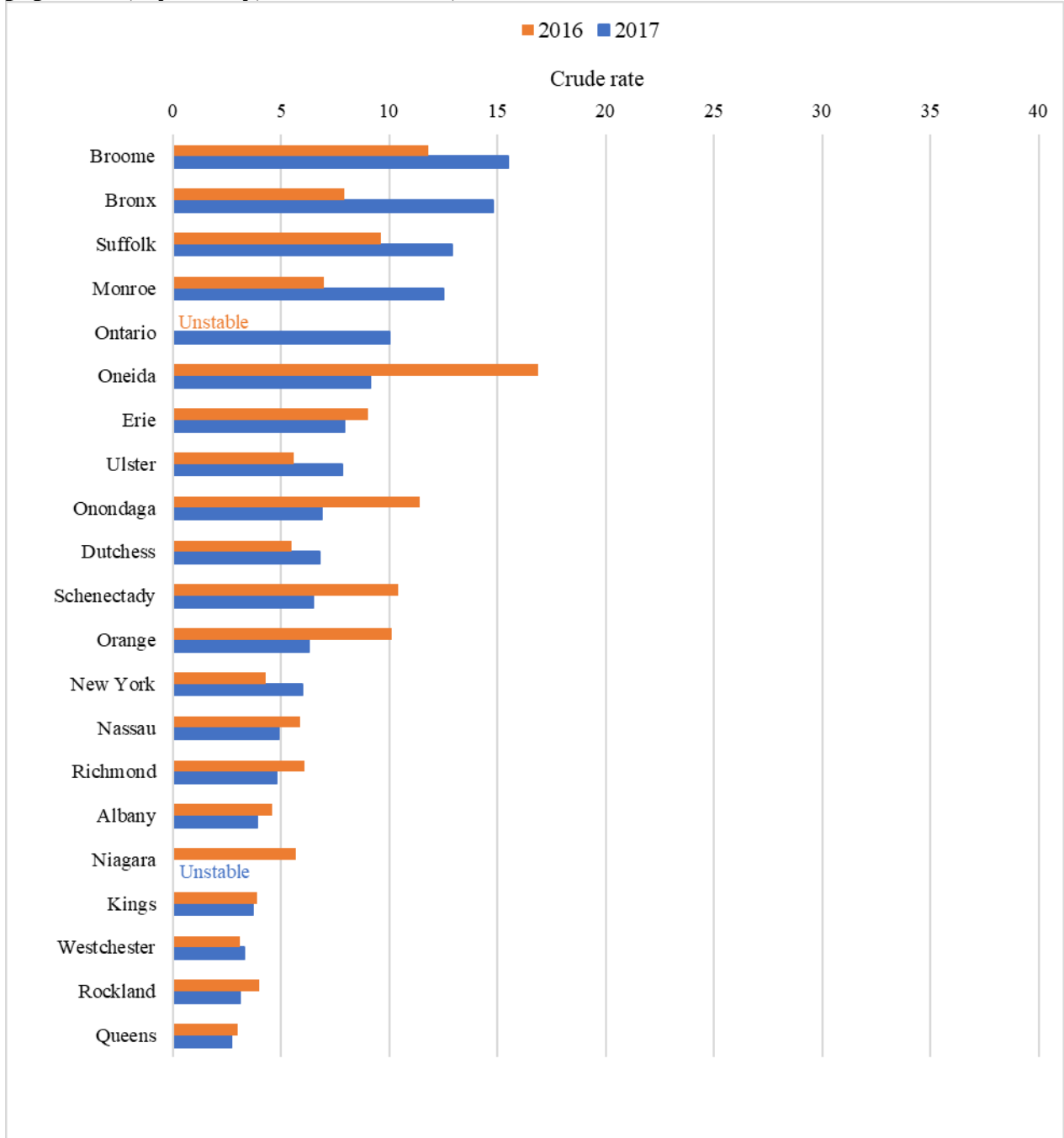
Data source: NYSDOH Statewide Planning and Research Cooperative System (SPARCS); Data as of May 2019

For complete data, see [Data Table 30, Appendix, page 44](#).

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In 2017, the 10 counties with the highest crude rates for hospital discharges involving heroin overdose were Broome, Bronx, Suffolk, Monroe, Ontario, Oneida, Erie, Ulster, Onondaga and Dutchess (Figure 31).

Figure 31. Hospital discharges involving heroin overdose, crude rate per 100,000 population, by county, New York State, 2016 and 2017



Unstable: Fewer than 10 events in the numerator, therefore the rate is unstable.

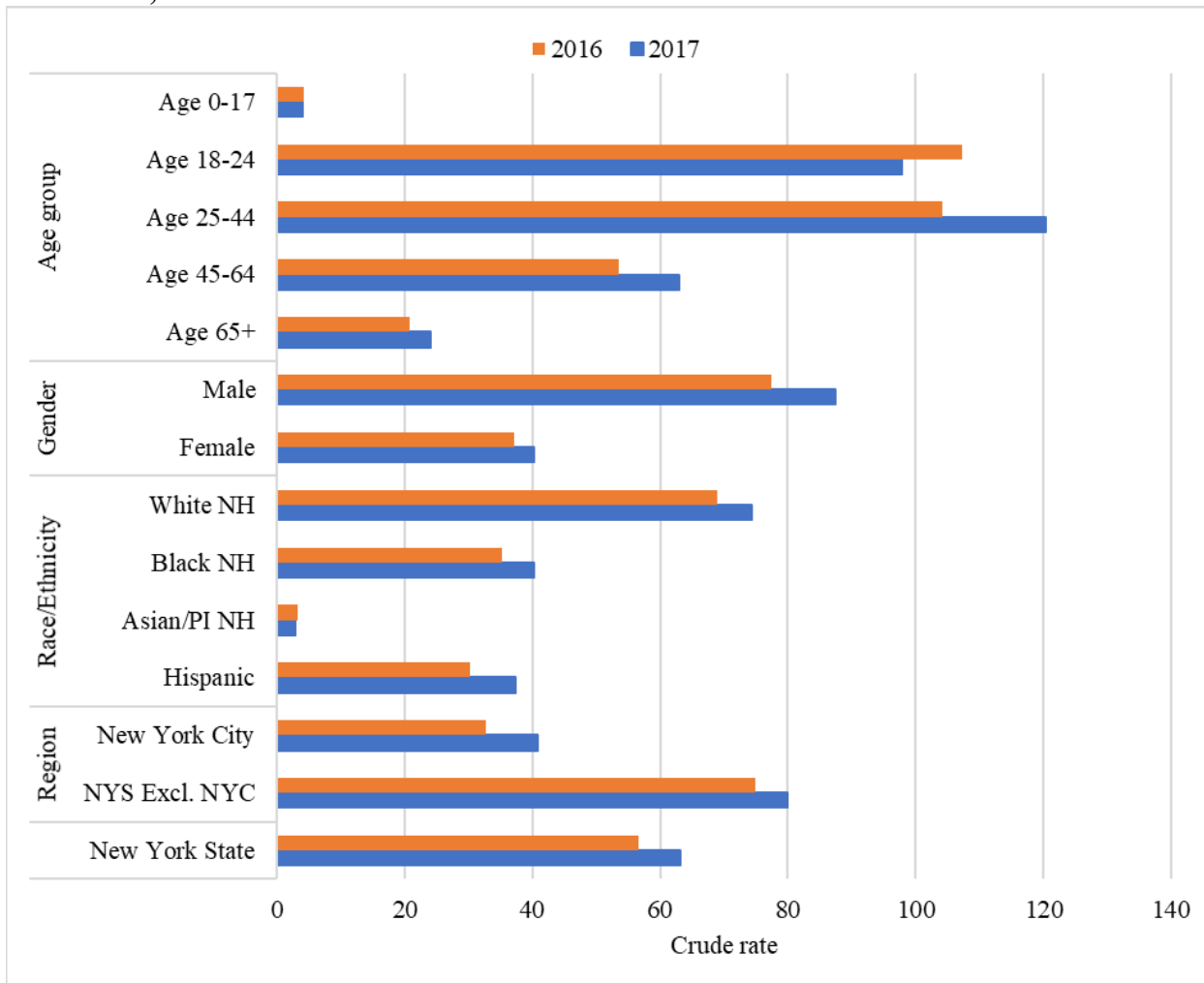
Data source: NYSDOH Statewide Planning and Research Cooperative System (SPARCS); Data as of May 2019.

For complete data, see [Data Table 31, Appendix, page 45](#).

4.2.2 - Emergency Department Visits

Among NYS residents, the number of all ED visits (including outpatients and admitted patients) involving any opioid overdose increased from 11,138 in 2016 to 12,378 in 2017, such that the crude rate per 100,000 population increased from 56.7 to 63.2 (Figure 32). The rate in 2017 was highest among the 25-44 year-old age group (120.4 per 100,000), followed by the 18-24 age group (97.9 per 100,000), whereas in 2016 the 18-24 year-old age group had the highest rate (107.2 per 100,000), followed by the 25-44 year-old age group (104.1 per 100,000). The rate in 2017 was more than two times higher among males (87.5 per 100,000) than among females (40.3 per 100,000), and two times higher for NYS excluding NYC (80 per 100,000) than for NYC (40.9 per 100,000). The rate was highest among White NH individuals (74.4 per 100,000), followed by the rates among Black NH individuals (40.2 per 100,000) and Hispanic individuals (37.4 per 100,000) in 2017.

Figure 32. All emergency department visits (including outpatients and admitted patients) involving any opioid overdose, crude rate per 100,000 population, by sub-population, New York State, 2016 and 2017



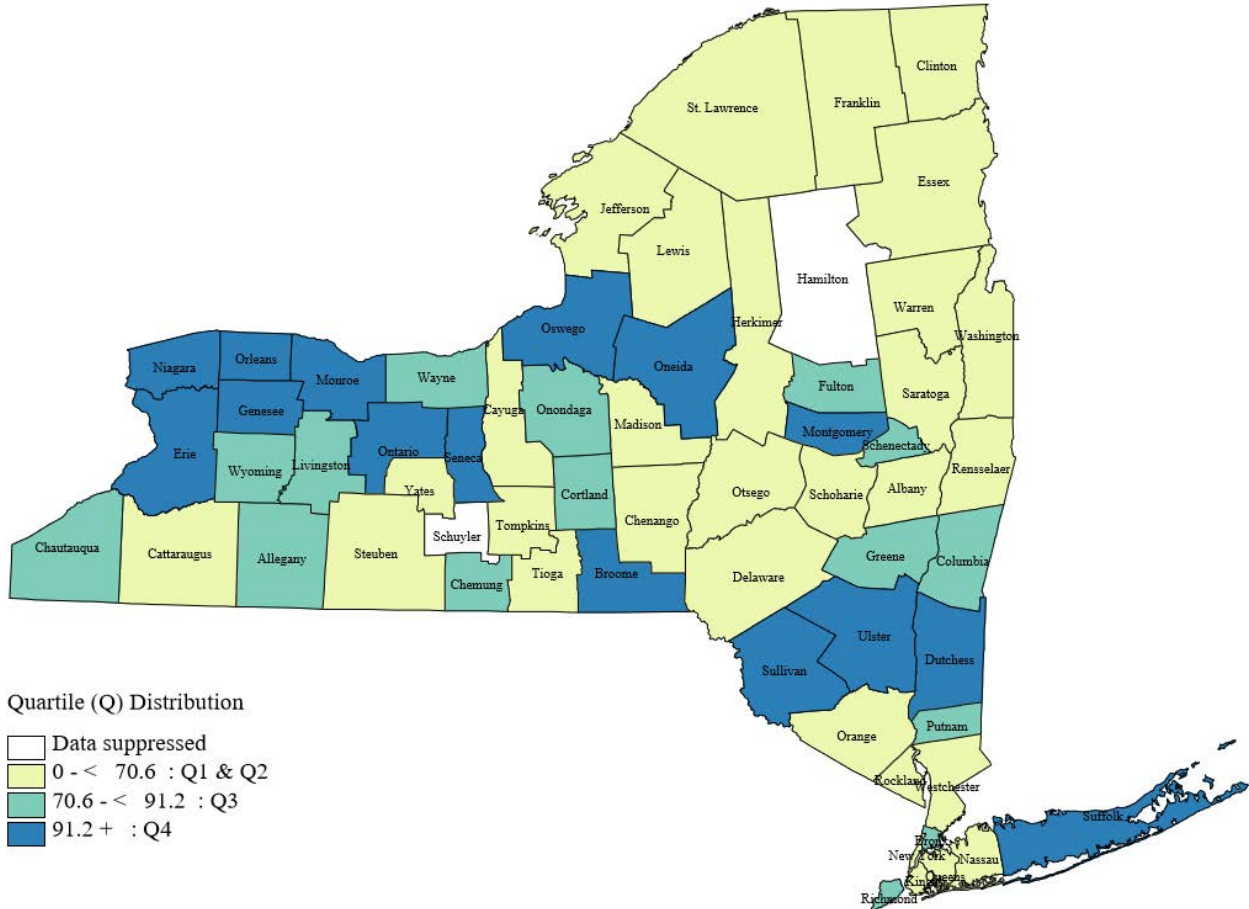
Data source: NYSDOH Statewide Planning and Research Cooperative System (SPARCS); Data as of May 2019

For complete data, see [Data Table 32, Appendix, page 47](#).

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In 2017, the 15 counties in the highest quartile (crude rates greater than or equal to 91.2 per 100,000 population) for ED visits due to any opioid overdose were Suffolk, Genesee, Orleans, Ontario, Ulster, Monroe, Broome, Sullivan, Seneca, Dutchess, Oneida, Erie, Niagara, Oswego and Montgomery (Figure 33).

Figure 33. All emergency department visits (including outpatient and admitted patients) involving any opioid overdose, crude rate per 100,000 population, by county, New York State, 2017



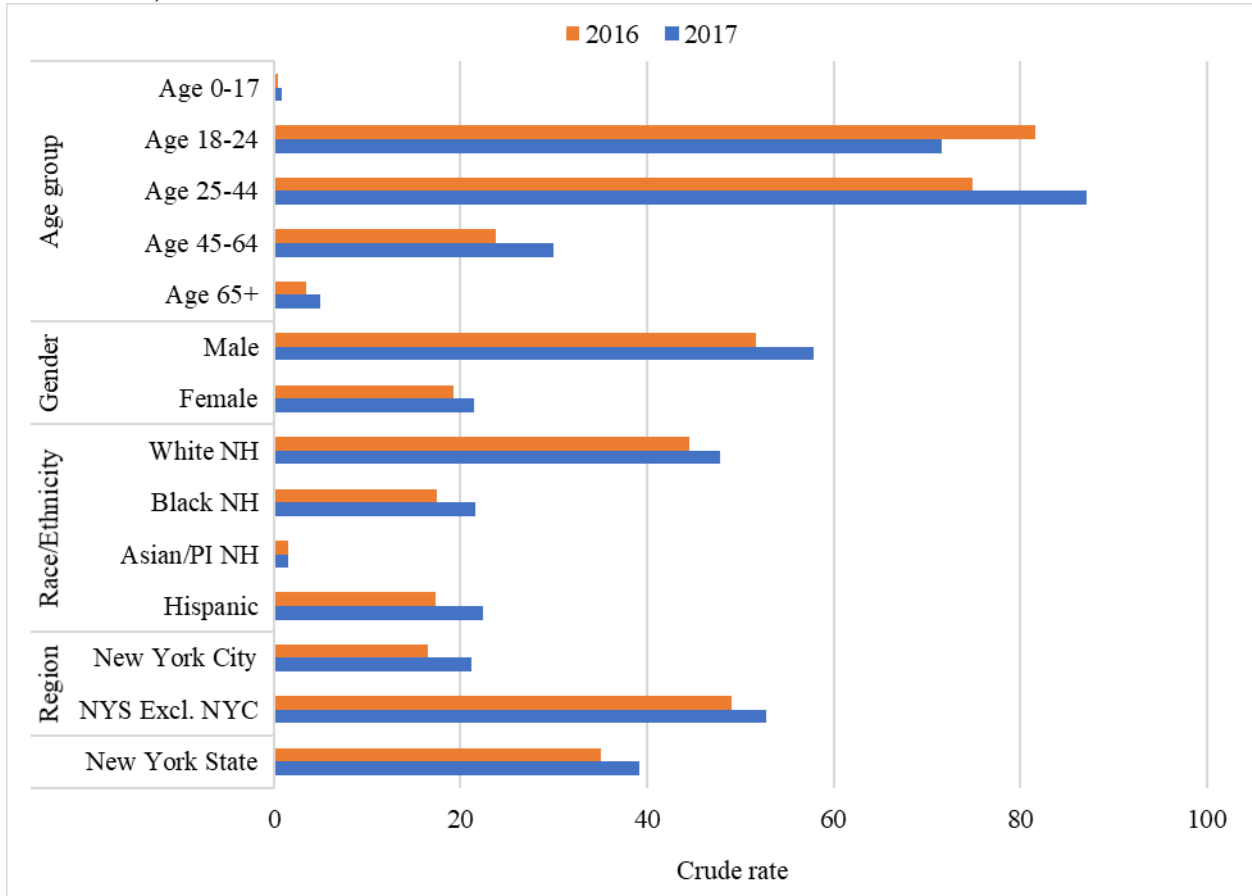
Data source: NYSDOH Statewide Planning and Research Cooperative System (SPARCS); Data as of May 2019

For complete data, see [Data Table 33, Appendix, page 48](#).

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Among NYS residents, the number of ED visits (including outpatients and admitted patients) involving any heroin overdose increased from 6,872 in 2016 to 7,674 in 2017 and the crude rate per 100,000 population increased from 35.0 to 39.2 (Figure 34). In 2017, the rate was highest among the 25-44 year-old age group (87.1 per 100,000), followed by the 18-24 year-old age group (71.5 per 100,000). In 2016, however, the 18-24 year-old age group had the highest rate (81.6 per 100,000), followed by the 25-44 year-old age group (74.8 per 100,000). The 2017 rate was more than two and a half times higher among males (57.8 per 100,000) than among females (21.5 per 100,000), and for NYS excluding NYC (52.8 per 100,000) compared to NYC (21.2 per 100,000). The rate was highest among White NH individuals (47.8 per 100,000), followed by the rates among Hispanic individuals (22.4 per 100,000) and Black NH individuals (21.6 per 100,000) in 2017.

Figure 34. All emergency department visits (including outpatient and admitted patients) involving heroin overdose, crude rate per 100,000 population, by sub-population, New York State, 2016 and 2017



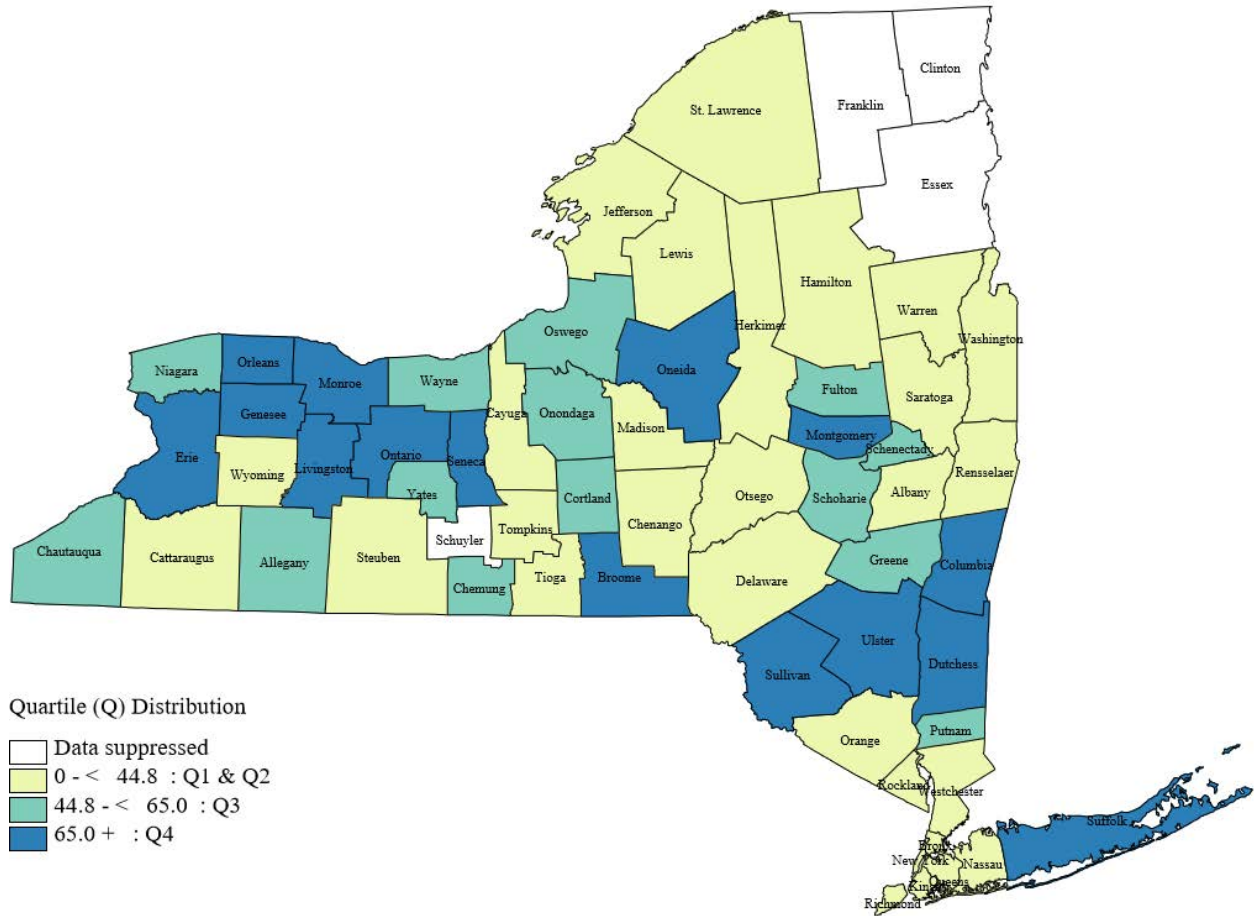
Data source: NYSDOH Statewide Planning and Research Cooperative System (SPARCS); Data as of May 2019.

For complete data, see [Data Table 34, Appendix, page 50](#).

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In 2017, the 15 counties in the highest quartile (crude rates greater than or equal to 65.0 per 100,000 population) for ED visits involving heroin overdose were Broome, Genesee, Ontario, Orleans, Monroe, Dutchess, Suffolk, Sullivan, Seneca, Ulster, Columbia, Erie, Livingston, Oneida and Montgomery (Figure 35).

Figure 35. All emergency department visits (including outpatient and admitted patients) involving heroin overdose, crude rate per 100,000 population, by county, New York State, 2017



Data source: NYSDOH Statewide Planning and Research Cooperative System (SPARCS); Data as of May 2019

For complete data, see [Data Table 35, Appendix, page 51](#).

5 - OPIOID OVERDOSE PREVENTION PROGRAMS

5.1 - Primary Prevention

Primary prevention aims to prevent poisonings, overdoses, and addiction before they ever occur. This is done by preventing exposures to hazards that cause poisoning, altering unhealthy or unsafe behaviors that can lead to overdoses, and increasing resistance to overdoses should exposure occur.¹⁸ The goal of public health primary prevention activities related to OUD is to reduce opioid use in the general population, control access to addictive substances, and promote protective factors.

It is important to focus resources and attention on early interventions which are designed to prevent the occurrence of disease and promote health. Universal mental health promotion and prevention can support children in achieving success. As stated in the Surgeon General's report on Alcohol, Drugs, and Health,¹⁹ "the experiences a person has early in childhood and in adolescence can set the stage for future substance use and, sometimes, escalation to a OUD or addiction." Understanding the broader implications of preventing adverse childhood events and developing programs to address these issues at the community level, need to occur. This will not only create benefits in preventing substance abuse, but also prevent other adverse mental health and physical outcomes.²⁰

5.1.1 - Opioid Management Programs

NYS Medicaid's opioid management program has multiple strategies focusing on appropriate prescribing of opioids across Medicaid populations including Fee-for-Service and Medicaid Managed Care (MMC) Organizations. To achieve compliance with NYS opioid-related legislation, Medicaid programs incorporate clinical criteria for opioid prescribing that are implemented at the pharmacy counter, such as ensuring that individuals do not refill their prescriptions too early. Prior authorization is required when the established clinical criteria are not met. Criteria exist for opioid dosing and duration, concomitant use of opioids with benzodiazepines, and concomitant use of other combinations of opioids. Both Fee-for-Service and some MMC programs do provider outreach through letters to providers (e.g., letters to high-volume or high-dose opioid prescribers, letters to dentists on opioid prescribing guidelines), retrospective drug utilization review on pharmacy claims, and Medicaid Update publications (e.g., [review of the CDC guidelines for opioids](#)). MMC contracts also include requirements to increase access to buprenorphine, methadone, long-acting injectable naltrexone, and naloxone for the treatment of OUD.

In addition, NYS Medicaid has a comprehensive education and outreach program. The NYS Medicaid Prescriber Education Program (MPEP) was formed in 2008 in response to NYS legislation that required the NYSDOH to develop a prescriber education program in collaboration with an academic institution. NYS MPEP was established with the goal to promote better health outcomes for all NYS Medicaid members by providing practitioners with information on evidence-based, unbiased pharmacotherapy. The NYS MPEP is a partnership

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between the NYSDOH and the SUNY. The NYS MPEP has two main components: a web-based program and an academic educator outreach program. The web-based portion of the program includes online Continuing Medical Education (CME) resources that prescribers can readily access via SUNY's website. The NYS MPEP also includes a Drug Information Response Center service that provides evidence-based responses to practitioners' drug information requests. The academic educator outreach portion of the program is led by academic educators who hold Doctor of Pharmacy degrees and are trained to provide educational sessions to prescribers throughout NYS. An educational session with an academic educator consists of either one-on-one sessions, small group sessions, or larger group sessions, such as a grand rounds platform. During the educational session, the academic educator reviews educational modules with the prescriber. The modules are divided into key messages and each module is accredited by Accreditation Council for Continuing Medical Education. Upon completion of each key message, prescribers are awarded 0.5 CME credits.

In 2014, an educational module on Chronic Non-Cancer Pain (CNCP) was launched and included three key messages. As the demand for the CNCP module increased, more key messages were included to cover information that prescribers were asking for that fell within the scope of the original module. Currently, there are 5 key messages posted (<https://nysep.NYS.DOH.suny.edu/>):

- (1) first-line treatment options for CNCP should include a combination of non-pharmacologic and non-opioid analgesic pharmacologic therapies;
- (2) prescriptions for a trial of a short-acting opioid should be written for the shortest time possible, with a 7-day trial for opioid-naïve members per NYS Public Health Law Section 3331, 5. (b), (c);
- (3) appropriate use of long-acting opioids - when initiating long-term opioid therapy, the total daily morphine milligram equivalent (MME) dose should be calculated and should generally not exceed more than 90/day;
- (4) management of opioid-induced constipation; and
- (5) a review of the CDC guidelines for prescribing opioids in patients with chronic pain.

For the timeframe January 1, 2018 through December 31, 2018, the academic educators conducted more than 50 in-person educational sessions focusing on the CNCP module across NYS. Practitioners who have a large volume of Medicaid members receiving ≥ 90 MMEs per day were prioritized by the academic detailers for a one-on-one session.

Effective July 1, 2017, Public Health Law Article 33 §3309-a was updated to require prescribers with a U.S. Drug Enforcement Administration (DEA) number and medical residents prescribing under a facility DEA number to complete a minimum of three hours of education every three years in eight specific topic areas including addiction, pain management, and palliative care. As a natural extension of the MPEP program, NYSDOH contracted with SUNY Buffalo to develop an enduring, on-line program that would meet all the legislated educational requirements. The enduring web-based opioid prescribing training program was developed by an interprofessional team from SUNY Buffalo Schools of Pharmacy and Medicine in collaboration with the NYSDOH Office of Health Insurance Programs, Bureau of Narcotic Enforcement (BNE), and Bureau of Occupational Health and Injury Prevention. Part I of the program (www.pharmacy.buffalo.edu/opioid-training) was launched on March 14, 2017 and covers training on pain management, appropriate prescribing, managing acute pain, and NYS and

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federal requirements for prescribing controlled substances. Part II of the program, launched on April 21, 2017, covers prevention, screening and signs of addiction; responses to abuse and addiction; palliative medicine; and end-of-life care. The program is a four-hour, accredited (by Accreditation Council for Continuing Medical Education, Accreditation Council for Pharmacy Education, and American Dental Association Continuing Education Recognition Program), enduring, web-based opioid prescribing training program. The program meets all the requirements outlined in the NYS Public Health Law and is provided at no charge to prescribers.

For the timeframe January 1, 2018 through December 31, 2018, a total of 3,961 prescribers completed both Part 1 and Part 2 of the program. Since the inception of the program, over 43,000 prescribers have completed both parts of the program. To receive CME credit participants must achieve a 70 percent on the post-test. The program has been well accepted, with demonstration of increased knowledge across disciplines through pre- and post-training assessment. Overall, there has been greater than a 10 percent improvement in Part I and nearly a 20 percent improvement in Part II scores between pre- and post-testing. The program has been completed by practitioners in every NYS county and by practitioners residing outside of NYS.

BNE tracks the attestations of prescriber completion of opioid prescribing programs through the Health Commerce System. Educational programs are offered by various groups. By the end of 2018, prescriber attestations totaled 98,152 out of an estimated 130,000 eligible practitioners, with 2,943 prescribers attesting during the calendar year of 2018.

5.1.2 - Education to the Community

NYSDOH launched the CDC RxAwareness Campaign, an evidence-driven prescription opioid overdose prevention campaign that tells the real stories of people whose lives have been torn apart by opioid use and abuse. The goal of the campaign is to increase awareness that opioids can be addictive and dangerous and to increase the number of individuals who avoid using opioids nonmedically (recreationally) or choose options other than opioids for safe and effective pain management. The campaign included Facebook ads, popular website display banners, streaming audio, and Google Search ads.

NYSDOH chose to use the six 30-second testimonial video ads and the five 30-second radio ads featuring people and families affected by prescription opioid abuse and overdose. Web banner ads and online search ads that were designed and tested by CDC were also used. Targeted areas included the counties in New York with the highest opioid prescription rates. Adults 35-54 years old and adults 35-54 years old who are parents of teenage children were targeted based on the CDC guidance for campaign use. The ad campaign started in 2018, running for 4 periods. They generated 70,000 views of Facebook videos, and approximately 2,000 clicks to the NYSDOH website.

5.1.3 - The Prescription Monitoring Program Registry (PMP) and Changes to New York's Prescribing Practices

The BNE's PMP collects and analyzes dispensed controlled substance data from pharmacies and dispensers. The data, consisting of patient, prescriber, pharmacy and controlled substance prescription information, are the basis for the information available to practitioners and pharmacists through the online PMP. It provides a patient's current controlled substance prescription information to practitioners and pharmacists to better evaluate drug therapy and to inform a practitioner of other controlled substance use. These data also identify potential sources of prescription drug diversion or abuse, including prescription fraud, "doctor-shopping" or multiple-provider episodes, and improper prescribing and dispensing.

In February 2010, BNE implemented a PMP that provided secure online access for practitioners to their patients' recent controlled substance prescription histories. From February 2010 to June 2013, 5,087 practitioners (of approximately 100,000 statewide) conducted 465,639 searches. Before I-STOP (Internet System for Tracking Over Prescribing), pharmacies and dispensers submitted data monthly. A key change in the law through the Prescription Drug Reform Act of 2012 required "real time" submission of dispensed controlled substance data, authorized PMP access for pharmacists, updated the 2010 PMP system, and mandated its use by any practitioner writing prescriptions for a Schedule II, III or IV controlled substance, with limited exceptions. Thus, controlled substance data is provided to the PMP within 24 hours of dispensing. Since I-STOP's implementation in August 2013 through December 2018, there were nearly 100 million searches against the PMP Registry. In 2018 alone, there were 19,076,547 searches by 72,731 searchers for over 4,411,199 patients. The PMP Registry is processing over 47 searches per second.

As of July 22, 2016, a practitioner may not initially prescribe more than a 7-day supply of an opioid medication for acute pain. This mandate was enacted to further reduce overprescribing of opioid medications. Acute pain is defined as pain, whether resulting from disease, accidental or intentional trauma, or other cause, that the practitioner reasonably expects to last only a short period of time. In NYS, opioid prescriptions for more than a 7-day supply decreased steadily after the mandate was enacted, from 34.7 percent in the second quarter of 2016 to 20.3 percent in the fourth quarter of 2018.

In April 2016, NYSDOH began sharing PMP registry data with other states. Sharing prescription dispensing data across state lines allows practitioners to make better-informed decisions about prescribing based on a fuller picture of the patient's controlled substance history. States can also work together to prevent patients from stockpiling or reselling dangerous controlled substances for nonmedical use. NYSDOH is currently sharing patient prescription data with 29 states plus Washington, D.C. and the Military Health System, including all states bordering New York, and all New England states. NYSDOH maintains ownership and control of all PMP registry data.

In June 2017, NYSDOH continued work to improve access to the PMP for prescribers by redesigning and reprogramming the PMP Registry using responsive design technology which makes patient searching from a smart phone or tablet easier to navigate and view. This technology allows the PMP Registry's screen display to automatically adjust to the size of the

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device to maximize the PMP user experience for prescribers who must access the PMP registry outside of their normal office environment. Since its implementation, search activity from mobile devices has increased by over 150 percent.

In 2018, thirty substances and five structural classes were added to NYS Public Health Law Article 33 Section 3306 as Schedule I controlled substances. Schedule I controlled substances have no accepted medical use and have a high potential for severe physical and psychological dependence. The added substances were AH-7921 and Acetyl Fentanyl (which possess opioid activity and effects), three psychoactive compounds classified as tryptamines, and twenty-five synthetic marijuana substances classified as cannabinoids and cannabimimetics, along with five structural classes of cannabimimetics. Synthetic marijuana substances typically consist of plant material coated with chemicals intended to mimic the effects of naturally grown marijuana. Synthetic marijuana substances have led to increases in emergency room visits and poison control center calls in NYS and health emergencies nationwide.

Effective April 1, 2018, a practitioner who prescribes opioids for a patient's pain that has lasted for more than three months, or past the time of normal tissue healing, must have a written treatment plan, updated annually, in the patient's medical record. The treatment plan must, at a minimum, include documentation and discussion of the clinical criteria including an evaluation of risk factors for opioid-related harms; a review with the patient of the risks of and alternatives to opioid treatment; and goals for pain management and functional improvement based on patient diagnosis, which include a discussion on how opioid therapy would be tapered to lower doses or tapered and discontinued if benefits do not outweigh risks.

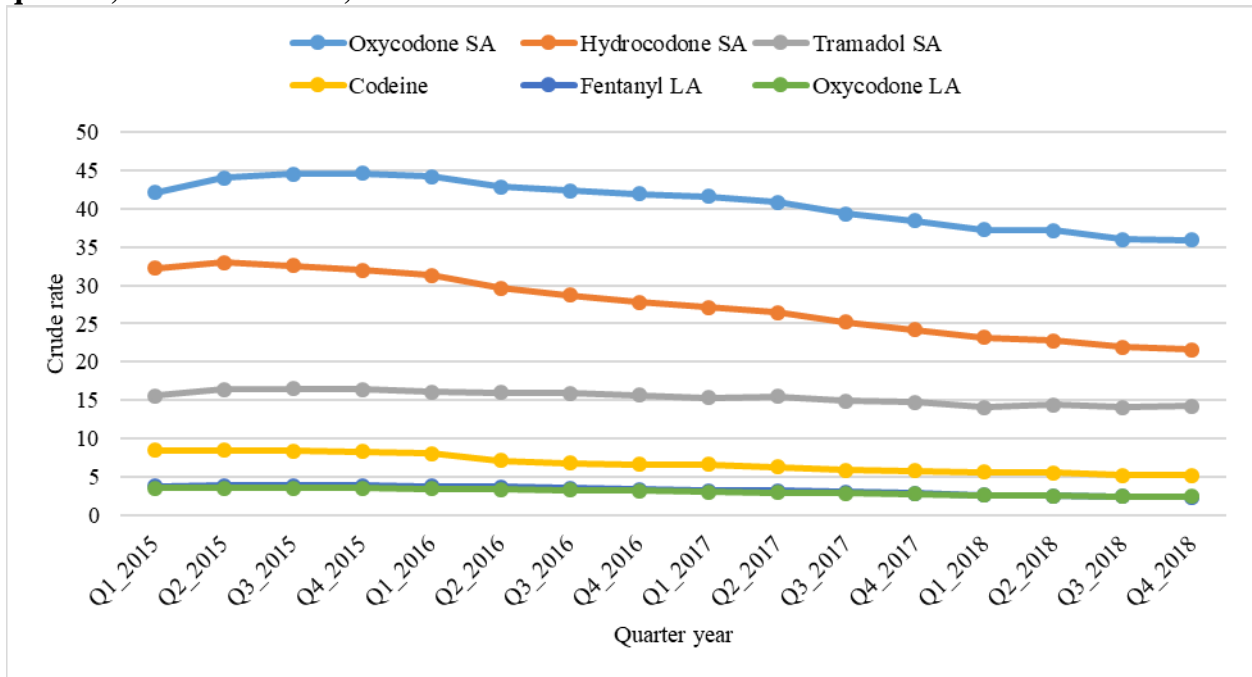
Also in 2018, NYSDOH began the necessary steps to move towards integration of the NYS PMP within a healthcare provider's Electronic Health Record system. Implementation guides detailing the technical and program policy specifications and requirements to successfully integrate were developed. A large healthcare system was selected as a pilot and work began October 2018 to validate the process and determine if any modifications were necessary.

In addition, BNE implemented and monitors the compliance of practitioners with the mandate to electronically prescribe all prescriptions in NYS. The number of electronic prescriptions has increased since the mandate went into effect in March 2016, from 50 percent to 90 percent of total controlled substance prescriptions. Practitioners can request a waiver from the requirement, but there are about 78,000 providers currently electronically prescribing controlled substances. The increase in the utilization of electronic prescribing should reduce the number of medication errors and the number of forged and counterfeit prescriptions.

5.1.3.1 - Opioid Prescribing History

The trend for the most commonly prescribed opioids in NYS is displayed in Figure 36. Since 2015, the rate of prescribing has remained steady for long acting Oxycodone, Tramadol, Codeine and long acting Fentanyl. Between 2015 and 2018, there was a 16.6 percent decline in the quarterly average crude prescription rate for short acting Oxycodone and a 27.5 percent decline in the quarterly average crude prescription rate for short acting Hydrocodone. Note, the trend in long acting Fentanyl is obscured by the similar trend in long acting Oxycodone.

Figure 36. Commonly prescribed opioid analgesics, crude rate per 1,000 population, by quarter, New York State, 2015-2018



SA=short-acting; LA=Long-acting

The data exclude buprenorphine prescriptions for the treatment of OUD.

New York State total contains number with county unknown.

Data Source: NYS Prescription Monitoring Program; Data as of April 2019

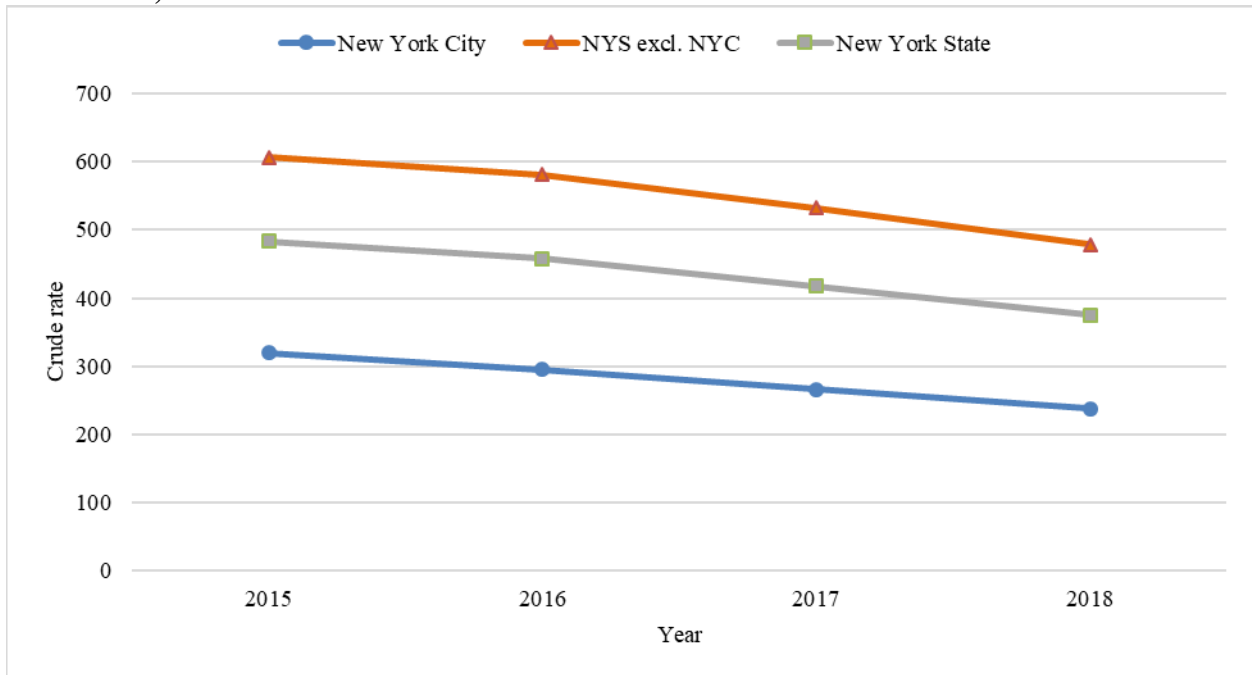
For complete data, see [Data Table 36, Appendix, page 53](#).

For the purposes of this report, many statistics were calculated using the CDC national standard set of indicators. Therefore, the data in this report may not always be exactly comparable to other similar data NYS DOH has reported in earlier publications. Specifically, CDC’s standards exclude from the analysis drugs that are not typically used in outpatient settings or are otherwise not critical for MME purposes.

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In NYS, the crude rate of opioid analgesic prescriptions declined consistently between 2015 (482.8 per 1,000 population) and 2018 (374.9 per 1,000), representing more than a 22 percent reduction (Figure 37). During 2015-2018, NYS excluding NYC consistently had the highest rate of opioid analgesic prescriptions, compared to NYC. In 2018, more than seven million opioid prescriptions were filled by state residents; the rate was two times higher for NYS excluding NYC (478.1 per 1,000) than NYC (237.8 per 1,000).

Figure 37. Opioid analgesic prescriptions, crude rate per 1,000 population, by region, New York State, 2015-2018



The data exclude buprenorphine prescriptions for the treatment of OUD.

New York State total contains number with county unknown.

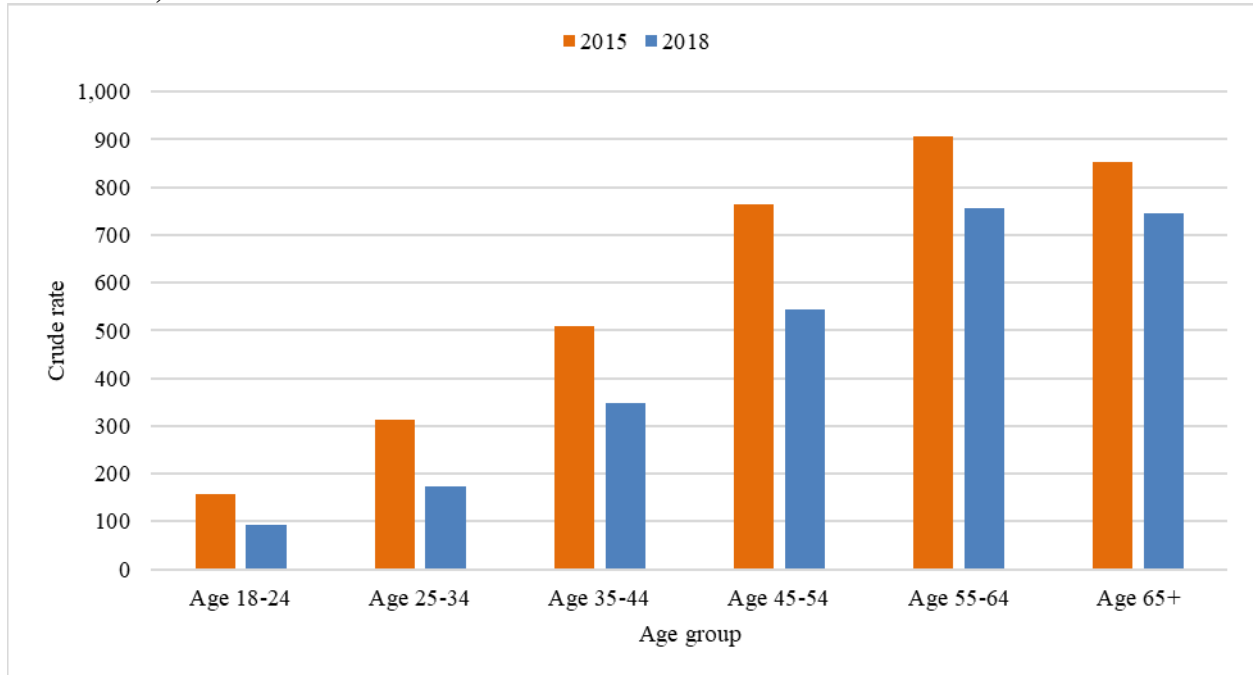
Data Source: NYS Prescription Monitoring Program; Data as of April 2019

For complete data, see [Data Table 37, Appendix, page 54](#).

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The crude rate of opioid analgesic prescriptions per 1,000 population declined across all age groups between 2015 and 2018 (Figure 38). The 55-64 year-old age group had the highest rate of opioid analgesic prescriptions in both 2015 and 2018 (907.0 and 757.4 per 1,000, respectively).

Figure 38. Opioid analgesic prescriptions, crude rate per 1,000 population, by age, New York State, 2015 and 2018



The data exclude buprenorphine prescriptions for the treatment of OUD.

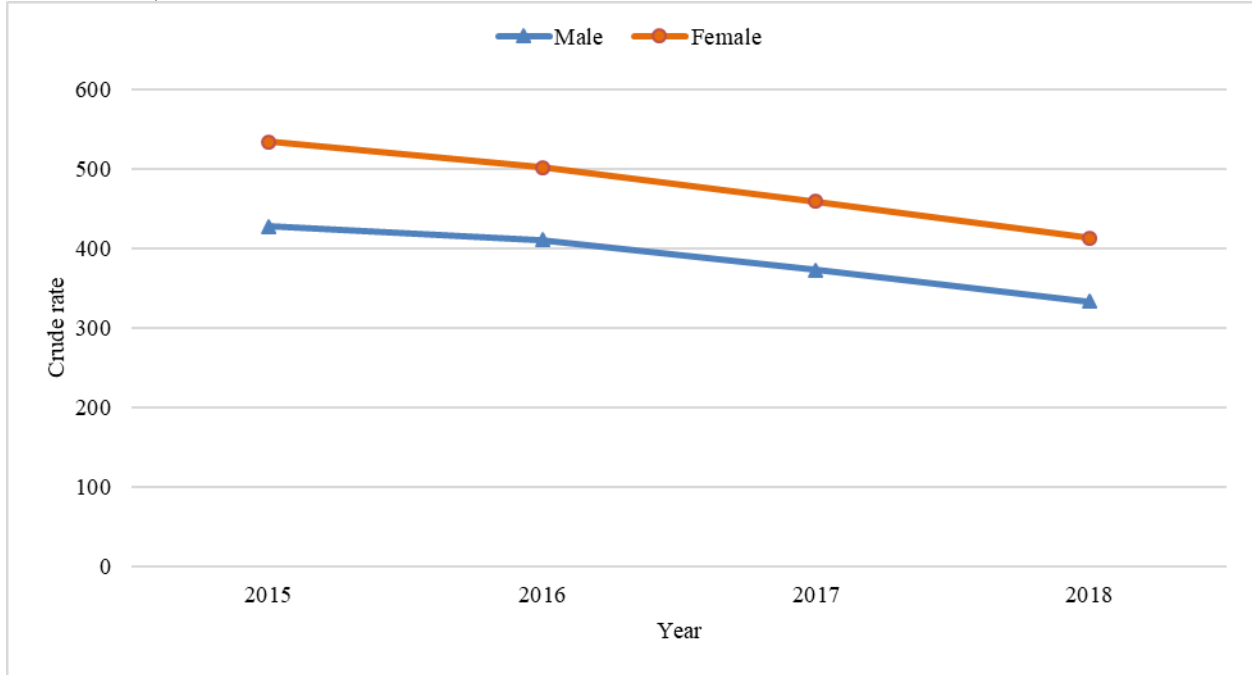
Data Source: NYS Prescription Monitoring Program; Data as of April 2019

For complete data, see [Data Table 38, Appendix, page 54](#).

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The crude rate of opioid analgesic prescriptions per 1,000 population was consistently higher among females than males between 2015 and 2018 (Figure 39). In 2018, the rate was 24 percent higher among females (413.7 per 1,000) than males (333.9 per 1,000).

Figure 39. Opioid analgesic prescriptions, crude rate per 1,000 population, by sex, New York State, 2015-2018



The data exclude buprenorphine prescriptions for the treatment of OUD.

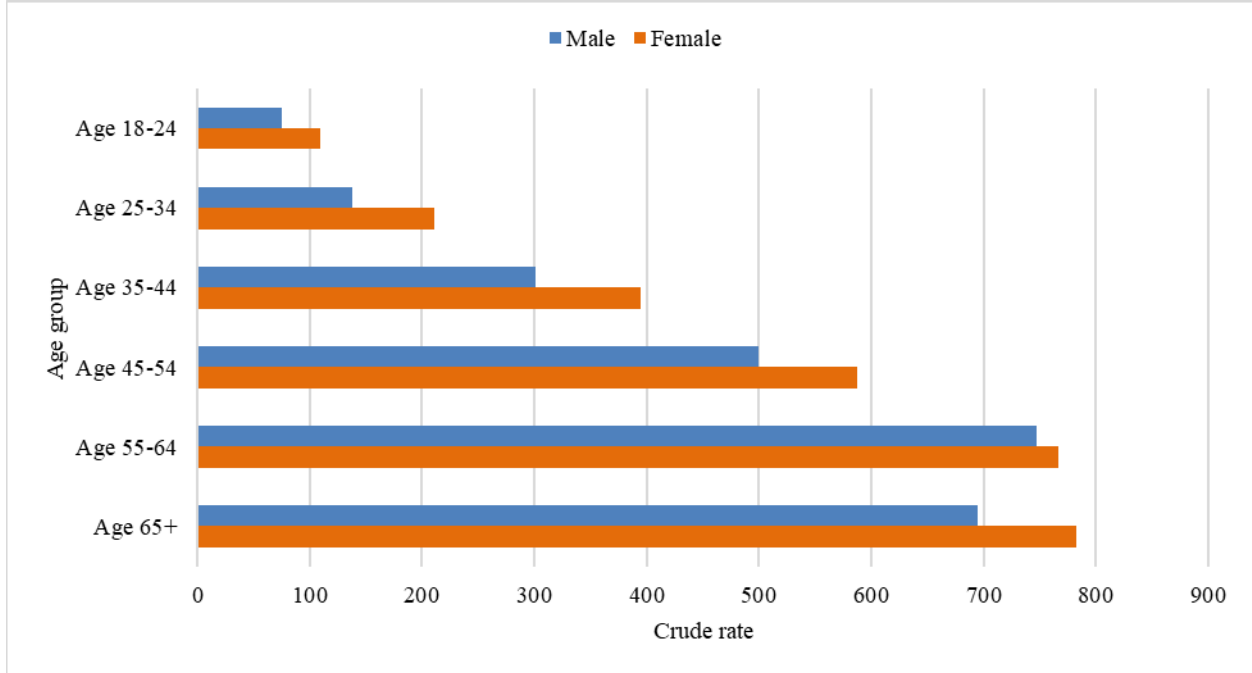
Data Source: NYS Prescription Monitoring Program; Data as of April 2019

For complete data, see [Data Table 39, Appendix, page 55](#).

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In 2018, the crude rate of opioid analgesic prescriptions per 1,000 population was higher for females than it was for males across all age groups (Figure 40). The gap between sexes was highest among the 35-44 year-old age group, with crude rates of 301.6 per 1,000 for males and 394.8 per 1,000 for females.

Figure 40. Opioid analgesic prescriptions, crude rate per 1,000 population, by age and sex, New York State, 2018

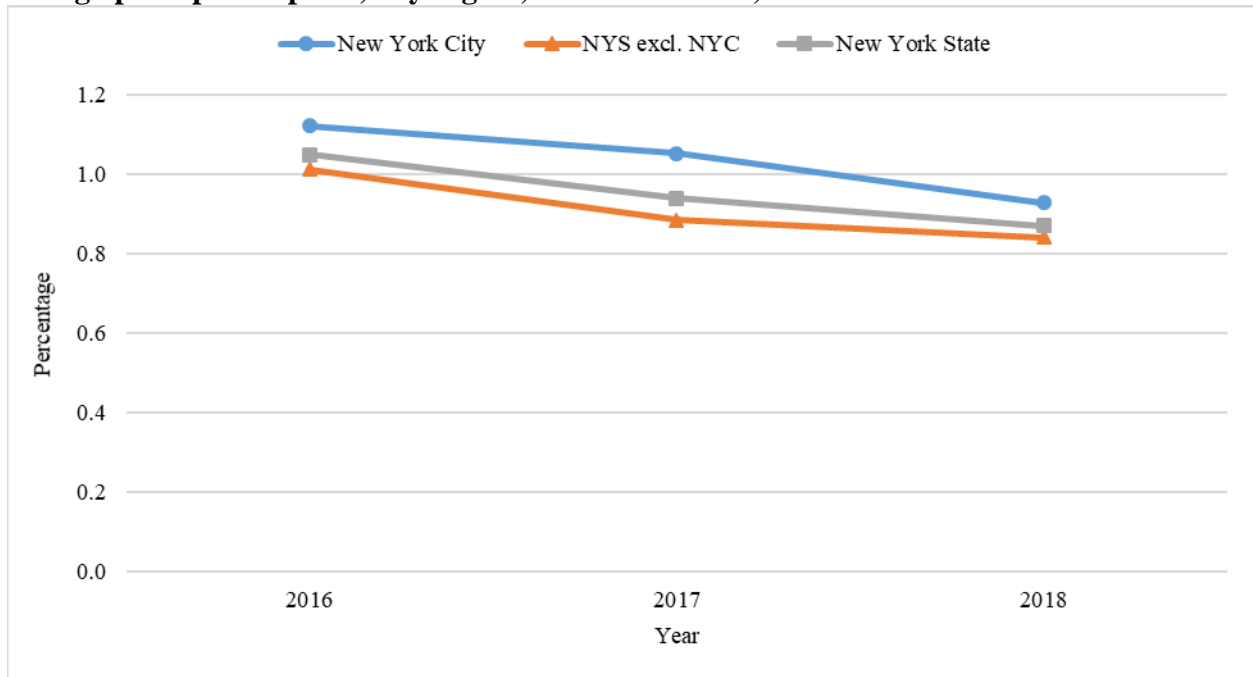


The data exclude buprenorphine prescriptions for the treatment of OUD.
Data Source: NYS Prescription Monitoring Program; Data as of April 2019
For complete data, see [Data Table 40, Appendix, page 55](#).

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Initiating treatment for chronic pain with long-acting or extended release opioids is associated with higher risk of overdose than the initiation of treatment with immediate-release opioids.¹⁹ The percentage of incidents in which patients were both opioid-naïve and received long-acting opioid prescriptions declined between 2016 (1.1 percent) and 2018 (0.9 percent) in NYS (Figure 41). During 2016-2018, the percentage was consistently higher in NYC than in NYS excluding NYC.

Figure 41. Percentage of incidents when patients were opioid-naïve and received long-acting opioid prescription,* by region, New York State, 2016-2018



The data exclude buprenorphine prescriptions for the treatment of OUD.

Opioid-naïve was defined as patients with no opioid prescription for pain in last 45 days.

* Patient received index prescription of long-acting opioid and was opioid-naïve.

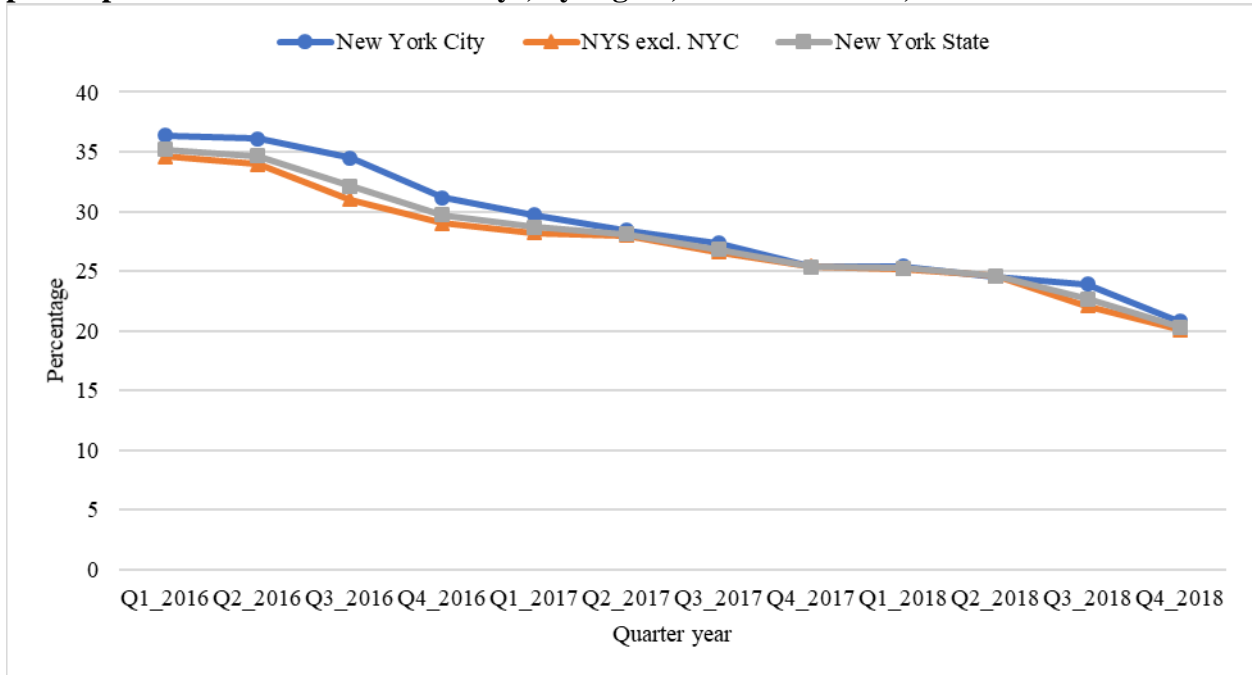
Data Source: NYS Prescription Monitoring Program; Data as of April 2019

For complete data, see [Data Table 41, Appendix, page 56](#).

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Opioid use for acute pain is associated with long-term opioid use, and physical dependence on opioids is an expected physiologic response in patients exposed to opioids for more than a few days.²¹ In July 2016, New York State limited prescribing of opioids for acute pain to no more than a 7-day supply. In NYS, opioid prescriptions for more than a 7-day supply decreased steadily after the mandate was enacted, from 34.7 percent in the second quarter of 2016 to 20.3 percent in the fourth quarter of 2018 (Figure 42).

Figure 42. Percentage of incidents when patients were opioid-naïve and received an opioid prescription* of more than seven days, by region, New York State, 2016-2018



The data exclude buprenorphine prescriptions for the treatment of OUD.

Opioid-naïve was defined as patients with no opioid prescription for pain in last 45 days.

* Patient received opioid index prescription of more than seven days and was opioid-naïve.

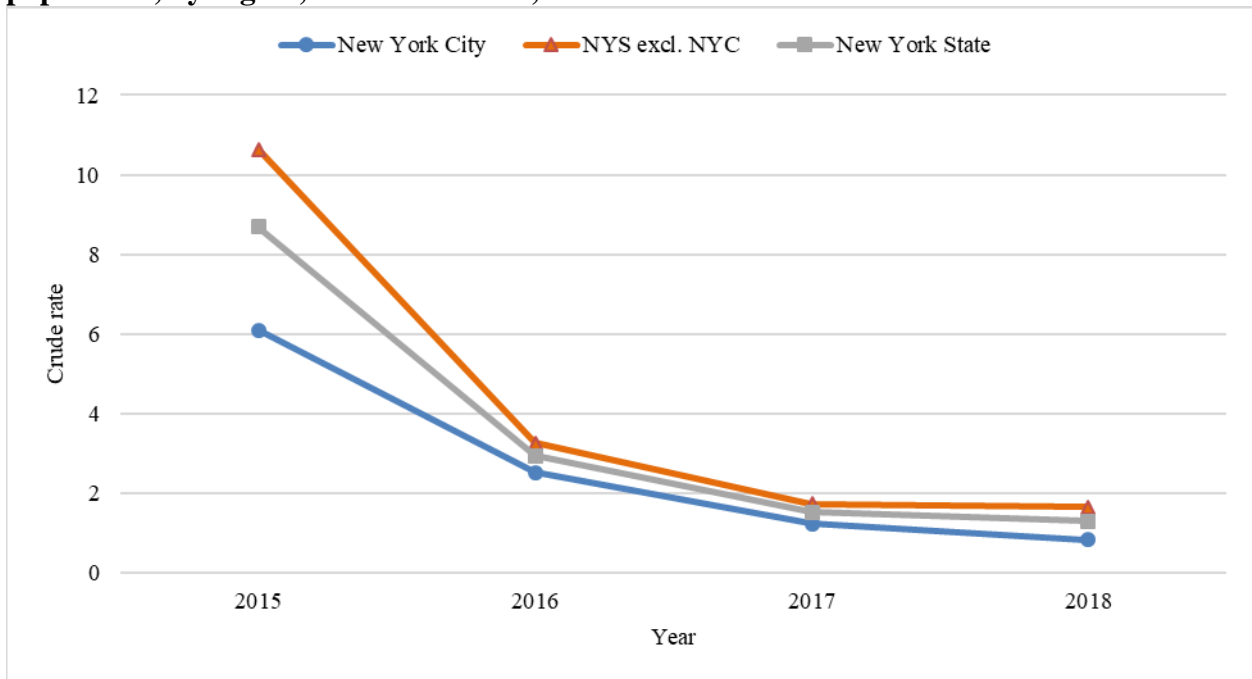
Data Source: NYS Prescription Monitoring Program; Data as of April 2019

For complete data, see [Data Table 42, Appendix, page 56](#).

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The number of patients who received opioid prescriptions from five or more prescribers, at five or more pharmacies in a six-month period (“doctor shoppers”) dropped significantly across NYS between 2015 to 2018 (Figure 43). In NYS, the crude rate per 100,000 population declined from 8.7 per 100,000 in 2015 to 1.3 per 100,000 in 2018.

Figure 43. Patients with prescribed opioid analgesics from five or more prescribers and dispensed at five or more pharmacies in a six-month period, crude rate per 100,000 population, by region, New York State, 2015-2018



The data exclude buprenorphine prescriptions for the treatment of OUD.

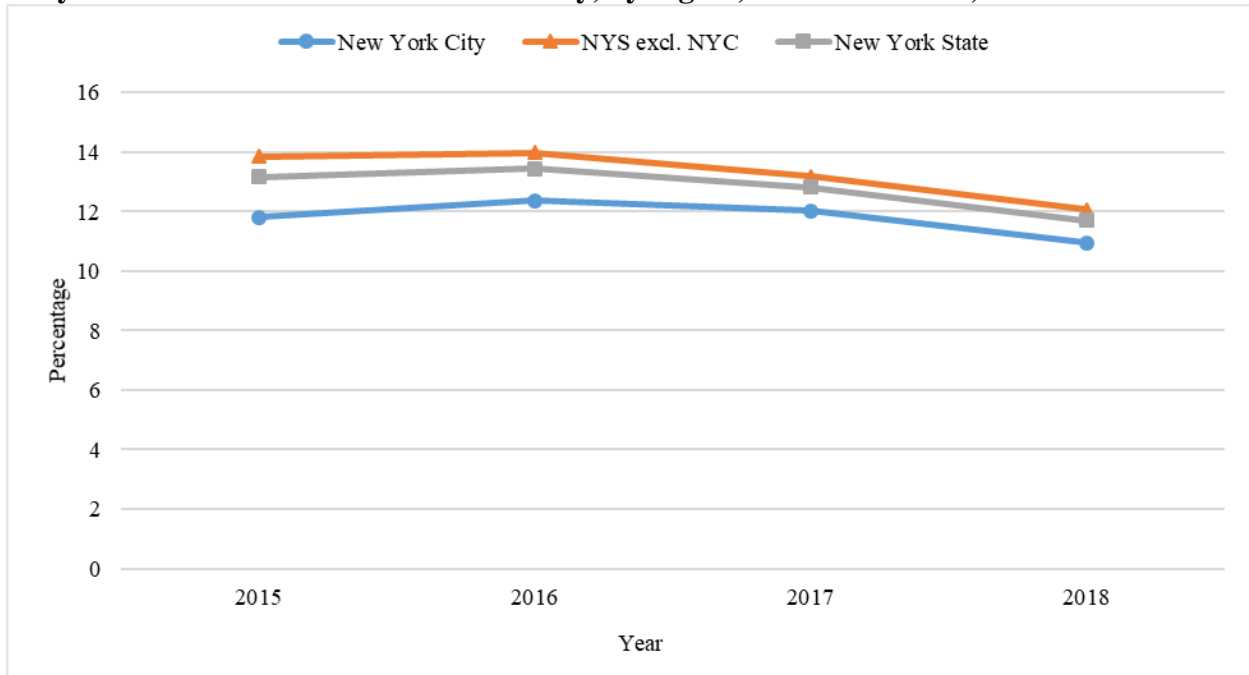
Data Source: NYS Prescription Monitoring Program; Data as of April 2019

For complete data, see [Data Table 43, Appendix, page 57](#).

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Opioid analgesics prescribed in higher dosages (≥ 90 MME) are associated with higher risk of overdose and death.²¹ The percentage of patients receiving one or more opioid analgesic prescriptions with a total daily dose of ≥ 90 MME for at least one day declined between 2015 (13.2 percent) and 2018 (11.7 percent) in NYS (Figure 44). During 2015-2018, the percentage was consistently higher in NYS excluding NYC than in NYC.

Figure 44. Percentage of patients prescribed one or more opioid analgesics with a total daily dose of ≥ 90 MME on at least one day, by region, New York State, 2015-2018



The data exclude buprenorphine prescriptions for pain and treatment of OUD.

New York State total contains number with county unknown.

MME: morphine milligram equivalents

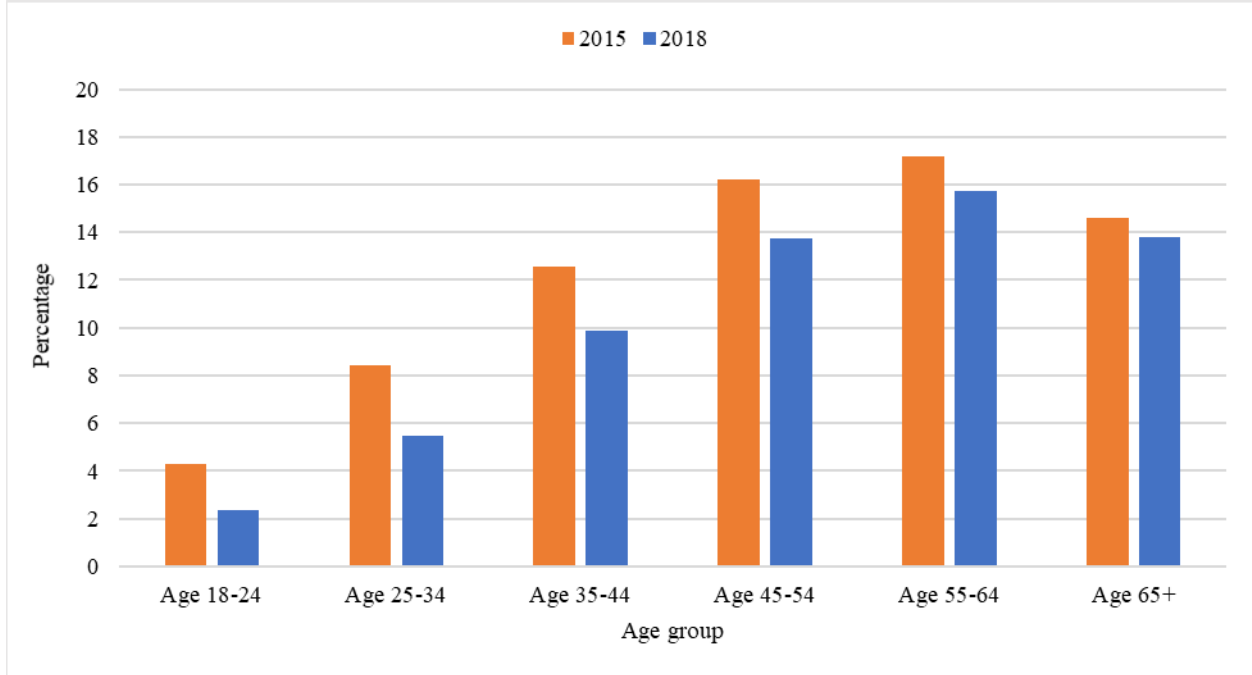
Data Source: NYS Prescription Monitoring Program; Data as of April 2019

For complete data, see [Data Table 44, Appendix, page 57](#).

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In NYS, the percentage of patients receiving one or more opioid analgesic prescriptions with a total daily dose of ≥ 90 MME for at least one day declined across all age groups between 2015 and 2018 (Figure 45). The highest percentage was seen among the 55-64 year-old age group, both in 2015 (17.2 percent) and in 2018 (15.7 percent).

Figure 45. Percentage of patients prescribed one or more opioid analgesics with a total daily dose of ≥ 90 MME on at least one day, by age, New York State, 2015 and 2018



The data exclude buprenorphine prescriptions for pain and treatment of OUD.

MME: morphine milligram equivalents

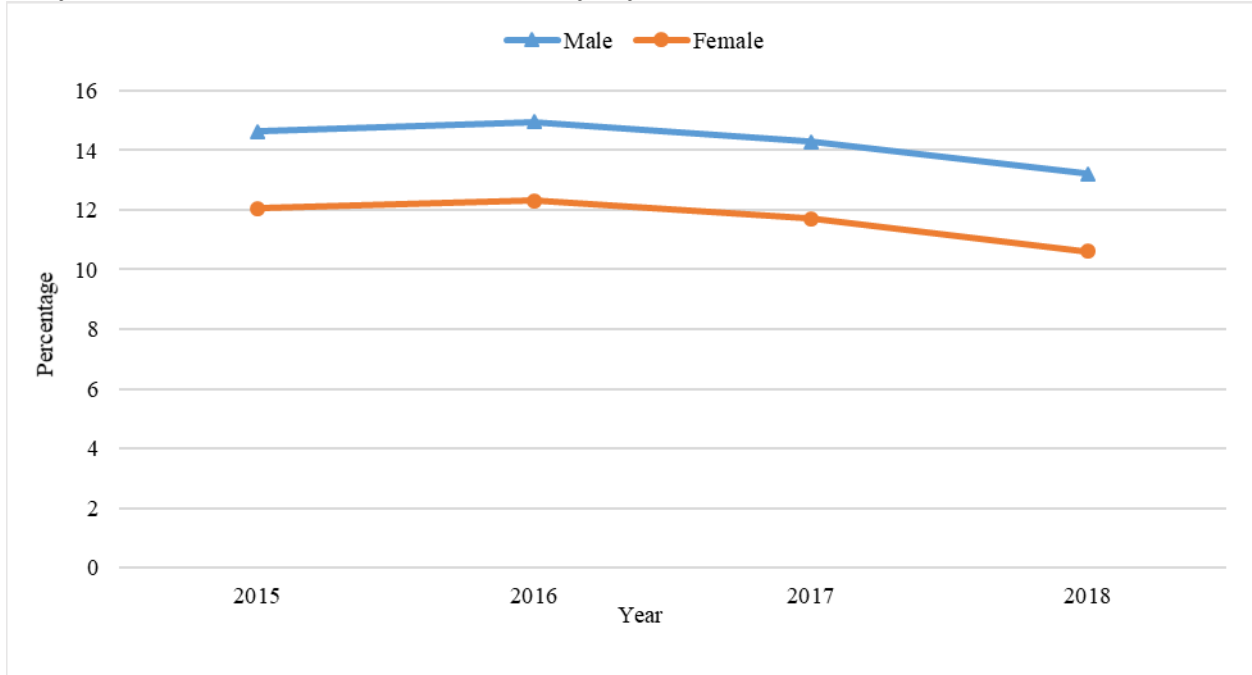
Data Source: NYS Prescription Monitoring Program; Data as of April 2019

For complete data, see [Data Table 45, Appendix, page 58](#).

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The percentage of patients receiving one or more opioid analgesic prescriptions with a total daily dose of ≥ 90 MME for at least one day was consistently higher among males than females between 2015 to 2018 (Figure 46). In 2018, the percentages among male and female patients were 13.2 and 10.6 percent, respectively, which declined from 14.6 and 12.1 percent in 2015.

Figure 46. Percentage of patients prescribed one or more opioid analgesics with a total daily dose of ≥ 90 MME on at least one day, by sex, New York State, 2015-2018



The data exclude buprenorphine prescriptions for pain and treatment of OUD.

MME: morphine milligram equivalents

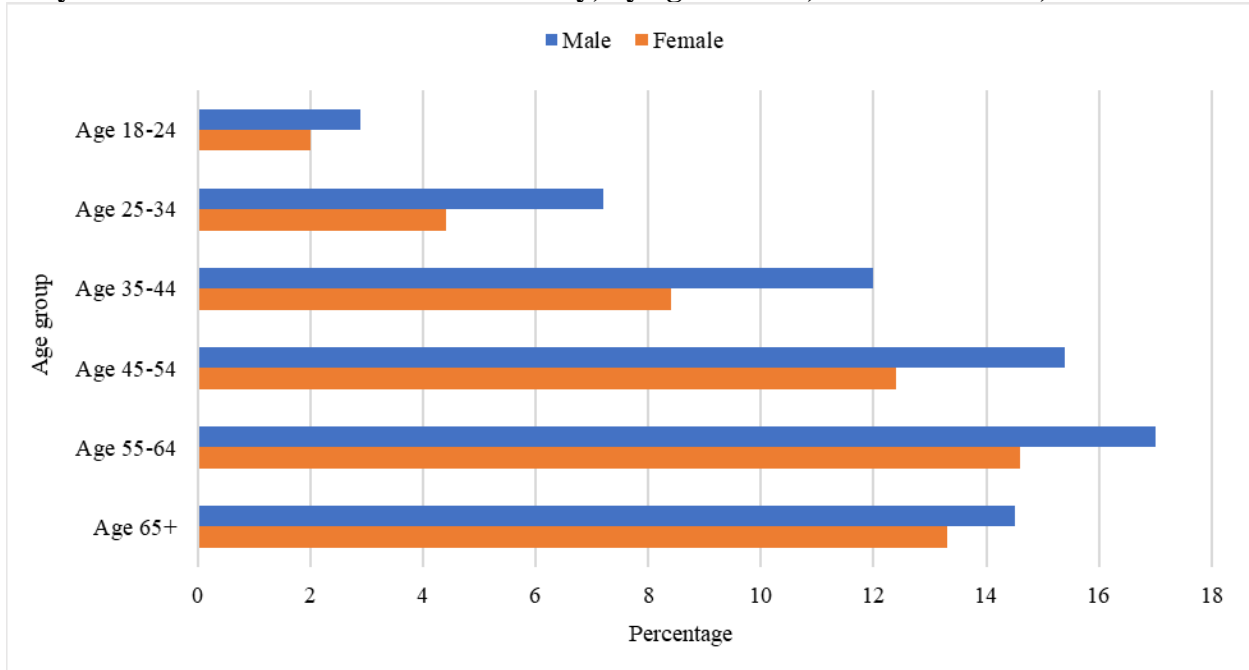
Data Source: NYS Prescription Monitoring Program; Data as of April 2019

For complete data, see [Data Table 46, Appendix, page 58](#).

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In 2018, the percentage of patients receiving one or more opioid analgesic prescriptions with a total daily dose of ≥ 90 MME for at least one day was highest among the 55-64 year-old age group, for both males (17.0 percent) and females (14.6 percent), followed by the 45-54 year-old age group for males (15.4 percent) and the 65+ age group for females (13.3 percent) (Figure 47).

Figure 47. Percentage of patients prescribed one or more opioid analgesics with a total daily dose of ≥ 90 MME on at least one day, by age and sex, New York State, 2018



The data exclude buprenorphine prescriptions for pain and treatment of OUD.

MME: morphine milligram equivalents

Data Source: NYS Prescription Monitoring Program; Data as of April 2019

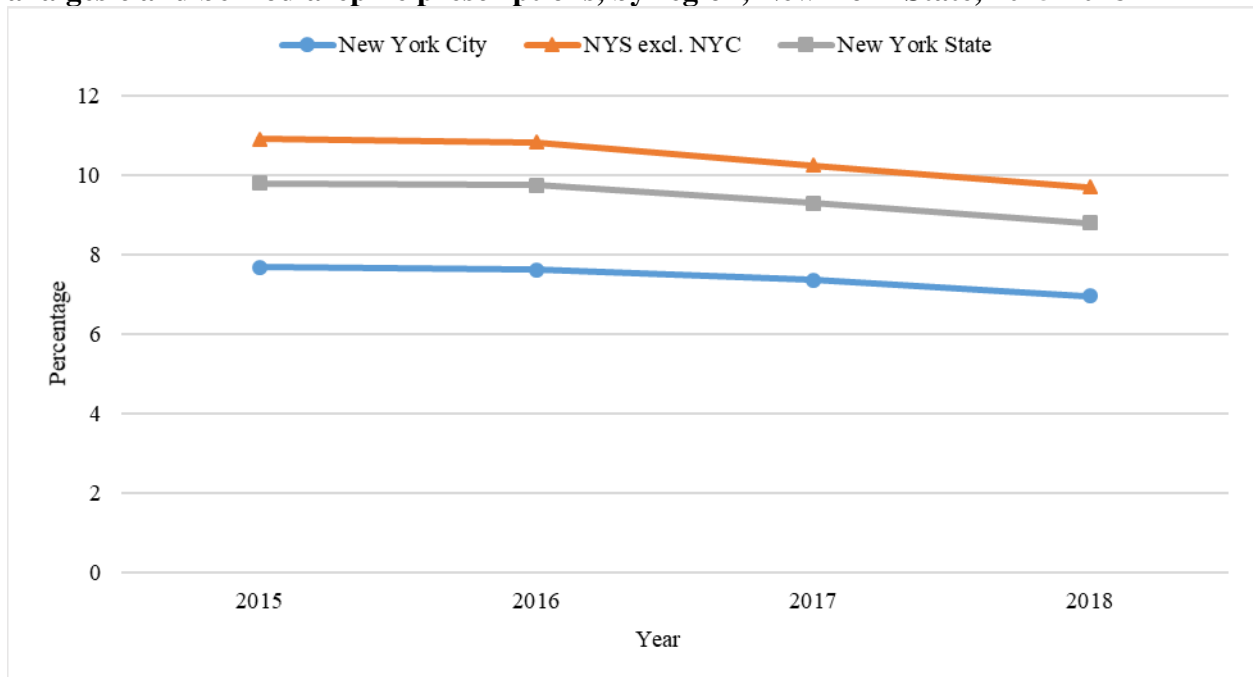
For complete data, see [Data Table 47, Appendix, page 59](#).

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The risk of opioid overdose increases when taken in combination with other drugs, including benzodiazepines (e.g., Xanax® [alprazolam], Valium® [diazepam]).²¹ As such, it is important to monitor the co-dispensing of these substances, and to provide information to the public about the increased risk of overdose when combining opioids and benzodiazepines, as well as other substances.

The percentage of patients receiving at least one prescription for opioid analgesics or benzodiazepines with two or more calendar days of overlapping opioid analgesic and benzodiazepine prescriptions declined between 2015 (9.8 percent) and 2018 (8.8 percent) in NYS (Figure 48). During 2015-2018, compared to NYC, NYS excluding NYC had consistently higher percentages of patients with two or more calendar days of overlapping opioid analgesic and benzodiazepine prescriptions. In 2018, the percentage was higher for NYS excluding NYC (9.7 percent) than for NYC (7.0 percent).

Figure 48. Percentage of patients* with two or more calendar days of overlapping opioid analgesic and benzodiazepine prescriptions, by region, New York State, 2015-2018



* Patients with at least one prescription for opioid analgesics or benzodiazepines during a given year

The data exclude buprenorphine prescriptions for treatment of OUD.

New York State total contains number with county unknown.

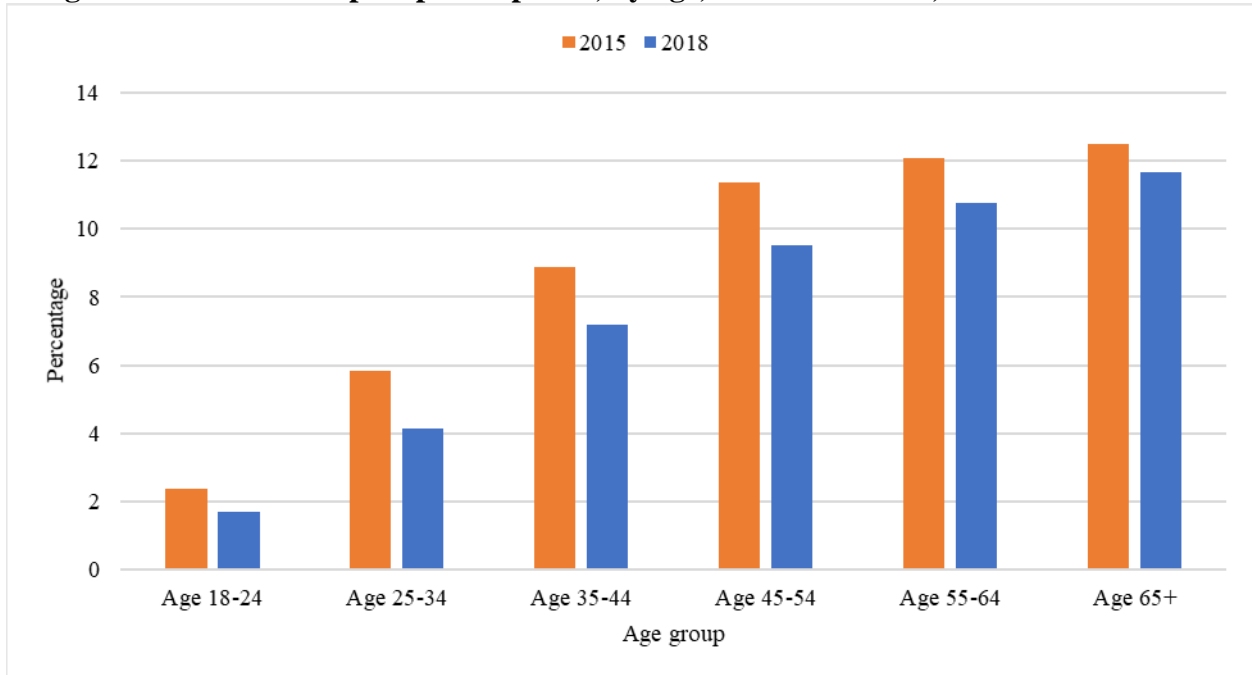
Data Source: NYS Prescription Monitoring Program; Data as of April 2019

For complete data, see [Data Table 48, Appendix, page 60](#).

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Among patients with at least one prescription for opioid analgesics or benzodiazepines, the percentage who received two or more calendar days of overlapping opioid analgesic and benzodiazepine prescriptions declined between 2015 and 2018 for all age groups (Figure 49). The largest reduction in percentage was observed among the 25-34 year-old age group, from 5.8 percent in 2015 to 4.1 percent in 2018. Patients aged 65 years or older had the highest percentage in both 2015 and 2018 (12.5 percent and 11.7 percent, respectively).

Figure 49. Percentage of patients* with two or more calendar days of overlapping opioid analgesic and benzodiazepine prescriptions, by age, New York State, 2015 and 2018

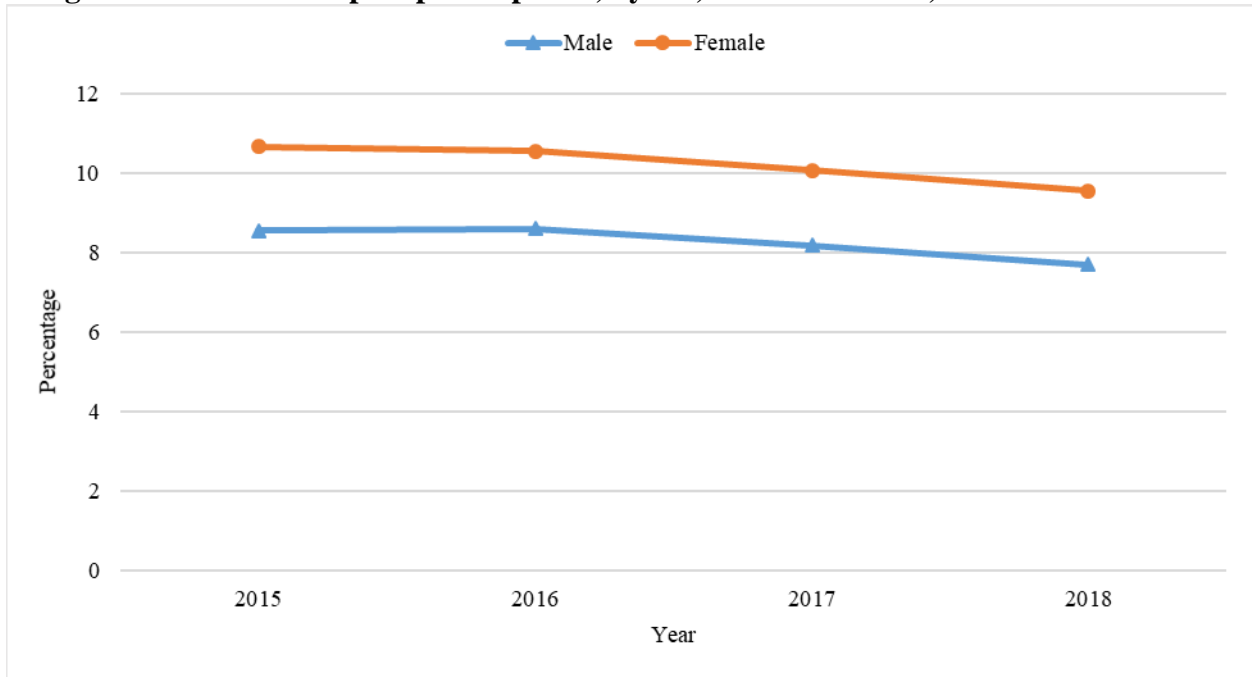


* Patients with at least one prescription for opioid analgesics or benzodiazepines during a given year
The data exclude buprenorphine prescriptions for treatment of OUD.
Data Source: NYS Prescription Monitoring Program; Data as of April 2019
For complete data, see [Data Table 49, Appendix, page 61](#).

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Among patients with at least one prescription for opioid analgesics or benzodiazepines, the percentage who received two or more calendar days of overlapping opioid analgesic and benzodiazepine prescriptions was consistently higher among females than males between 2015 and 2018 (Figure 50). In 2018, 9.5 percent of females and 7.7 percent of males had overlapping opioid analgesic and benzodiazepine prescriptions.

Figure 50. Percentage of patients* with two or more calendar days of overlapping opioid analgesic and benzodiazepine prescriptions, by sex, New York State, 2015-2018



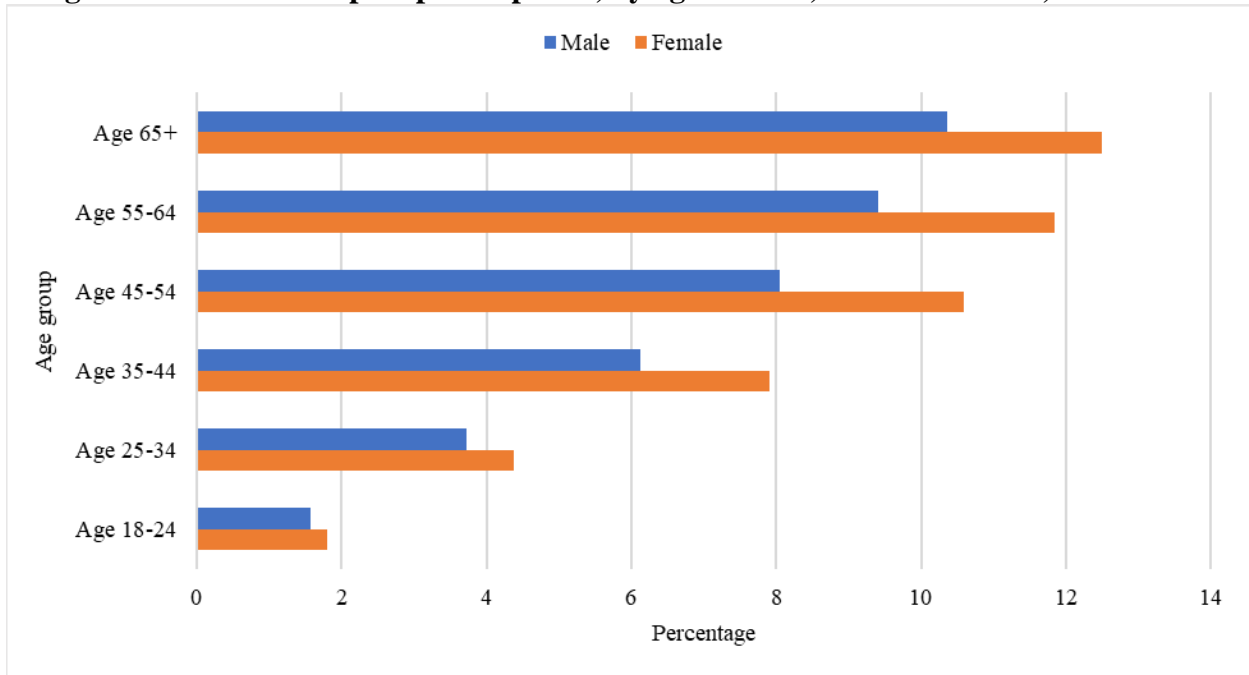
* Patients with at least one prescription for opioid analgesics or benzodiazepines during a given year
The data exclude buprenorphine prescriptions for treatment of OUD.

Data Source: NYS Prescription Monitoring Program; Data as of April 2019
For complete data, see [Data Table 50, Appendix, page 61](#).

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In 2018, among patients with at least one prescription for opioid analgesics or benzodiazepines, the percentage who received two or more calendar days of overlapping opioid analgesic and benzodiazepine prescriptions was higher among females than among males (Figure 51). The largest gap in percentage between sexes was seen among the 45-54 year-old age group (8.0 percent for males, 10.6 percent for females).

Figure 51. Percentage of patients* with two or more calendar days of overlapping opioid analgesic and benzodiazepine prescriptions, by age and sex, New York State, 2018



* Patients with at least one prescription for opioid analgesics or benzodiazepines during a given year
The data exclude buprenorphine prescriptions for treatment of OUD.

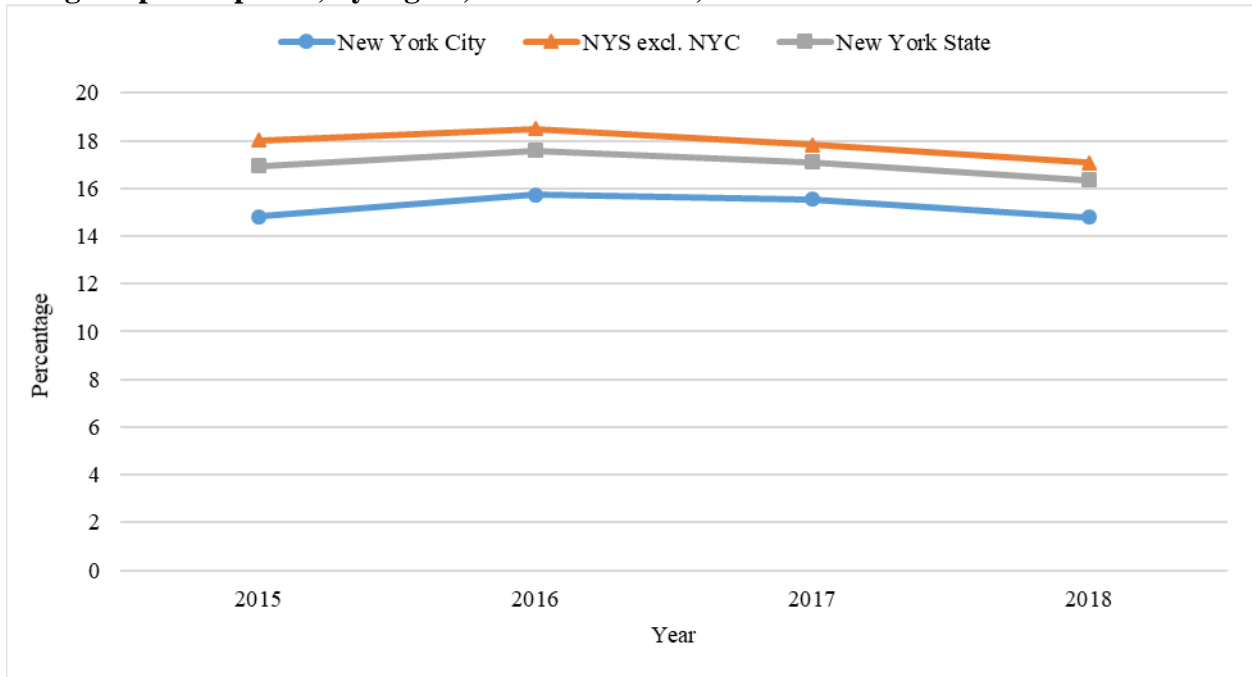
Data Source: NYS Prescription Monitoring Program; Data as of April 2019

For complete data, see [Data Table 51, Appendix, page 62](#).

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The percentage of patients receiving one or more opioid analgesic prescriptions with two or more calendar days of overlapping opioid analgesic prescriptions declined between 2016 (17.6 percent) and 2018 (16.3 percent) in NYS (Figure 52). During 2015-2018, NYS excluding NYC had consistently higher percentages compared to NYC. In 2018, the percentage was higher for NYS excluding NYC (17.1 percent) than for NYC (14.8 percent).

Figure 52. Percentage of patients* with two or more calendar days of overlapping opioid analgesic prescriptions, by region, New York State, 2015-2018



* Patients with at least one prescription for opioid analgesics during a given year

The data exclude buprenorphine prescriptions for treatment of OUD.

New York State total contains number with county unknown.

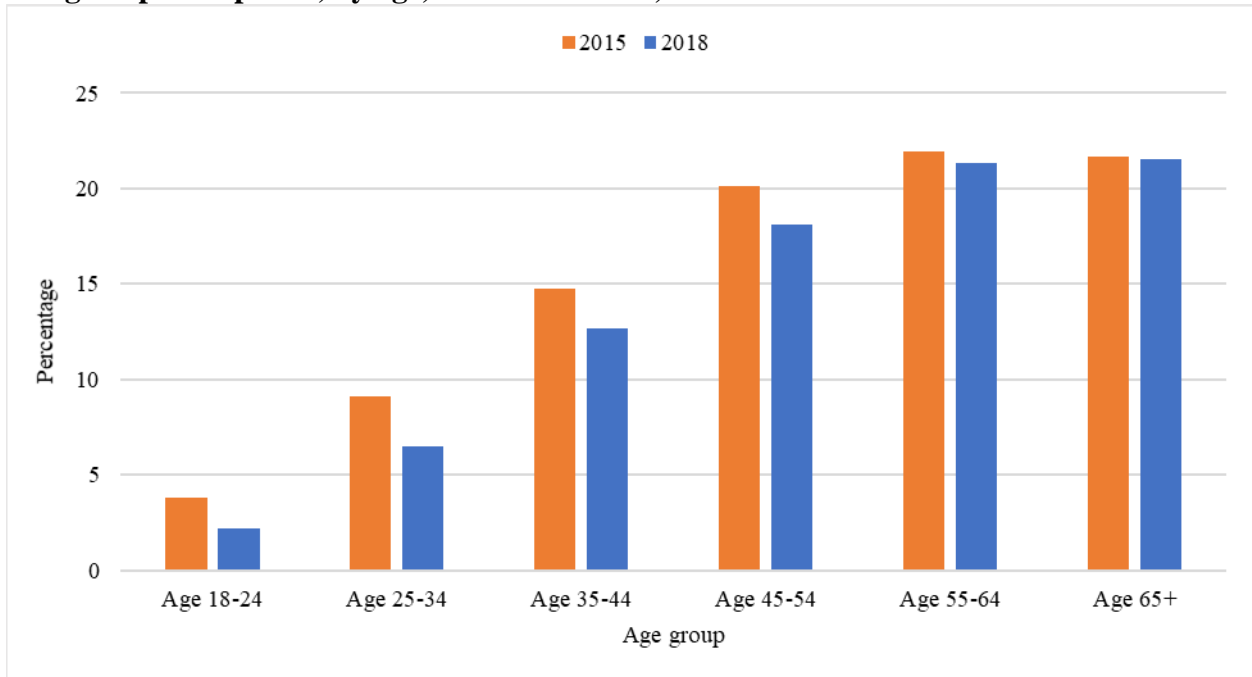
Data Source: NYS Prescription Monitoring Program; Data as of April 2019

For complete data, see [Data Table 52, Appendix, page 63](#).

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In NYS, the percentage of patients receiving one or more opioid analgesic prescriptions with two or more calendar days of overlapping opioid analgesic prescriptions declined between 2015 and 2018 for all age groups (Figure 53). The largest reduction in percentage was observed among the 18-24 year-old age group, from 3.8 percent in 2015 to 2.2 percent in 2018. Patients aged 55-64 years and 65 years or older had the highest percentages in both 2015 and 2018.

Figure 53. Percentage of patients* with two or more calendar days of overlapping opioid analgesic prescriptions, by age, New York State, 2015 and 2018



* Patients with at least one prescription for opioid analgesics during a given year

The data exclude buprenorphine prescriptions for treatment of OUD.

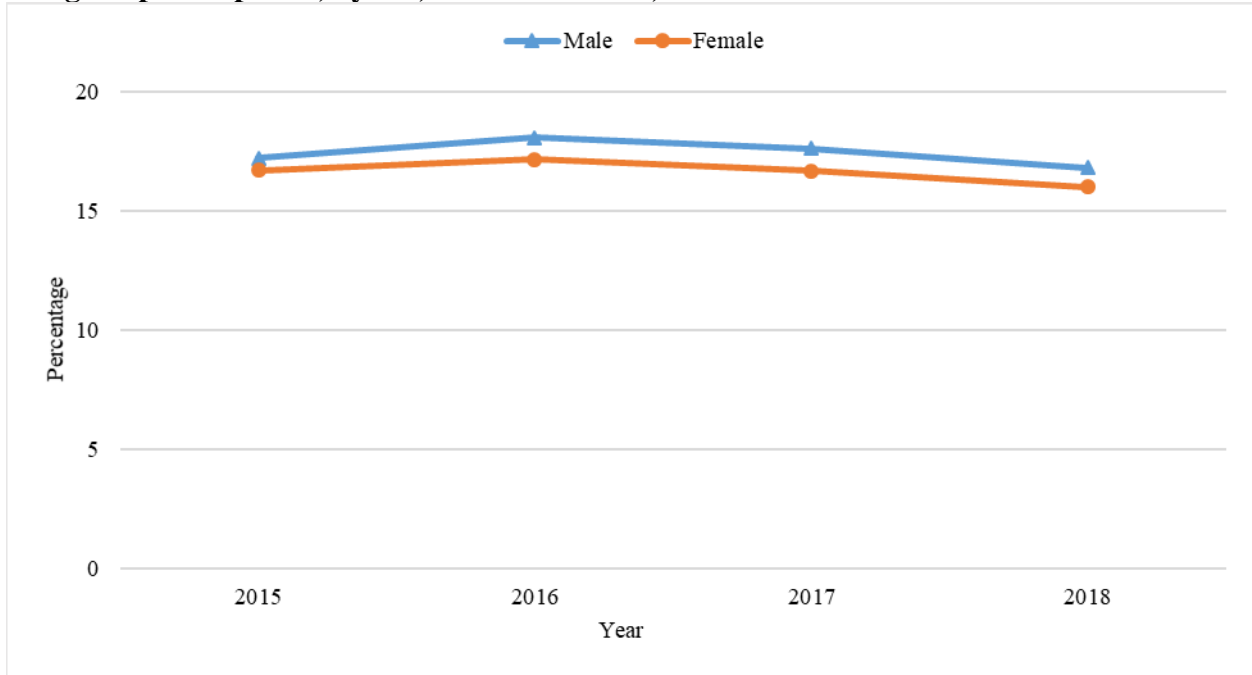
Data Source: NYS Prescription Monitoring Program; Data as of April 2019

For complete data, see [Data Table 53, Appendix, page 64](#).

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Among patients with at least one prescription for opioid analgesics, the percentage who received two or more calendar days of overlapping opioid analgesic prescriptions was consistently higher among males than females between 2015 and 2018 (Figure 54). In 2018, 16.8 percent of males and 16.0 percent of females had overlapping prescriptions.

Figure 54. Percentage of patients* with two or more calendar days of overlapping opioid analgesic prescriptions, by sex, New York State, 2015-2018



* Patients with at least one prescription for opioid analgesics during a given year

The data exclude buprenorphine prescriptions for treatment of OUD.

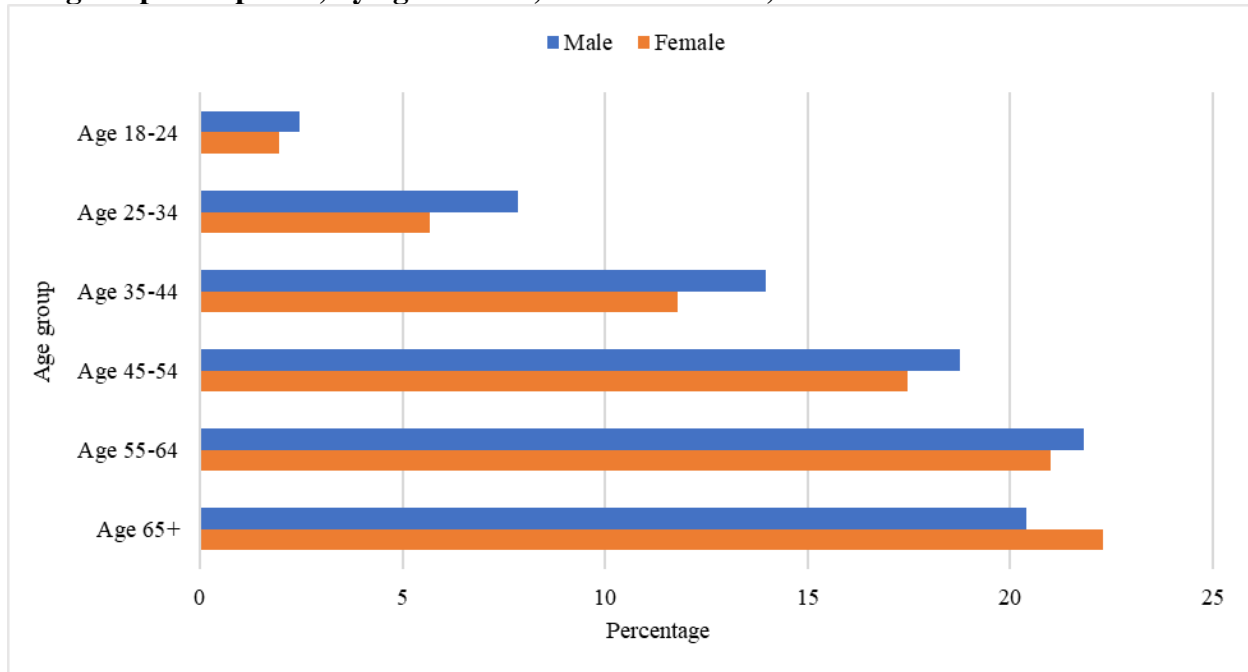
Data Source: NYS Prescription Monitoring Program; Data as of April 2019

For complete data, see [Data Table 54, Appendix, page 64](#).

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In 2018, among patients with at least one prescription for opioid analgesics, the percentage who had two or more calendar days of overlapping opioid analgesic prescriptions was higher among males than among females, except among those aged 65 years and older (Figure 55). The largest gap in the percentage between sexes was seen among the 25-44 year-old age group.

Figure 55. Percentage of patients* with two or more calendar days of overlapping opioid analgesic prescriptions, by age and sex, New York State, 2018



* Patients with at least one prescription for opioid analgesics during a given year
The data exclude buprenorphine prescriptions for treatment of OUD.

Data Source: NYS Prescription Monitoring Program; Data as of April 2019

For complete data, see [Data Table 55, Appendix, page 65](#).

5.1.4 - Opioid Stewardship Act

In 2018, NYS became the first in the nation to hold opioid manufacturers and distributors accountable for their roles in the opioid epidemic by enacting the Opioid Stewardship Act (OSA), pursuant to which the BNE assessed them \$100 million, based on their ratable shares of opioid sales and distributions in the state. Although OSA was initially struck down as unconstitutional, the constitutionality of the law continues to be litigated, and OSA has given rise to a new Opioid Excise Tax in NYS, which went into effect July 1, 2019. The tax is imposed on the first sale of an opioid in the State by a manufacturer, distributor, or wholesaler, and is based on the MME of the drug.

5.1.5 - Drug Take Back

NYSDOH BNE, in consultation with the Department of Environmental Conservation, continues to implement the NYS Drug Take Back Act, which was signed into law by Governor Cuomo in July 2018. The Drug Take Back Act mandates that manufacturers establish, fund, and manage a

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NYS-approved drug take back program(s) for the safe collection and disposal of unused covered drugs. Pharmacies of ten or more establishments within NYS and non-resident pharmacies that provide covered drugs to NYS residents by mail must implement such programs by providing consumers with a pre-approved method(s) of collection and disposal in the forms of medication drop boxes and mail-back solutions, free of charge to the consumer and pharmacy.

NYSDOH works with the DEA on its semi-annual drug take back events, to allow nursing homes and other designated institutions to dispose of their medications safely and securely. BNE reviewed and approved Disposal/Destruction of Controlled Substances applications for 360 facilities in April and 448 facilities in October of 2018, allowing these facilities to dispose of their unused and expired medications to further reduce the potential of diversion of dangerous controlled substances. In 2018, the DEA's New York Division collected approximately 43.3 tons of discarded prescription drugs from designated collection sites.

5.1.6 - Community Level Activities

Counties are suffering from the rapid increase in the number of individuals becoming addicted to opioids. A combination of two measures was used to identify the 24 high-burden counties: counties that exceeded the NYS mean number of deaths due to opioid overdoses (excluding NYC) and a burden measure that combined opioid deaths, ED visits, and hospitalizations (Figure 4). In the beginning of 2018, NYSDOH awarded \$250,000 to four LHDs. By September 1, 2018, CDC provided additional funding to NYSDOH through the *Public Health Crisis Response* cooperative agreement, allowing 20 more LHDs to implement multi-component, evidence-based/evidence-informed strategies to reduce opioid overdoses and deaths, raise awareness and promote resources, and partner with public safety officials and healthcare providers to address this complex and fast-moving epidemic

The LHDs implemented activities to expand existing or develop new ways to address the opioid epidemic. Recognizing that the needs of each county vary considerably, the LHDs were given the flexibility to implement evidence-based activities that focused on the specific needs of their own county. Examples of LHD efforts in 2018 include: establishing linkages to care whereby protocols are set up for MAT including buprenorphine provision in primary care, EDs, and correctional facilities; engaging first responders to develop and implement protocols that expand/integrate peer support services; increasing support to providers and health systems whereby the CDC Guideline for Prescribing Opioids for Chronic Pain was promoted; holding local buprenorphine waiver eligibility trainings to increase the number of providers who can prescribe buprenorphine in primary care, EDs, and correctional facilities; forming MAT peer-to-peer learning collaboratives; partnering with public safety to increase accessibility to naloxone to various providers; utilizing data for real-time response to improve the quality or access to syndromic surveillance data; developing overdose spike response plans; and assessing unmet needs, service linkages, and barriers to care.

By December 31, 2018, the 24 LHDs in high-burden counties trained 134 new providers to improve local availability of buprenorphine and 36 peer recovery coaches were trained to expand/integrate peer support services at the local level, and 20 local law enforcement agencies partnered with local health departments to improve the quality and timeliness of overdose data.

5.2 - Secondary Prevention

The goal of public health secondary prevention activities is to reduce the impact of the disease that has already occurred. This is done by diagnosing and treating addiction and OUD as soon as possible to halt or slow its progress, encouraging personal strategies to prevent recurrence, and implementing programs to return people to their original health and function to prevent long-term problems.¹⁸ The focus of activities under this domain is to remove stigma and improve understanding of addiction as a chronic condition of the brain. To this end, the NYSDOH has invested in trainings that utilize the latest clinical knowledge to provide education about opioid use and disorders.

It is important to reduce stigma by changing the public's understanding of OUD. A start to this work is to recognize that terms that stigmatize can affect the perception and behavior of patients, community members, and healthcare providers. For example, the term "abuse" increases the perception of personal culpability.^{22,23} OUD is a chronic medical condition and should be managed as such. As stated by the American College of Physicians in its position paper on the prevention and treatment of OUDs,²⁴ barriers that impede access to medications to treat OUD should be lifted. Stigma interferes with people accessing treatment, both in that individuals do not seek treatment out of fear or past experience of stigma and that it is difficult to find personnel willing to work with individuals with OUD. This stigma may also result in practitioners believing that their patients should "suffer" and not use any drugs to get treatment.

Successful implementation of opioid prevention programs in the healthcare setting requires raising awareness of the problem and treatment options among all healthcare providers. Reaching into primary care settings, along with coordinating treatment for those entering the hospital setting with an overdose, is essential. It is necessary to reduce the stigma that currently surrounds those suffering from addiction. It is also important that equitable treatment that targets the special needs of vulnerable populations including youth, women, LGBT, and the homeless is provided.

Recovery is a long-term process. Support groups provide benefits to individuals and families in OUD recovery. These groups can assist an individual in reconstructing their personal identity, family and social relationships; improving their coping skills; and offering support from a broad range of perspectives.

5.2.1 - Standard Treatment for Known Disorders

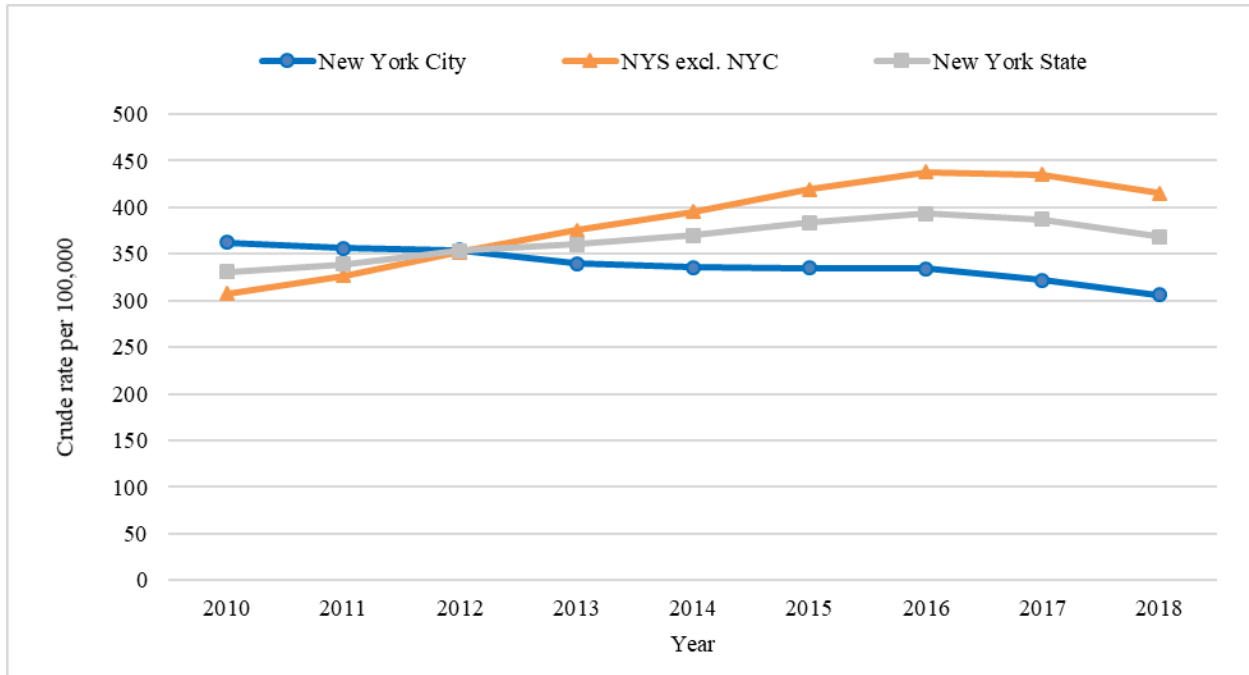
It is estimated that 89 percent of individuals estimated to need treatment for a OUD do not receive treatment services.²⁵ "Substance use disorder is a chronic brain disorder from which people can and do recover."²³ Research indicates that the use of "addictive substances can lead to dramatic changes in brain function and reduce a person's ability to control his or her substance use, and that repeated use of these substances powerfully alters brain chemistry and the function of brain circuitry to create a neurobiological disorder. OUDs are not the result of a personal failing; people do not choose the disorder, nor do they lack the willpower or character to control their substance use."

5.2.1.1 - OASAS Treatment Services

NYS’s treatment system for OUD through OASAS consists of crisis services and non-crisis treatment services. Crisis services include hospital-based detoxification and medically monitored or supervised services in free-standing or hospital settings. Non-crisis treatment services include opioid (methadone, long-acting injectable naltrexone, and buprenorphine) treatment programs, other outpatient treatment, inpatient rehabilitation, and residential programs. Lengths of stay in these settings vary.

In 2018, among NYS residents, there were 62,114 unique clients admitted to OASAS-certified chemical dependence treatment programs for any opioid. This represented a crude rate of 368.9 per 100,000 population. From 2010 to 2018, the rates for NYS increased significantly from 330.7 to 368.9 per 100,000 population, while NYC rates decreased each year. 2018 rates were lower than 2017 rates in all of these regions (Figure 56).

Figure 56. Unique clients admitted to OASAS-certified chemical dependence treatment programs for any opioid crude rate per 100,000 population, by region, New York State, 2010-2018



Data source: New York State Office of Alcoholism and Substance Abuse Services (OASAS)

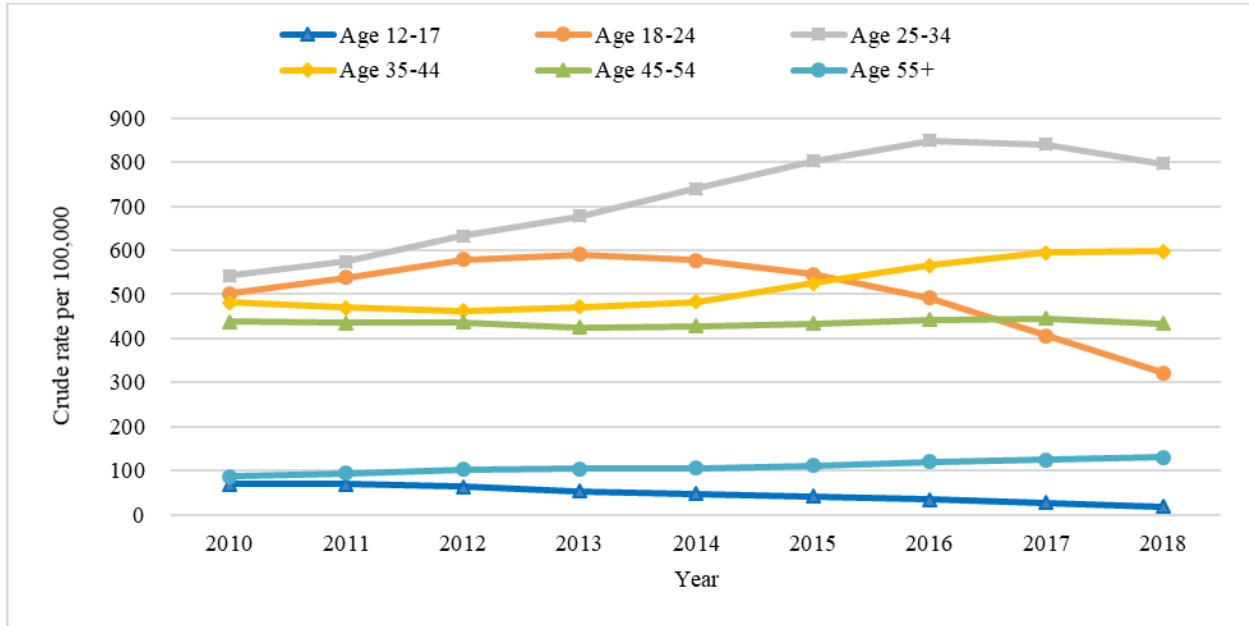
Data as of May 2019

For complete data, see [Data Table 56, Appendix, page 66](#).

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Since 2010, those aged 25-34 years had the highest rate of admission to OASAS-certified chemical dependence treatment programs and those aged 12-17 years had the lowest rate among all age groups (Figure 57). From 2013 to 2018, the rates steadily increased for age group 35-44 years and 55 years and older. In 2018, the 25-34 year-old age group had the highest rate (796.2 per 100,000) as compared to the 35-44 year-old age group (598.1 per 100,000) and the 45-54 year-old age group (433.7 per 100,000).

Figure 57. Unique clients admitted to OASAS-certified chemical dependence treatment programs for any opioid, crude rate per 100,000 population, by age group, New York State, 2010-2018



Data source: New York State Office of Alcoholism and Substance Abuse Services (OASAS)

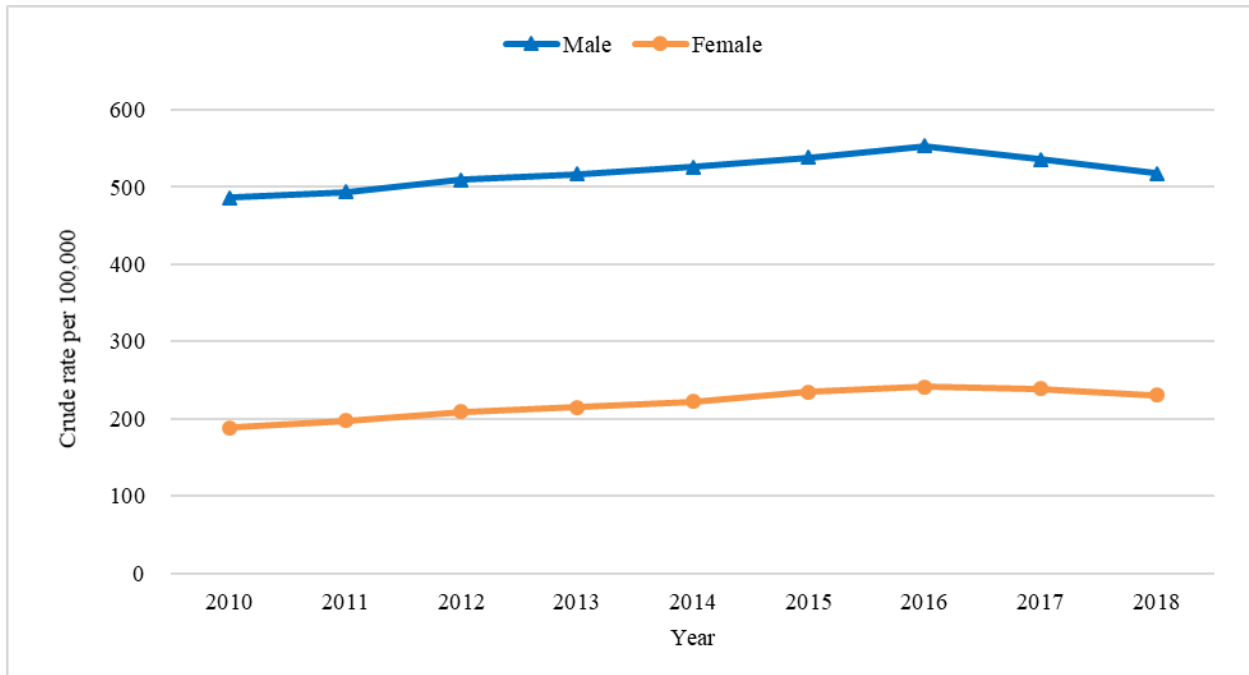
Data as of May 2019

For complete data, see [Data Table 57, Appendix, page 66](#).

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From 2010 to 2016, the rates of admission to OASAS-certified chemical dependence treatment programs were consistently higher for males than females, although the rate has steadily increased for each sex. There was a decrease for both sexes between 2016 and 2018 (Figure 58). In 2018, the rate for males (517.7 per 100,000) was over two times higher than the rate for females (230.7 per 100,000).

Figure 58. Unique clients admitted to OASAS-certified chemical dependence treatment programs for any opioid, crude rate per 100,000 population, by sex, New York State, 2010-2018



Data source: New York State Office of Alcoholism and Substance Abuse Services (OASAS)

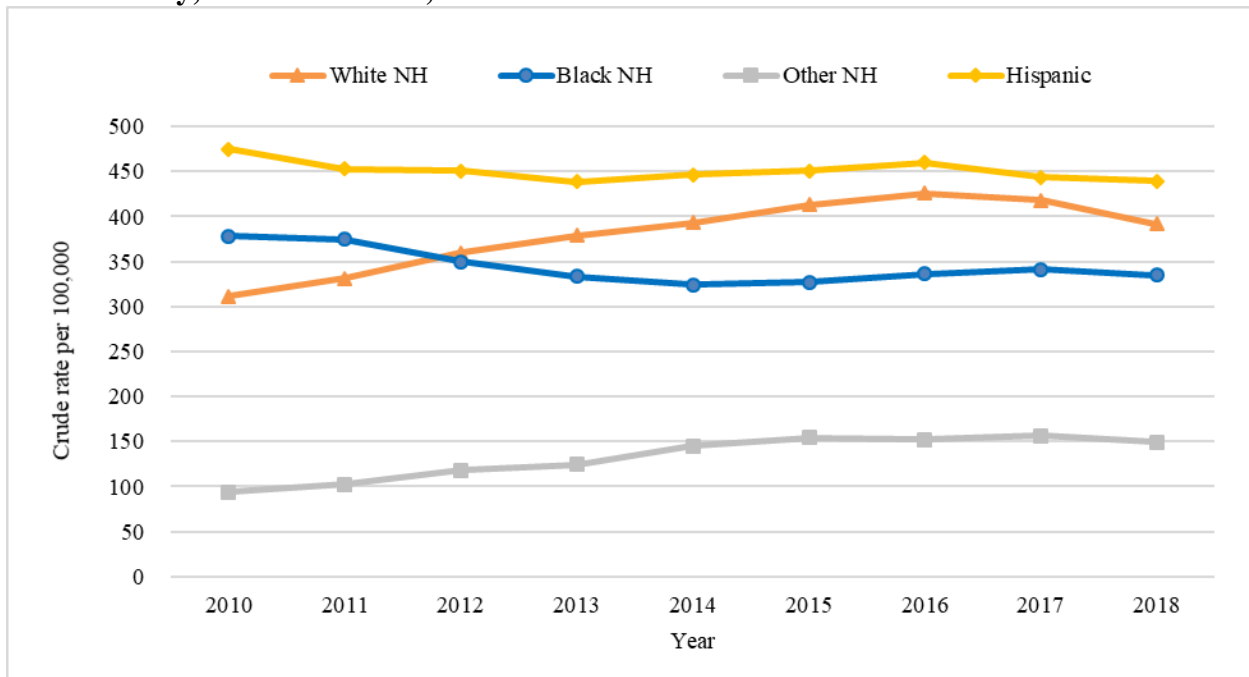
Data as of May 2019

For complete data, see [Data Table 58, Appendix, page 68](#).

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Hispanics had a consistently higher rate of admission to OASAS-certified chemical dependence treatment programs than other groups during 2010-2018 (Figure 59). In 2018, Hispanics had the highest rate (439.2 per 100,000) as compared to White non-Hispanics (391.9 per 100,000) and Black non-Hispanic (334.8 per 100,000).

Figure 59. Unique clients admitted to OASAS-certified chemical dependence treatment programs for any opioid (including heroin), crude rate per 100,000 population, by race/ethnicity, New York State, 2010-2018



Data source: New York State Office of Alcoholism and Substance Abuse Services (OASAS)

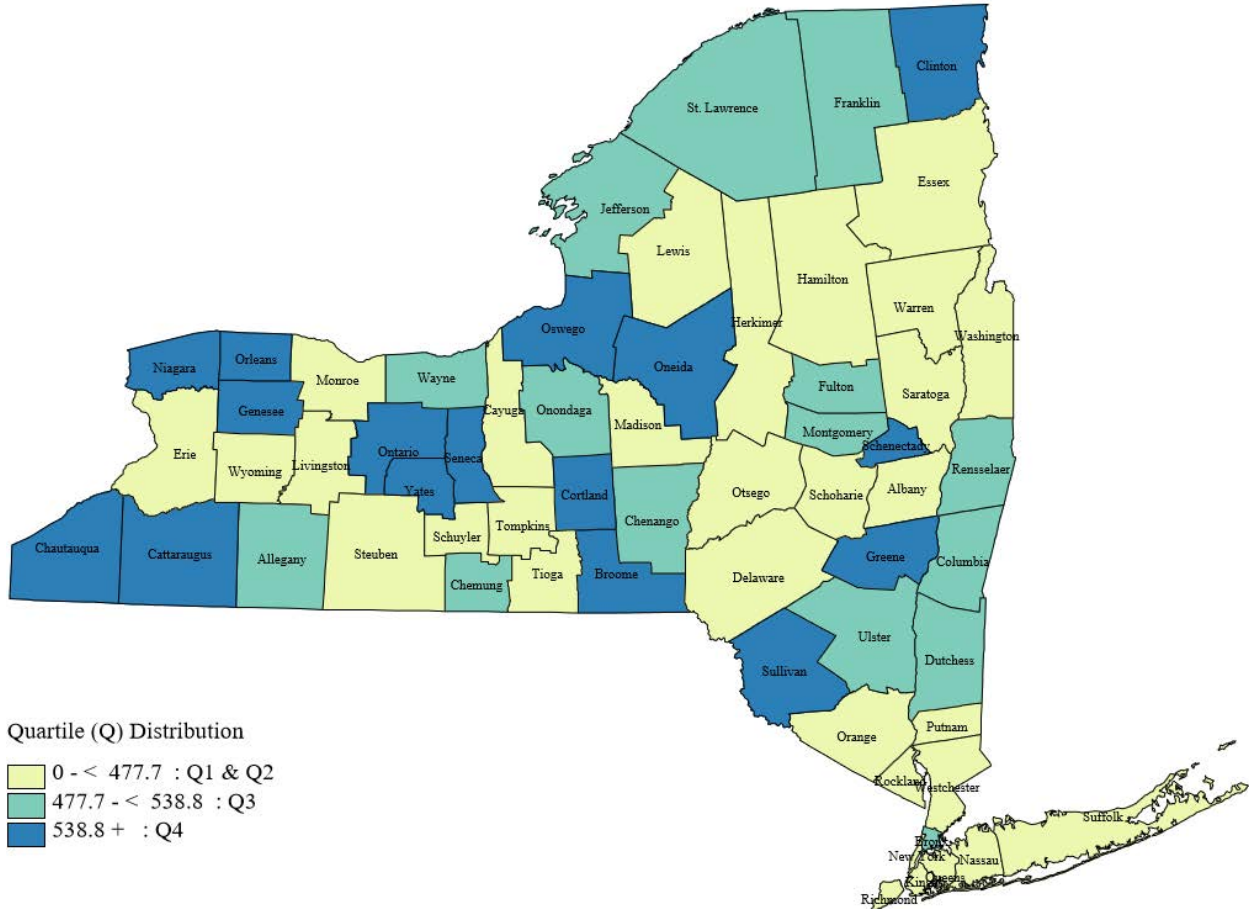
Data as of May 2019

For complete data, see [Data Table 59, Appendix, page 69](#).

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Counties that had the highest crude rates of admission to OASAS-certified chemical dependence treatment programs in 2018 are shaded in blue (Figure 60). In 2018, the 16 counties in the highest quartile (crude rates greater than or equal to 538.8 per 100,000 population) included Sullivan, Niagara, Broome, Genesee, Oswego, Seneca, Oneida, Cattaraugus, Clinton, Cortland, Greene, Chautauqua, Ontario, Orleans, Yates and Schenectady.

Figure 60. Unique clients admitted to OASAS-certified chemical dependence treatment programs for any opioid (including heroin), crude rate per 100,000 population, by county, New York State, 2018



Data source: New York State Office of Alcoholism and Substance Abuse Services (OASAS)
Data as of May 2019
For complete data, see [Data Table 60, Appendix, page 70](#).

5.2.2 - Buprenorphine Access Initiative

Practitioners who take specialized training and receive federal certification (“waiver”) may prescribe buprenorphine to their patients in general practice settings to treat opioid dependence and addiction.²⁶ This has the potential to expand access to treatment, while addressing

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demographic and geographic changes in opioid use and misuse. NYSDOH has prioritized the expansion of access to buprenorphine due to the well-documented benefits including:

- Protecting people from experiencing an opioid overdose. If individuals continue to use additional opioids while on buprenorphine, buprenorphine provides a protective factor from a lethal overdose;²⁷
- Improving adherence to other medications/therapies (HIV, Hepatitis C virus (HCV), Diabetes, Hypertension, Mental Health);^{28,29}
- Providing stability to meet responsibilities (work, childcare, maintain housing, legal, etc.);³⁰
- Reducing HIV and hepatitis transmission for those who are injecting opioids;³¹ and
- Increasing access points for meaningful engagement with supportive and healthcare services.³

The NYSDOH Buprenorphine Access Initiative began in July 2016. The overall goal is to increase the number of healthcare practitioners certified to prescribe buprenorphine and thus, increase the number of patients receiving buprenorphine. By incorporating buprenorphine prescribing more broadly, individuals will have access to buprenorphine at a range of settings including primary care clinics, harm reduction programs, Federally Qualified Health Centers, EDs, obstetrician and gynecologists' offices, housing services, jails and prisons, and other community-based organizations. This can help reach populations different than the traditional drug treatment settings, including younger opioid users and women of child-bearing age.

The Buprenorphine Access Initiative reviewed literature, conducted a series of focus groups, and interviewed providers, consumers, and other stakeholders around the State on the current barriers for providers to prescribe buprenorphine, and for people with OUD to access this medication. These barriers are varied and are amplified by the general lack of medical services in rural parts of the state.

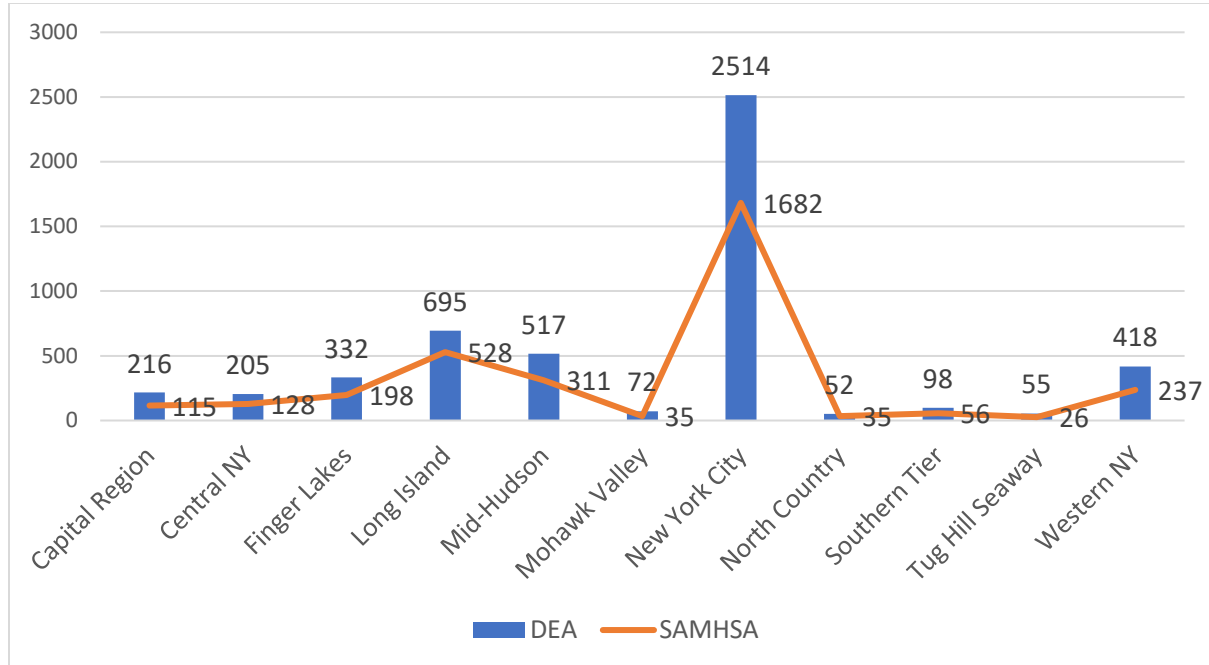
Prescribing practices were a very common factor that both providers and consumers voiced as barriers to access to buprenorphine. There are challenges with provider and patient preferences on best process for initiation of buprenorphine, calculation of the appropriate dosage to manage withdrawal and cravings, duration of treatment, the tolerance of other drug use, strategies to monitor and respond to diversion and misuse, and psycho-social requirements, whether they be due to insurance requirements or an agency's or provider's policies and practices.³²

As part of the NYSDOH assessment of the current capacity of buprenorphine providers who meet the needs of current and potential buprenorphine consumers, various databases were explored. The SAMHSA Buprenorphine Treatment Practitioner Locator (<https://www.samhsa.gov/medication-assisted-treatment/physician-program-data/treatment-physician-locator>) provides information on providers who are waived and have volunteered to have their information on their public directory. This directory does not give any information on the number of patients they are prescribing to, nor does it include providers who are waived and may be prescribing but did not wish to be on this directory. NYSDOH acquired the DEA Buprenorphine-waived provider list in October 2017 and Figure 61 displays the number of providers publicly accessible via the SAMHSA Buprenorphine provider directory, compared to the potential "universe" of waived providers extracted from the DEA dataset. This is further

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displayed by the population base of each region in Table 1. The DEA dataset includes all individuals who are waived, but some of these individuals may not be actively prescribing. In 2018 NYSDOH launched the new statewide AIDS Institute Provider Directory which now includes a directory for Buprenorphine Providers, in addition to the existing HIV, HCV, PrEP, and Post-exposure Prophylaxis (PEP) provider directories. This new combined directory creates one consolidated location for interested parties to search for specific providers based on their location. <https://providerdirectory.aidsinstituteny.org>.

Figure 61. Number of Buprenorphine Treatment Practitioners, by NYS Region and Database



Data Source: SAMHSA Buprenorphine Treatment Practitioner Locator and DEA Controlled Substances Act Registration Information Database

Table 1. Rate of Buprenorphine Providers per 10,000 Population

Region	DEA	SAMHSA
Capital Region	2.27	1.21
Central NY	2.00	1.25
Finger Lakes	2.60	1.55
Long Island	2.45	1.86
Mid-Hudson	2.26	1.36
Mohawk Valley	2.71	1.32
New York City	3.08	2.06
North Country	1.69	1.14
Southern Tier	2.17	1.24
Tug Hill Seaway	2.15	1.02
Western NY	2.71	1.53

Data Source: SAMHSA Buprenorphine Treatment Practitioner Locator

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NYSDOH also worked with the State Education Department and SAMHSA to change NYS regulatory language in May 2017 to clarify changes required in the NYS buprenorphine prescribing regulations to enable Nurse Practitioners and Physician Assistants to prescribe buprenorphine and to clarify requirements around collaborating physicians. A significant increase of waived buprenorphine providers in NYS has been seen. On review of the DEA record of waived buprenorphine providers in NYS, there has been an increase of 1,182 providers in 2018, with a total of 5,174 at the end of 2018 (Table 2).

Table 2. Number of Buprenorphine-Waived Providers in NYS, by Type of Waiver

	2017	2018
MD/DO- 30 patients	2,716	3,302
MD/DO- 100 patients	672	742
MD/DO-275 patients	236	280
NP- 30 patients	287	567
NP- 100 patients	N/A*	69
PA- 30 patients	81	185
PA- 100 patients	N/A*	29
Total providers	3,992	5,174

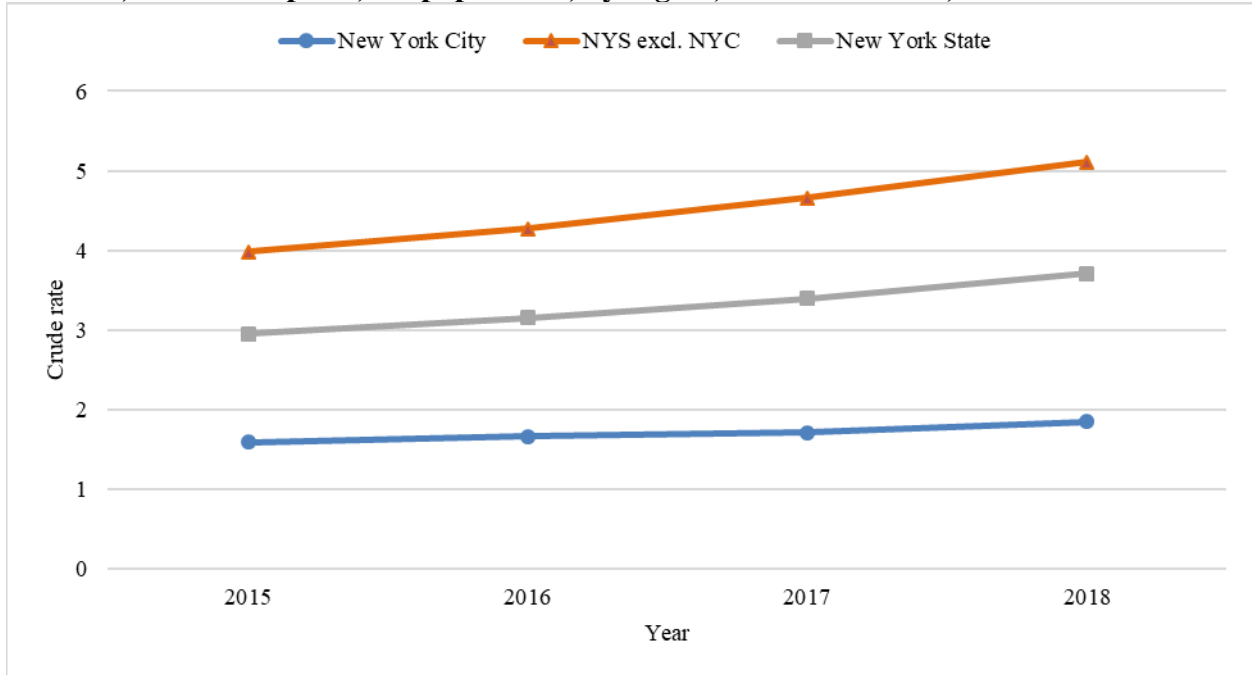
* Note: NP/PAs could not prescribe in NYS until May 2017

NYSDOH and OASAS recognize that successful medication-assisted treatment ideally incorporates medications for OUD combined with other therapies, including psychosocial services. Current research and best practices, however, indicate that access to medication is paramount to retention in care and the individual’s opportunity to address his or her OUD. NYSDOH and OASAS jointly developed and distributed a document detailing best practices using this approach for prescribing buprenorphine to people at high-risk of opioid overdose.³ Requirements such as mandatory counseling and exclusion due to other drug/poly-drug use may discourage or not benefit a patient seeking to access buprenorphine, depending on where the individual is in the continuum of care, and the document addresses them. The document indicates a need to promote and support a model of on-demand, client-centered buprenorphine service delivery. This flexible approach, which includes meaningful, voluntary psycho-social counseling, is in line with current research to foster improved entry and retention in systems of care.³ NYSDOH and OASAS have been working with community-based providers to establish referral systems and strategies into regional point-of-contact care oriented to the health needs of the opioid users.

In NYS, the crude rate of patients who received at least one buprenorphine prescription for OUD increased between 2015 (3.0 per 1,000 population) and 2018 (3.7 per 1,000), representing a 23 percent increase (Figure 62). The rate was more than two times higher in NYS excluding NYC than in NYC during 2015-2018. It is encouraging that more prescribers in NYS are receiving the training that allows them to obtain a DEA registration that enables them to treat patients for OUD.

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Figure 62. Patients who received at least one buprenorphine prescription for opioid use disorder, crude rate per 1,000 population, by region, New York State, 2015-2018



New York State total contains number with county unknown.

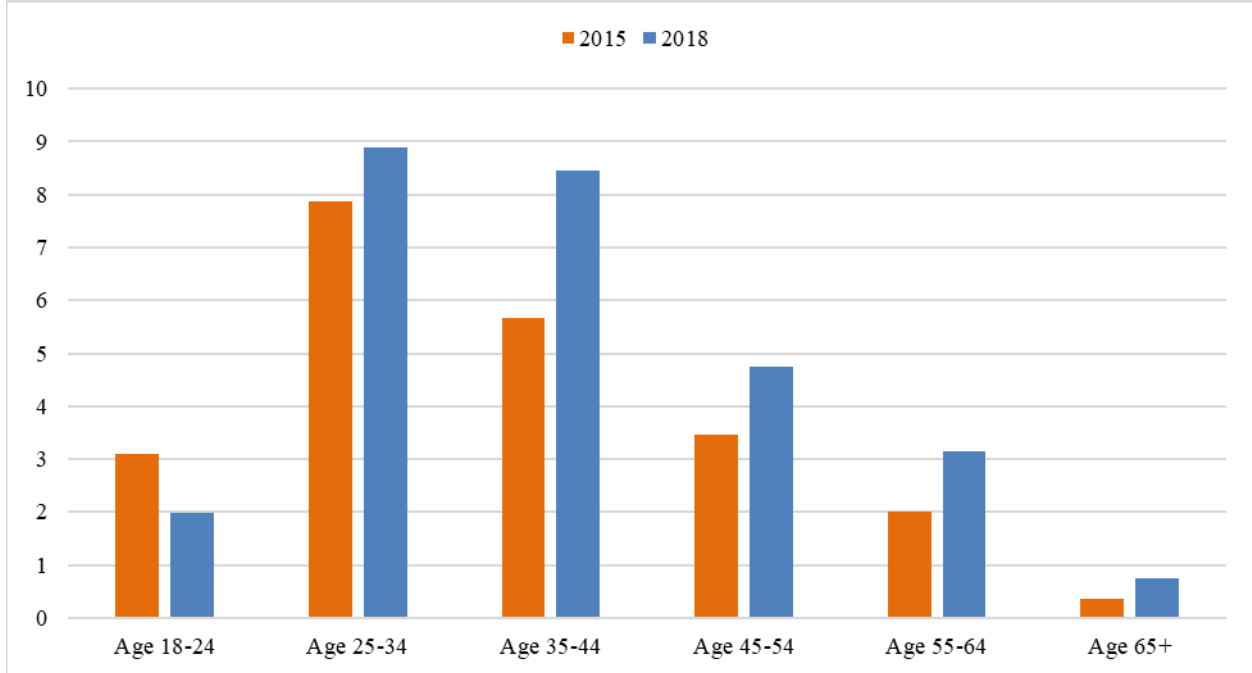
Data Source: NYS Prescription Monitoring Program; Data as of April 2019

For complete data, see [Data Table 62, Appendix, page 72](#).

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The crude rate of patients who received at least one buprenorphine prescription for OUD per 1,000 population increased between 2015 and 2018 across all age groups, except the 18-24 year-old age group, for whom the rate decreased from 3.1 per 1,000 in 2015 to 2.0 per 1,000 in 2018 (Figure 63). The rate was highest among the 25-34 year-old age group in both 2015 and 2018.

Figure 63. Patients who received at least one buprenorphine prescription for opioid use disorder, crude rate per 1,000 population, by age, New York State, 2015 and 2018

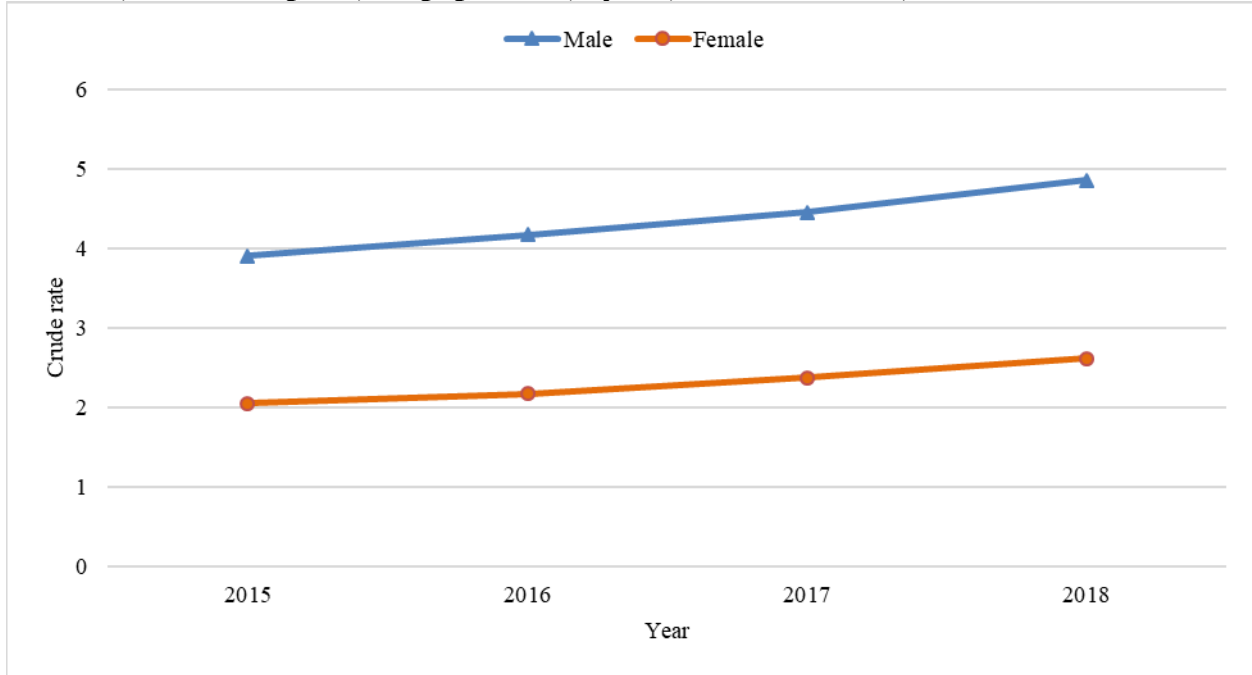


Data Source: NYS Prescription Monitoring Program; Data as of April 2019
For complete data, see [Data Table 63, Appendix, page 72](#).

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The crude rate of patients who received at least one buprenorphine prescription for OUD per 1,000 population was consistently higher among males than females (Figure 64). In 2018, the crude rate was 88 percent higher among males (4.9 per 1,000) than females (2.6 per 1,000).

Figure 64. Patients who received at least one buprenorphine prescription for opioid use disorder, crude rate per 1,000 population, by sex, New York State, 2015-2018

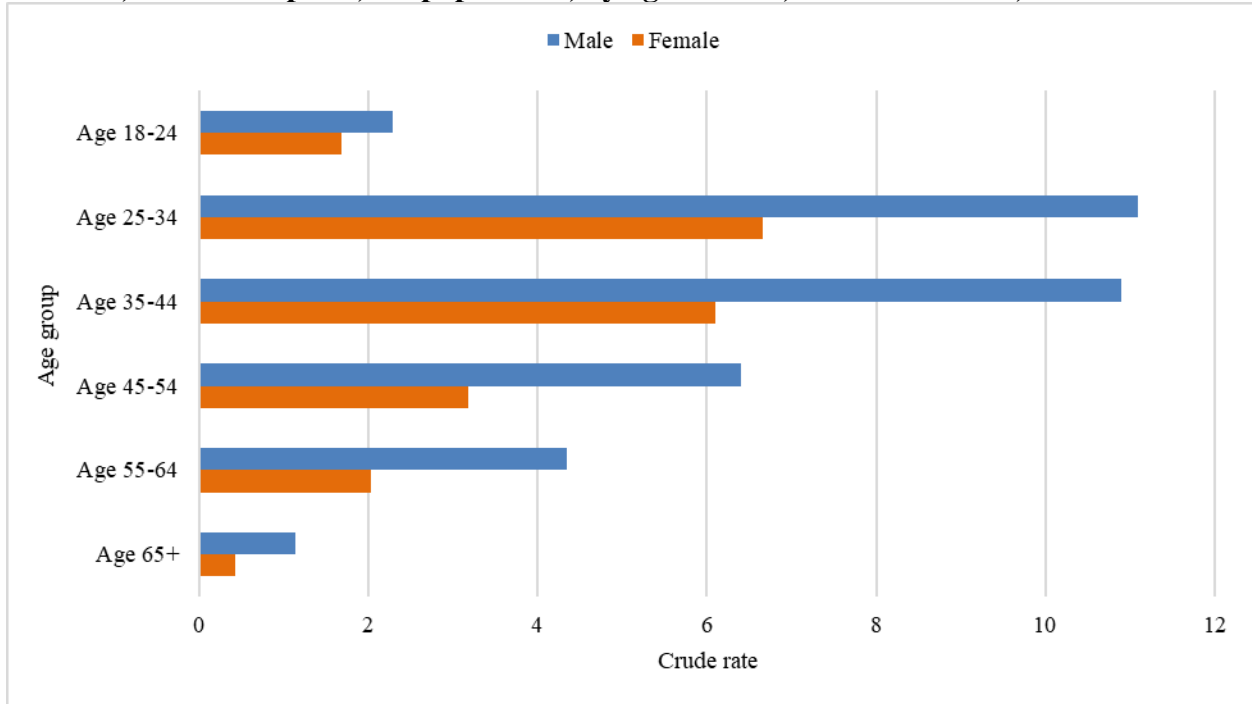


Data Source: NYS Prescription Monitoring Program; Data as of April 2019
For complete data, see [Data Table 64, Appendix, page 72](#).

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In 2018, the crude rate of patients who received at least one buprenorphine prescription for OUD per 1,000 population was highest among the 25-34 year-old age group in both males (11.1 per 1,000) and females (6.7 per 1,000), followed by the 35-44 year-old age group with a rate of 10.9 per 1,000 for males and 6.1 per 1,000 for females (Figure 65).

Figure 65. Patients who received at least one buprenorphine prescription for opioid use disorder, crude rate per 1,000 population, by age and sex, New York State, 2018



Data Source: NYS Prescription Monitoring Program; Data as of April 2019

For complete data, see [Data Table 65, Appendix, page 73](#).

5.2.2.1 - Buprenorphine Provider Education

NYSDOH has been organizing and conducting buprenorphine waiver trainings for physicians statewide. NYSDOH held the first buprenorphine waiver training in Albany in, November 2016, with 35 attendees; 28 indicated they would be applying for the waiver. There has been a resoundingly positive response from providers within a range of settings looking to become prescribers. A physician champion serves as a co-facilitator for each waiver training, while a local provider serves as the other co-facilitator. These in-person waiver trainings have allowed providers to get to know each other and share best practices, as well as advise on provision of services. These trainings have also given providers opportunities to discuss concerns about diversion and misuse. Mentoring relationships are established. To increase the number of providers waived to prescribe buprenorphine, NYSDOH has continued to host buprenorphine waiver trainings around the state, as well as provide technical assistance to LHDs to start hosting their own local trainings. During 2018, NYSDOH hosted 10 waiver trainings and each funded LHD hosted 2 trainings, educating 232 providers in 11 different counties around the state. Since the Buprenorphine Access Initiative commenced in 2016, NYSDOH has sponsored 47 trainings and trained 692 providers through the end of 2018.

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As a follow-up to the trainings, participants are being contacted to see whether they have questions and to offer mentoring services to new prescribers as they begin prescribing. Targeted provider education activities are being conducted including buprenorphine academic detailing, creation of a Buprenorphine Provider Toolkit with provider and consumer materials, and development of enduring buprenorphine webinars.

Buprenorphine Public Health Detailing Modules were created by experts in prescribing buprenorphine in NYS as part of an initiative to provide targeted public health education on buprenorphine to providers who are new to prescribing buprenorphine. These educational modules pertain to different populations and are designed to facilitate more successful treatment and care for patients with OUD. The modules will further inform and assist providers who have attended the *Buprenorphine Waiver Eligibility Training for Clinical Providers* on the best practices for buprenorphine induction, prescribing, and ongoing monitoring to help patients with OUD live healthy and improved lives. The four modules covered are 1) Introduction to Buprenorphine for Opioid Use Disorder, 2) Pharmacology and Administration, 3) Clinical Use of Buprenorphine, and 4) Special Populations.

In 2018, NYSDOH, in partnership with SUNY Buffalo, developed an enduring online program, based on these four modules that can be used by providers independently or to complement any buprenorphine academic/public health detailing activities. Fifty total modules have been presented to providers with an average of 3 modules per provider; a total of 25 CMEs having been awarded to providers with an average of 1.5 CMEs awarded per provider. Academic detailing efforts will be expanded to reach all providers who have attended NYSDOH-sponsored waiver trainings across NY. Evaluation efforts will continue throughout the initiative, ensuring that relevant information is used to inform programmatic activities.

NYSDOH developed the training *Clinical Support for Implementation of Buprenorphine* for providers who have completed all required buprenorphine waiver training, regardless of whether they have obtained their waiver or not. Many waiver training attendees request further training and technical assistance to start prescribing. This is a more intimate training with experienced buprenorphine providers that offers in-depth discussion on implementation, best practices, and the opportunity for healthcare providers to ask questions. This training also includes guidance around the provision of buprenorphine in a variety of settings including EDs and corrections, and with special populations such as pregnant persons, adolescents, and those with co-occurring mental health issues.

5.2.2.2 - Buprenorphine Working Group

The statewide Buprenorphine Working Group (BWG) has been convening since early 2017 and consists of approximately 30 subject matter experts on buprenorphine from around the state. The goal of this working group is to develop specific implementation strategies in support of the CDC grant with a specific focus on buprenorphine expansion throughout NYS. The BWG is further informed by individuals with lived experience who currently or formerly have utilized buprenorphine services, through Buprenorphine Consumer listening sessions that are convened around the state.

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BWG members have provided the state with varied recommendations that have led to significant activities that improve access to buprenorphine. Participation in this group is ongoing, and will include quarterly in-person meetings and subcommittee meetings (Corrections, EDs, Special Populations and Prescribing Practices) conference calls as needed.

The 19 policy recommendations that have been developed in the past year address the historical context, rationale for the recommendations, and the potential impact that the recommendations will have on patients and other stakeholders. Strategies to assist in making these policy changes are included with the recommendations. The recommendations also provide the reader with more information about the current barriers that exist within these various settings.

NYSDOH and the NYS OASAS have been working together to increase access to the three medications used to treat OUD: methadone, buprenorphine, and long-acting naltrexone. Through this collaboration and the technical support from subject matter experts involved with the Buprenorphine Working Group, these entities helped develop the *Implementing Transmucosal Buprenorphine for Treatment of Opioid Use Disorder: Best Practice Guidelines*.³ This document was developed to assist those caring for individuals with OUD to integrate buprenorphine into their practices with the understanding that it will save lives. The guidelines also reinforces a model of low-barrier and low-threshold buprenorphine accessibility, which streamlines the provision of medication while eliminating stigma and other regulatory barriers that often times intervene with initial buprenorphine induction.

In an effort to improve access to Buprenorphine, the NYSDOH joined a coalition of 22 states and territories in requesting that Health and Human Services Secretary Alex Azar modify antiquated federal regulations that restrict a healthcare provider's ability to prescribe buprenorphine. In a letter, the coalition requested policy revisions that would eliminate the current waiver and training requirement so that all healthcare providers who are registered to prescribe controlled substances would be permitted to prescribe buprenorphine for treatment of OUD.³³ Additionally, in the interim the coalition suggested the Department of Health and Human Services (DHHS) quickly intervene by allowing newly trained providers to increase the number of patients they are able to treat from 30 to 100 in the first year. The letter also requests that DHHS work with the DEA to modify existing regulations so that EDs could prescribe two to four weeks of buprenorphine to patients with OUD, so they could remain on stable treatment while transitioning to community care.³³

5.2.3 - High-risk Populations

As shown through the Buprenorphine Access Initiative, engaging those at high risk for drug overdoses is a priority for NYSDOH. This work has focused on reaching individuals who are at high-risk, both in the community and in settings such as correctional facilities and EDs.

5.2.3.1 - Buprenorphine Pilot in Correctional Setting: Albany County

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Through collaborative efforts which began in 2018 between state and local entities, the NYSDOH collaborated with the Albany County Sheriff's Office to introduce a robust, multi-phase MAT program to operate within the ACCF. In the beginning stages of implementation, NYSDOH provided support to the ACCF staff in the in-person and remote provision of technical assistance relating to buprenorphine education and structuring of programmatic service delivery. NYSDOH also served as the lead for developing policies and procedures for clinical staff relating to buprenorphine identification and provision.

Once the planning and preparation stage concluded, the ACCF initiated their MAT program through a "phased-in approach" to ensure that any logistical barriers that came about were addressed adequately.

- Phase 1: Continuation of MAT - Patients arriving to the ACCF currently receiving MAT from the community will have their medication maintained while in the facility.
- Phase 2: Sentenced with OUD - Patients reporting OUD upon admission who are now sentenced, have a release date, and will be housed in facility for sentence can be inducted into MAT.
- Phase 3: All Individuals with an OUD - Offer buprenorphine for detox and/or begin new patients reporting OUD on treatment with buprenorphine or naltrexone and maintain while in facility regardless of release date.

Counseling will continue to be available through the facility's Credentialed Alcohol and Substance Abuse Counselors. In all cases, discharge planning prior to release by the credentialed counselors will include case management and linkage and referral services provided by the NYSDOH's regional health hub Catholic Charities Care Coordination Services, to ensure that housing, treatment, medical and psychological care, and other needs are addressed using the full array of services and organizations available. In addition, NYSDOH created an evaluation plan and various assessment tools have been developed to capture individual-level and facility-level data from both ACCF and Catholic Charities, with the intention of linking data sources and tracking participant outcomes. In-depth interviews with ACCF staff and participants will be conducted to capture programmatic successes and challenges. To date, the program has served 126 participants since its inception.

5.2.3.2 - Buprenorphine Pilot in Emergency Department Setting: Buffalo MATTERS Program

The NYSDOH has identified that settings such as EDs are on the frontline of the opioid crisis and can serve as a crucial point of engagement of people with OUD. Whether patients are in the ED as a result of an opioid overdose or withdrawal symptoms, or for a opioid-related medical issue like an abscess or infection, the ED is one of the few places where patients may be contemplating treatment.

NYSDOH has partnered with Buffalo MATTERS to expand access to buprenorphine in EDs. Since 2017, this partnership has made great strides with the expansion of buprenorphine in 17 EDs with over 40 community providers engaged as part of the referral network for ongoing care. This innovative model has altered the way EDs can intervene and serve the OUD population by integrating MAT into the ED care protocols. In addition to the provision of buprenorphine, the

model also involves a comprehensive discharge protocol that rapidly transitions individuals to appropriate services in the community. This transition and care coordination are facilitated within 48 hours and often involve a peer support from one of the community organizations to help navigate the individual to services. The MATTERS program plan to integrate this model into the eastern New York region and will continue to serve as the model for other regions looking to integrate similar services and build upon their comprehensive referral systems to ensure successful care coordination.

5.2.3.3 - Women Who Use Drugs

Growing health disparities related to the opioid epidemic are occurring among women of reproductive age who use illicit/licit opioids and who commonly engage in poly-drug use (such as cocaine and alcohol). NYSDOH created a workgroup to address this high-risk population, engaging both state and local governmental agencies, not-for-profits, and academia in monthly meetings. The focus of this workgroup is to explore and identify regional trends impacting or pertaining to women who use drugs; to understand barriers to care among this population; and to develop strategies to decrease stigma and increase opportunities to engage this population in care.

5.2.3.4 - Neonatal Abstinence Syndrome

The prevalence of NAS emphasizes the need for targeted interventions aimed at expanding access to various treatment options and other related services for pregnant women struggling with OUD. In response, the NYS Perinatal Quality Collaborative has joined with the American College of Obstetricians and Gynecologists District II (ACOG), Healthcare Association of NYS, Greater New York Hospital Association, and National Institute for Children's Health Quality to work with 17 pilot site birthing hospitals through a quality improvement learning collaborative, the NYS OUD in Pregnancy and NAS Project. This project is part of the national Alliance for Innovation on Maternal Health program, led by the national ACOG, and seeks to improve the identification and management of women with OUD during pregnancy and improve the identification, standardization of therapy, and coordination of aftercare of infants with NAS. More information regarding the project can be found at www.nyspqc.org.

NYSDOH staff have been working with intra- and inter-agency partners on the development of a 2015-2017 study on opioid prescriptions among pregnant women whose infants were born with NAS in the NYS Medicaid program. Once completed, this study will allow stakeholders to understand opioid prescribing practices in the NYS Medicaid program.

5.2.4 - Syringe Exchange Programs

Community-based harm reduction services have led the public health response to reducing morbidity and mortality related to injection drug use. SEPs were the first and have been the largest group of community programs to train people in the community to recognize overdose risks and respond when they occur.

NYS first authorized SEPs in 1992. There are currently 24 SEPs in NYS, with 14 programs comprising 52 sites in NYC and 10 programs with 28 sites in the rest of the state. In addition, 23 SEPs offer PDSE, where peers are recruited, trained, and supervised to conduct syringe exchange

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in their social networks. PDSE brings syringe exchange to individuals who would not access a program site because of geographic distance, lifestyle or lack of willingness to identify as a person who uses drugs. In March 2019, a new model of syringe services program, Technology Enhanced Access to Syringes (TEAS), was approved. TEAS enables people who inject drugs to access new, sterile syringes, harm reduction supplies, naloxone, and referrals to services via a website. The SEP using TEAS is able to reach persons who inject drugs in rural or suburban areas of the state where there are no SEPs or where there is a reluctance to go to a SEP. SEPs offer an array of services including individual and group harm- and risk-reduction counseling, HIV/HCV/STI counseling, screening and testing, behavioral interventions, mental health counseling, opioid overdose prevention training, safety planning and provision of naloxone, aftercare for overdose, care management, holistic health care including ear-point acupuncture, peer training, cultural competency training for other providers to better serve people who use drugs, and linkage, navigation and escort to medical, mental health, and substance use treatment.

In 2018, the SEPs served 28,375 clients, 9,346 of whom were new. They furnished 9.9 million syringes to these individuals in 160,044 transactions. Of these clients, 5,749 were young injection drug users. Twenty-nine percent of all clients received services via PDSE. These SEPs made 31,689 referrals in 2018: 22 percent for substance use treatment, 35 percent for medical/health services, 9 percent for food, and the remaining 34 percent for entitlements, housing, and other supportive services.

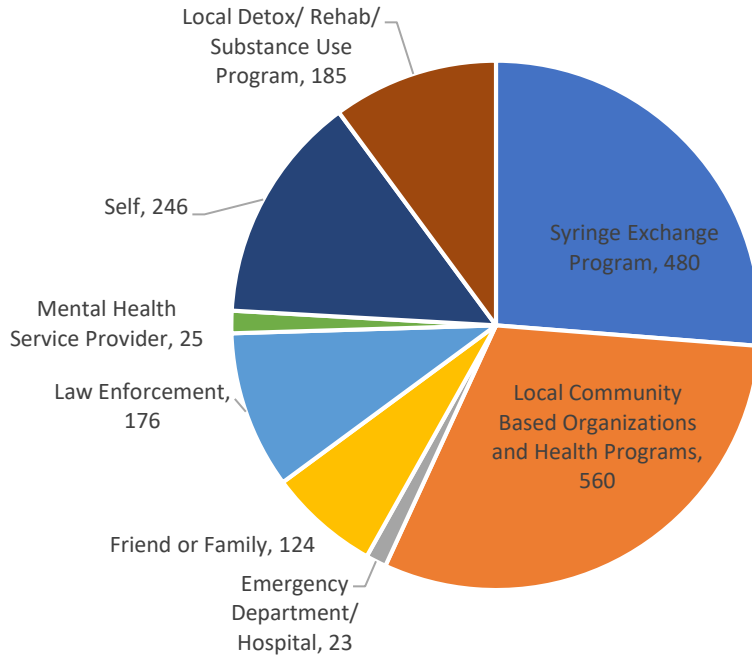
5.2.5 - Drug User Health Hubs

NYSDOH continues to fund and support a novel model of care for people who use drugs called the Drug User Health Hubs (Hubs). The Hubs were started in 2016 to improve the availability and accessibility of culturally competent health care and MAT for PWUD —especially those who had not yet engaged in care or services and were at greatest risk for opioid overdose. Hubs are located at existing SEPs and enhance and expand services that are already provided at these programs, with the primary aim of reducing opioid overdoses by improving the overall health and well-being of PWUD. Hubs are simultaneously creating a new system of health care for PWUD by providing low-barrier, a la carte medical services on-site at the SEP, and strengthening the ability of other providers in their community to meet the needs of PWUD with respect and compassion (by providing anti-stigma and cultural competency trainings for local medical providers, medical students, pharmacists, law enforcement officers, ED staff members, addiction treatment providers, and more). The Drug User Health Hubs improve the availability and accessibility of an array of appropriate health, mental health, and medication assisted treatment services for people who use drugs, especially but not solely injection drug users. These services can be provided on-site and/or through facilitated linkage to culturally competent care and treatment services. Referral networks are also established through these partnerships. The Hub model is community-specific, meaning each Hub designs its own way of building partnerships with emergency responders and community providers based on what's possible politically and socially in its community.

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Hubs have experienced great success as they've become established resources in their communities. Calendar year 2018 saw tremendous growth, both of the scale of programming of each Hub and in the name recognition of the model among other providers and stakeholders in their communities. Figure 66 shows some of the community partnerships used in the referral networking. Hubs have collaborated with law enforcement, the NYS OASAS Addiction Treatment Programs, hospitals, EDs, and medical providers.

Figure 66. Drug User Health Hub Intake Referral Source, 2018 (n=1,819)



5.3 - Tertiary Prevention

The goal of tertiary prevention aims to soften the impact of OUD that has lasting effects.¹⁸ This is done by helping people manage long-term, often complex health problems to prevent life-threatening adverse outcomes.

NYS is a leader in the implementation of public health programming to prevent death from opioid overdoses. Its multi-pronged approach focuses on building overdose response capacity within communities throughout the State. Complementing the longstanding efforts by EMS agencies throughout NYS, this community capacity comprises trained responders, including opioid-dependent individuals, their families and friends, staff of agencies who work with people who use drugs, law enforcement personnel, firefighters, drug treatment providers, correctional facility guards, incarcerated persons about to be released and their family members, and others.

The core of this program is for community “laypersons” to be trained by organizations registered with NYSDOH to recognize and respond to opioid overdoses. These individuals are known as trained overdose responders.*

Under regulation, these entities or providers may maintain regulated opioid overdose prevention programs and include:

- a healthcare facility licensed under the Public Health Law;
- a physician, physician assistant, or nurse practitioner who is authorized to prescribe the use of an opioid antagonist;
- a drug treatment program licensed under the mental hygiene law;
- a not-for-profit community-based organization incorporated under the not-for-profit corporation law and having the services of a Clinical Director; and
- a local health department.

5.3.1 - Pharmacy Distribution

Community pharmacies are increasingly important places for the public to obtain naloxone. They are becoming an integral component of our harm reduction strategy. As of July 1, 2019, there were approximately 2,700 pharmacies throughout NYS with a standing order for naloxone in place. Pharmacies with this specific type of standing order do not require individuals seeking naloxone to have a prescription to obtain it. A directory of these pharmacies arranged by county may be accessed online at:

www.health.ny.gov/diseases/aids/general/opioid_overdose_prevention/directories.htm.

Lack of insurance coverage for naloxone has been a barrier to some people when seeking it at community pharmacies. This barrier has lessened significantly since 2016. All Medicaid managed care plans are now required to cover at least one formulation of naloxone. The \$1 copay for individuals under these plans for the “preferred formulation” has expanded naloxone

* The following definition appears in the regulations: “Trained overdose responder means a person who has successfully completed an authorized Opioid Overdose Prevention Training Program offered by an authorized Opioid Overdose Prevention Program within the past two years and has been authorized by a Registered Provider to possess the opioid antagonist.”

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accessibility considerably, and even that small co-pay may be waived at the discretion of the pharmacy. Private insurance has also expanded greatly, though co-pays and limitations on the number of refills which may be obtained each year may be ongoing issues for some individuals.

In addition to the coverage provided through the updated Medicaid managed care plans, NYS has developed the N-CAP. Through N-CAP, individuals with prescription drug coverage have up to \$40 of their naloxone co-payments covered. There is no enrollment required. NYS only requires individuals to maintain their primary health insurance to participate in this program. This results in no or lower out-of-pocket expenses for the individual. N-CAP works with either a standing order or with a patient-specific prescription.

The NYSDOH learns of dispensing under standing orders on a quarterly basis through one of two mechanisms: 1) from the pharmacies directly in instances where the pharmacies themselves have registered as opioid overdose prevention programs; or 2) from non-pharmacy registered programs with a clinical director choosing to provide standing orders for pharmacies.

5.3.2 - Naloxone Administration

The NYSDOH registers and regulates opioid overdose prevention programs under New York Public Health Law Section 3309 and its regulations in 10 NYCRR 80.138. These programs provide training to non-medical individuals to recognize opioid overdoses, call 911, and administer naloxone.

There are currently more than 750 registered opioid overdose prevention programs, with over 425,000 individuals trained by them since the initiative's inception in 2006. Of these, 65,000 were public safety personnel and the rest were community responders. There have been approximately 15,000 naloxone administrations reported since 2006, with more than half of these done by community (non-public safety) responders. In 2018, registered programs transitioned reporting of community usage to an online system. The intent of the system was to improve the timely submission of reports, improve the quality of data submitted, and confirm which programs are complying with public health reporting regulations. Although, community program reporting has historically been under reported, the implementation of the online reporting system is serving to help address and improve community usage reporting barriers in a timely manner.

5.3.2.1 - Obtaining and Furnishing Naloxone

Registered opioid overdose prevention programs outside of NYC order naloxone from NYSDOH at no cost using the online New York State Opioid Overdose Prevention Program System (NYSOOPPS). NYSOOPPS is also used by registered programs statewide to maintain their registrations, to report administration of naloxone by trained responders, and to submit mandated quarterly reports on the number of individuals trained and the quantity of naloxone furnished. The turnaround time for naloxone orders is under 2 weeks. In Fiscal Year 2018-2019, more than 116,000 two-dose overdose kits were furnished to registered programs by NYSDOH. NYSDOH is the exclusive provider of naloxone to the NYS DOCCS and is the principal supplier of naloxone statewide to county health departments, law enforcement agencies, treatment programs, secondary schools, universities and community-based organizations. It is also the primary source of naloxone for SEPs outside of NYC. SEPs were among the first organizations to become

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registered opioid overdose prevention programs in 2006. Registered programs inside NYC order their overdose supplies from the NYC Department of Health and Mental Hygiene.

Law enforcement personnel are frequently the first on the scene of an overdose. In 2014, the NYS Division of Criminal Justice Services (DCJS) worked with NYSDOH, the Harm Reduction Coalition (HRC), and Albany Medical College to develop a slide-based curriculum and naloxone administration reporting protocol for public safety personnel. Over 61,000 officers have been trained, and naloxone has been administered by them nearly 6,000 times through December 31, 2018. More than 1,200 of these administrations occurred in 2018. A similar collaboration began in 2015 with the State's Office of Fire Prevention and Control (OFPC) to ensure opioid overdose response capacity among non-EMS fire fighters where over 8,000 firefighters and more than 13,000 EMS personnel have been trained. These fire fighters have administered naloxone more than 800 times, with 185 of these occurring in 2018. Both DCJS and OFPC have their own training infrastructure to facilitate overdose trainings.

Law enforcement agencies from 60 counties have submitted reports of naloxone administrations to NYSDOH as of December 31, 2018. Naloxone administration reporting is mandated under regulation in 10 NYCRR 80.138.

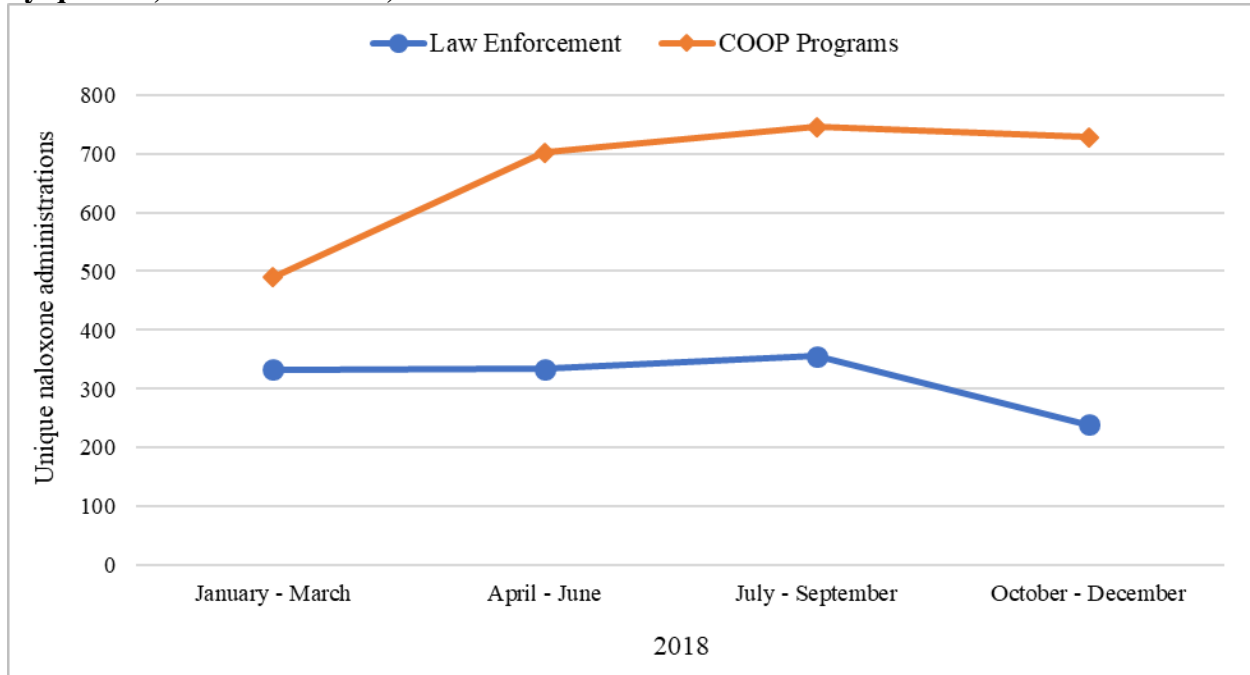
Data is presented on administrations of naloxone reported by COOP programs registered with the NYSDOH, as well as by law enforcement agencies, firefighters, and EMS personnel. All naloxone administration data are based on self-report. There are instances in which not all data fields are completed by the responder. There is often a lag in data reporting. Increases seen over time may represent expansion of program and may or may not indicate an increase in overdose events, thus all data should be interpreted with caution. Naloxone data 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.

The total number of reported naloxone administrations by EMS providers, law enforcement agencies, and COOP programs in NYS fell 8 percent from 19,363 in 2017 to 17,763 in 2018. For 2018, the greatest number of naloxone administrations was documented by EMS providers reporting electronically, accounting for 78 percent of all reported administrations.

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As seen in Figure 67, in NYS during 2018, July through September (Quarter 3) was the quarter for which both law enforcement agencies and COOP programs, respectively, reported the highest number of naloxone administrations

Figure 67. Naloxone administration reports by law enforcement and community programs, by quarter, New York State, 2018



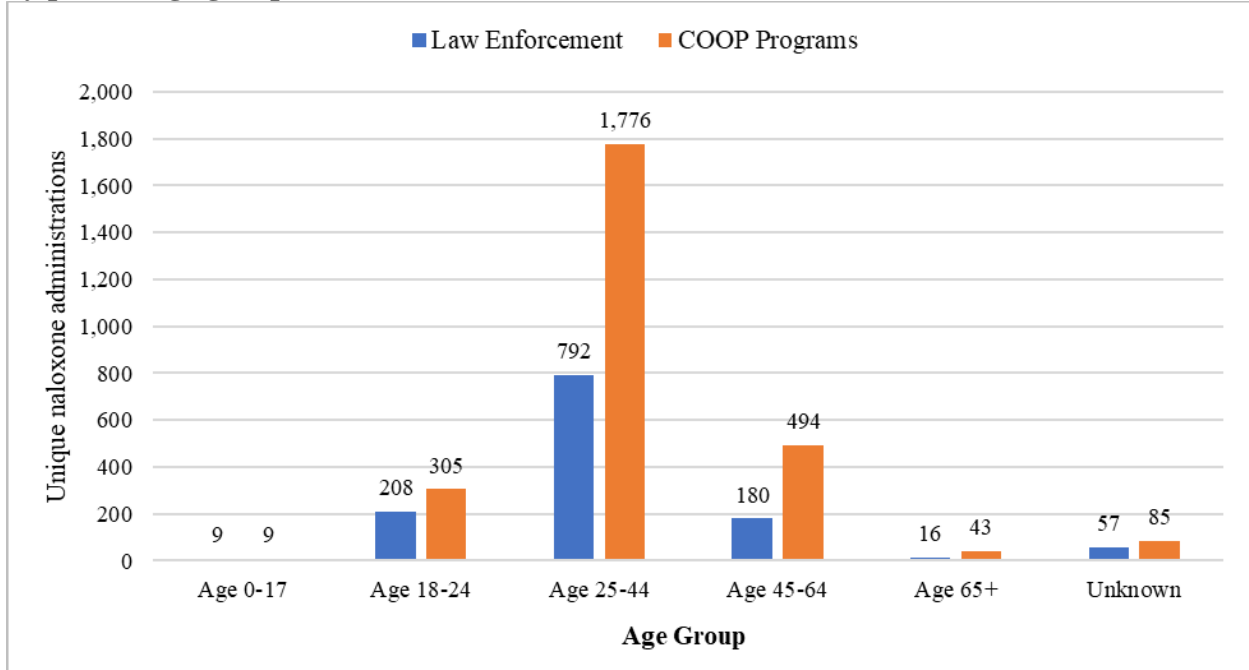
Data source: NYSDOH AIDS Institute; Data as of May 2019

For complete data, see [Data Table 67, Appendix, page 73](#).

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In NYS during 2018, most naloxone administration reports from law enforcement agencies and COOP programs were for patients in the 25-44 year-old age group (Figure 68).

Figure 68. Naloxone administration reports by law enforcement and community programs, by patient age group, New York State, 2018



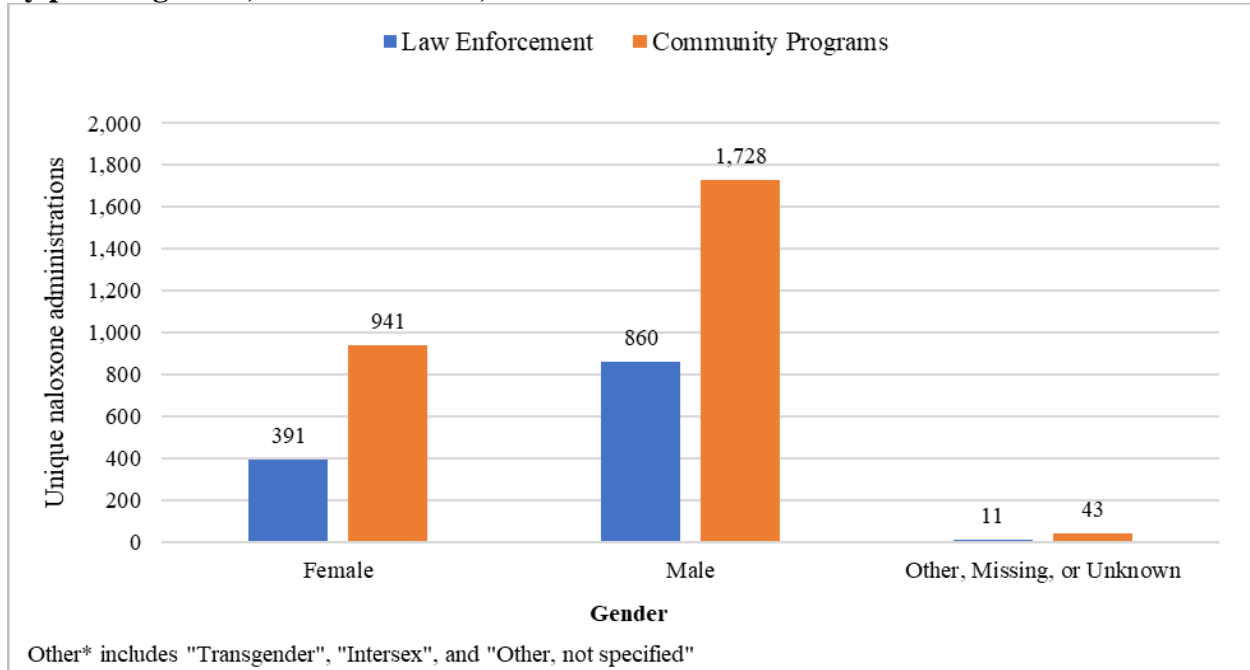
Data source: NYSDOH AIDS Institute; Law enforcement data as of April 2019; Community program data as of May 2019

For complete data, see [Data Table 68, Appendix, page 74](#).

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In NYS during 2018, most naloxone administration reports from law enforcement agencies and COOP programs were for male patients (Figure 69).

Figure 69. Naloxone administration reports by law enforcement and community programs, by patient gender, New York State, 2018



Data source: NYSDOH AIDS Institute; Law enforcement data as of April 2019; Community program data as of May 2019

For complete data, see [Data Table 69, Appendix, page 74](#).

5.3.2.1.1 - Pre-Hospital Services

Although naloxone has been used for decades by Advanced Life Support (ALS) EMS agencies, naloxone use by Basic Life Support (BLS) EMS agencies is recent. Many areas of NYS rely on BLS agencies to provide emergency medical response through Emergency Medical Technicians (EMTs) and Certified First Responders (CFRs). Equipping BLS agencies with intranasal naloxone has significantly expanded the reach of this life-saving medicine into communities where it is needed.

In December 2013, the State Emergency Medical Advisory Committee recommended adding intranasal naloxone to the scope of practice for both of EMT and CFR.³⁴ This recommendation was the result of a demonstration project led by the Hudson-Mohawk Regional Emergency Medical Advisory Committee and conducted in several EMS regions across the State from April 2012 through December 2013 that clearly showed BLS EMS agencies could successfully be trained (through web-based and hands-on training and materials) to recognize and treat opioid overdoses using intranasal naloxone. In the wake of the demonstration project and subsequent NYSDOH guidelines for statewide implementation, the BLS EMT course curriculum includes training on naloxone administration. To date, 622 (or 58 percent) BLS EMS agencies have been authorized to administer intranasal naloxone.

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EMS agencies have been increasingly starting documentation on electronic Pre-hospital Care Report (e-PCR) platforms through collaborative efforts and the development of regional e-PCR documentation sites at reduced or no cost to the EMS first response agencies. This effort has increased e-PCR reporting in some counties underserved by e-PCR reporting, resulting in more effective and more efficient reporting of naloxone administration encounters.

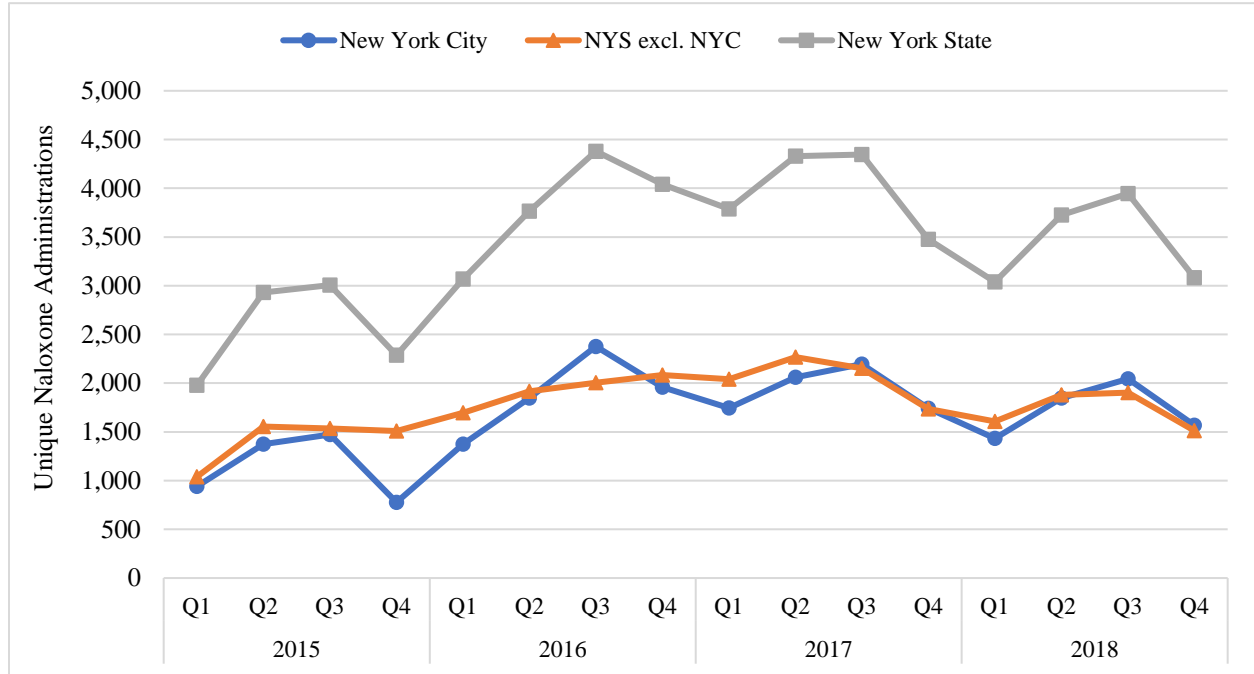
Additionally, educational programming has been initiated to improve the quality of documentation and the importance of comprehensive data recording and submission. Specific focus was taken during the trainings to focus on naloxone and comprehensive documentation that helps assess the volume of the medication administered to the patient. The educational programming was presented throughout New York state in a collaboration with regional EMS program agencies and EMS conferences.

Information presented represents the number of unique naloxone administrations, rather than the number of individuals served. An ALS provider may administer multiple doses, starting at a lower level (such as 0.2 mg), then gradually increasing until achieving the intended result of improved respiratory and mental status. Pre-hospital Care Report (PCR) data indicate that of 96.0 percent of patients receiving naloxone from an ALS provider, two percent died at the scene and 92.4 percent were transported to an ED for definitive care. PCR data from BLS providers indicate that 1.9 percent died at the scene and 93.9 percent were transported to an ED for definitive care, clearly showing BLS-administered naloxone to be just as effective as ALS-administered naloxone in the EMS setting.

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The number of electronically reported unique naloxone administrations by EMS per quarter in NYS increased from 1,978 in Quarter 1 of 2015 to 3,038 in Quarter 4 of 2018 (Figure 70). During that time, Quarter 3 of 2016 had the highest number of reported administrations (4,380). There was a total of 13,789 administrations reported during 2018, about a 35 percent increase from 10,201 administrations in 2015. A decrease of 13.5 percent occurred between 2017 and 2018.

Figure 70. Unique naloxone administrations by EMS agencies, by region, New York State, 2015-2018



Data source: NYSDOH, Bureau of Emergency Medical Services; Data as of June 2019

Note: Counts may have been affected by changes in documentation systems used by EMS agencies.

Additional data validation steps have been taken to de-duplicate multiple naloxone administrations for the same patient encounter. As a result, counts may differ from previous reports.

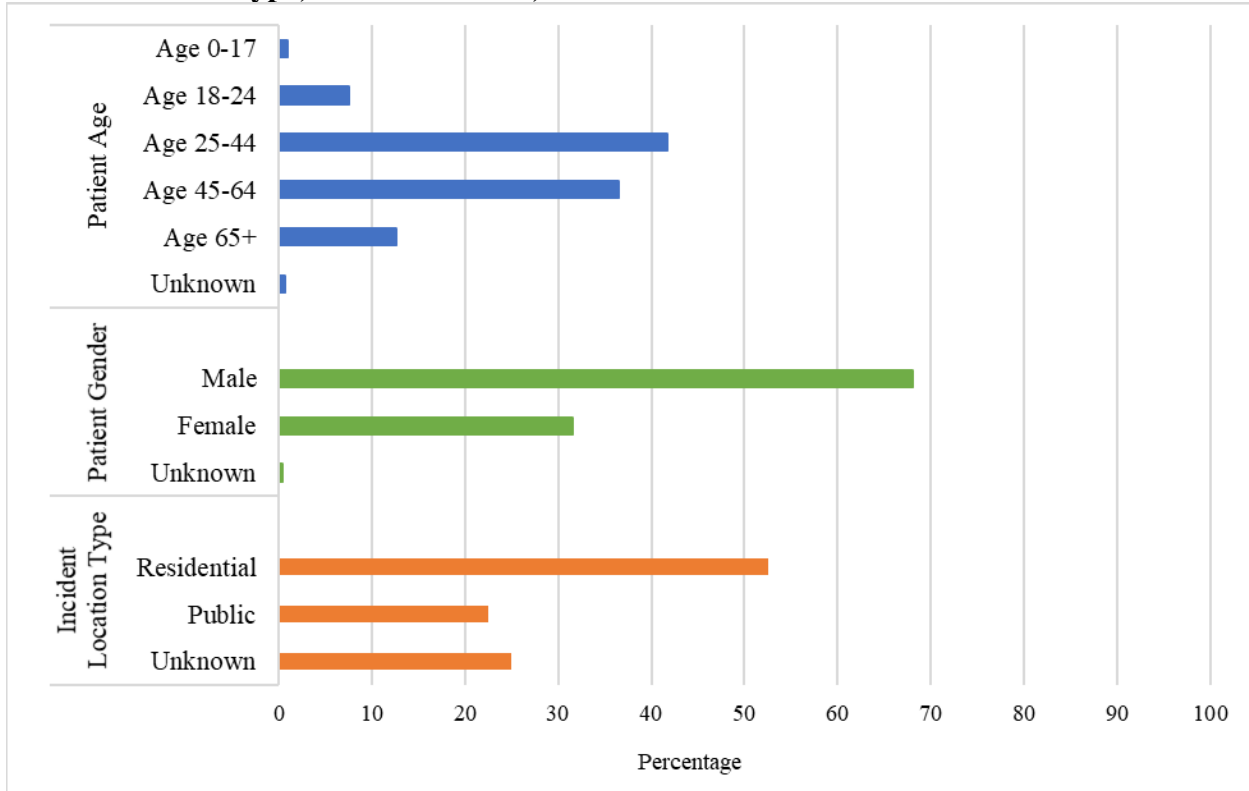
For complete data, see [Data Table 70, Appendix, page 75](#).

It should be noted that approximately 94 percent of EMS care provided throughout NYS is reported through e-PCRs; however, that should not be interpreted as 94 percent of care provided and documented evenly across the state. As more EMS agencies have begun reporting electronically since 2015, additional naloxone administrations are captured. This could partially contribute to the increase in naloxone administrations from 2015 to 2017. However, the observed increase was largely due to the rise in opioid overdose.

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In 2018, most of the EMS unique naloxone administrations occurred in residential settings (6,991 administrations, or 52.5 percent), similar to overdose deaths (Figure 71). The majority also involved male patients (9,050 administrations, or 68.0 percent) and patients in the 25-44 year-old age group (5,553 administrations, or 41.7 percent).

Figure 71. Unique naloxone administrations by EMS agencies, by age group, gender, and incident location type, New York State,* 2018



Data source: NYSDOH, Bureau of Emergency Medical Services; Data as of June 2019

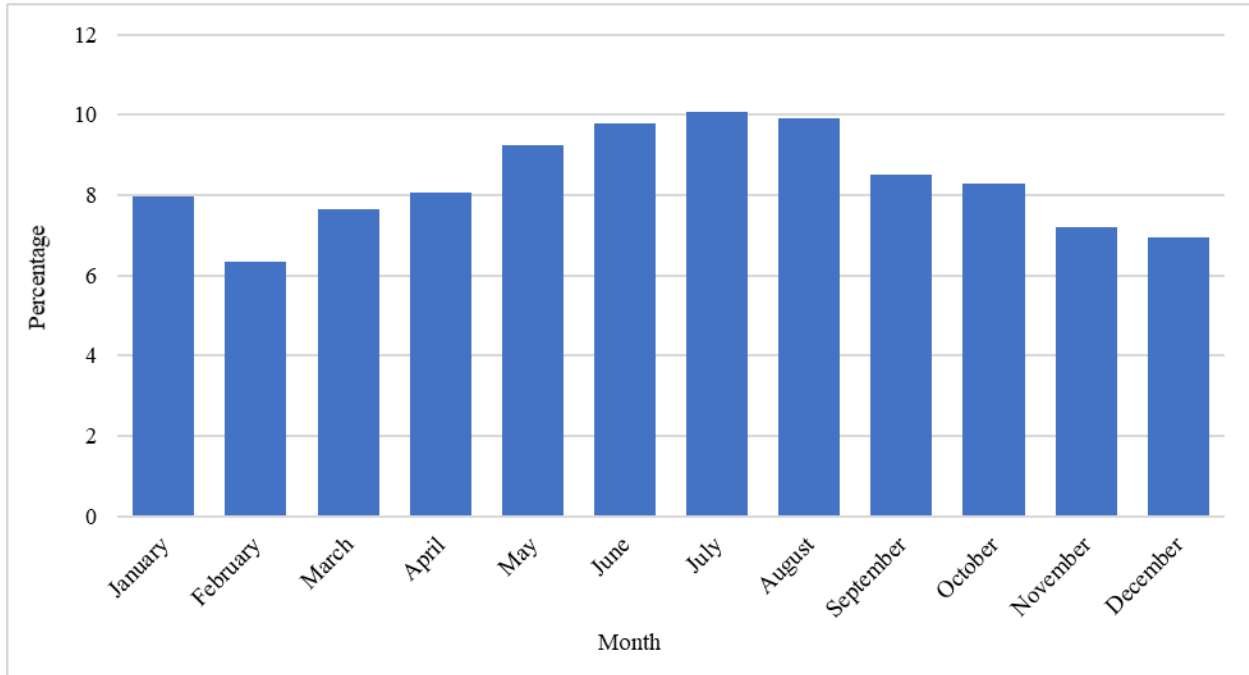
* Data for Suffolk County were not available.

For complete data, see [Data Table 71, Appendix, page 76](#).

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The number of unique naloxone administrations by EMS during 2018 was not evenly distributed across the months, with more administrations occurring during spring and summer, and fewer occurring during fall and winter (Figure 72). The month with the highest number of naloxone administrations was July (1,341 administrations or 10.1 percent), while the month with the lowest number was February (845 administrations or 6.3 percent).

Figure 72. Unique naloxone administrations by EMS agencies, by month of incident, New York State,* 2018



Data source: NYSDOH, Bureau of Emergency Medical Services; Data as of June 2019

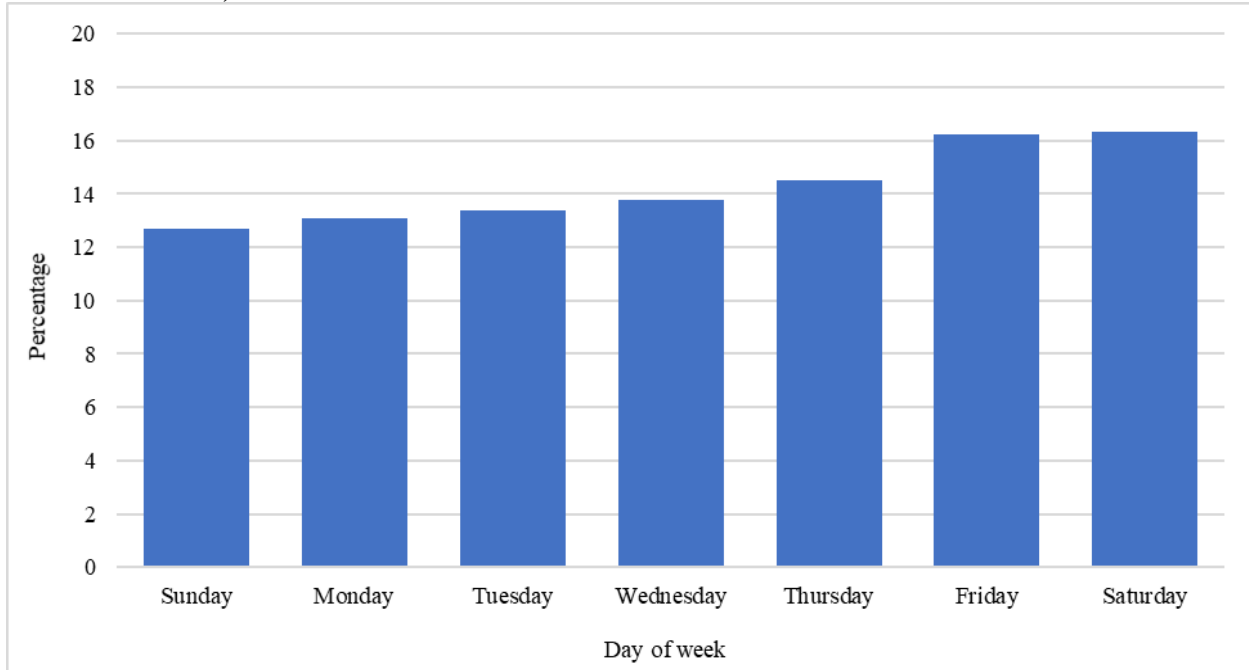
* Data for Suffolk County were not available.

For complete data, see [Data Table 72, Appendix, page 76](#).

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Saturday was the day of the week during which the highest number of unique naloxone administrations by EMS occurred (2,176 administrations or 16.4 percent) in 2018 (Figure 73). The day of the week with the fewest administrations was Sunday (1,688 administrations or 12.7 percent).

Figure 73. Unique naloxone administrations by EMS agencies, by incident day of week, New York State,* 2018



Data source: NYSDOH, Bureau of Emergency Medical Services; Data as of June 2019

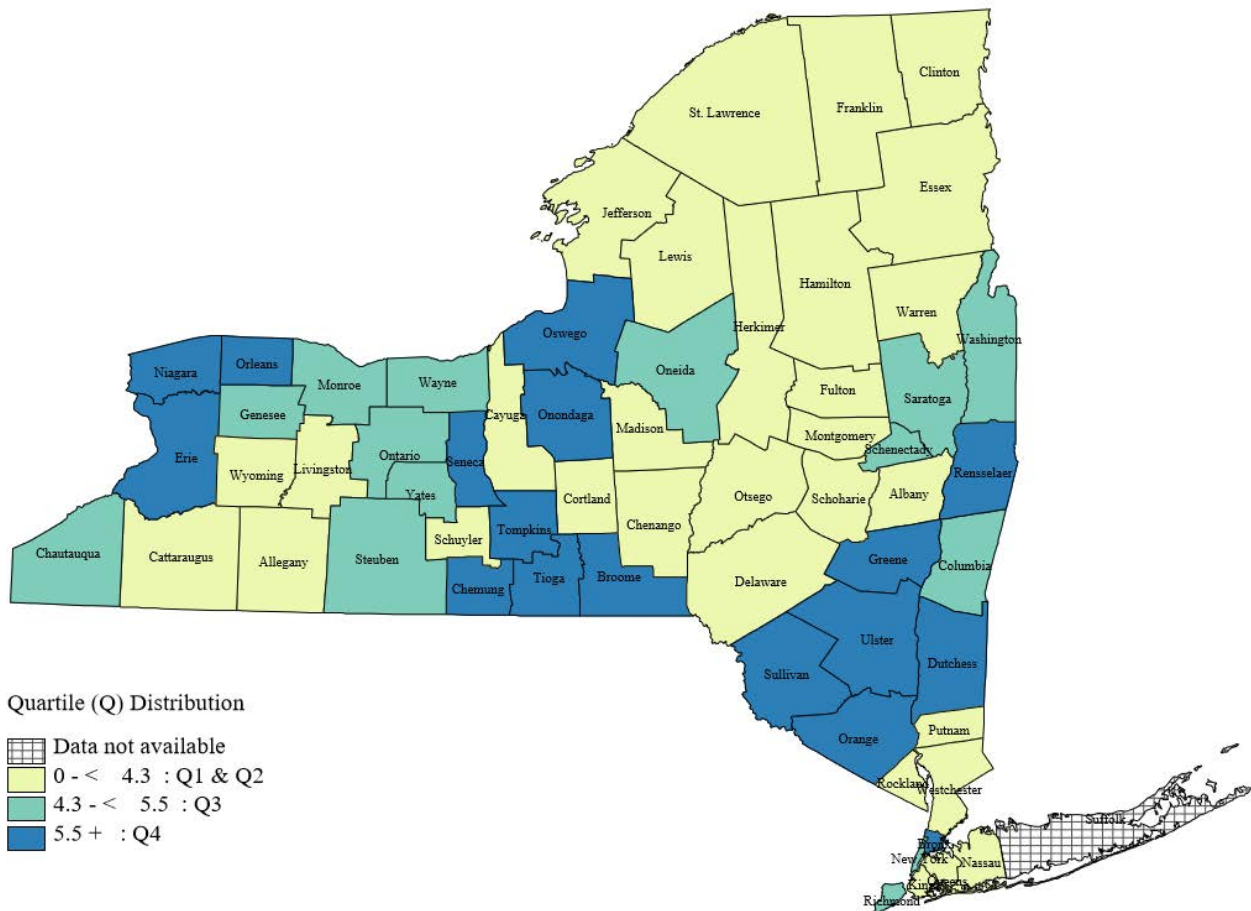
* Data for Suffolk County were not available.

For complete data, see [Data Table 73, Appendix, page 77](#).

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Figure 74 shows variation in the county rate of unique naloxone administrations per 1,000 unique 911 EMS dispatches in 2018. The counties shown in blue had the highest rates of naloxone administration, ranging from 5.5 per 1,000 to 9.6 per 1,000. The ten counties with the highest stable rates of unique naloxone administrations in 2018 were Seneca (9.6), Chemung (8.7), Rensselaer (8.4), Dutchess (8.0), Orange (7.0), Oswego (6.7), Onondaga (6.5), Ulster (6.5), Orleans (6.3), and Niagara (6.2). Counties shown in yellow had the lowest rates of naloxone administration per 1,000 unique dispatches. Please note that a rate could not be calculated for Suffolk County, as dispatch data were unavailable.

Figure 74. Unique naloxone administrations by EMS agencies, crude rate per 1,000 unique 911 EMS dispatches, by county, New York State,* 2018



Data source: NYSDOH, Bureau of Emergency Medical Services; Data as of June 2019

Note: Rates may be unstable for counties with fewer than 10 naloxone administrations.

* Dispatch data for Suffolk County were not available and, as a result, no rate could be calculated. While the NYS excluding NYC and NYS totals include the number of unique naloxone administrations reported for Suffolk County, the number of unique dispatches and the rates per 1,000 for these totals exclude Suffolk County.

For complete data, see [Data Table 74, Appendix, page 78](#).

5.3.2.2 - Persons Released from the State's Prisons; Correctional Officers; Parolees

For individuals leaving correctional settings, the period immediately after release carries increased drug overdose mortality risk. Overdose death accounts for the most frequent cause of post-release mortality.^{35,36} NYSDOH has worked with the NYS DOCCS and HRC to address this by training NYS correctional personnel as well as persons leaving DOCCS facilities. All 54 correctional facilities maintained by DOCCS have implemented opioid overdose training for incarcerated individuals, with the option of obtaining naloxone upon release. Through DOCCS trainings, more than 53,000 individuals have learned how to recognize opioid overdoses and respond to them with naloxone.

5.3.2.3 - Secondary School Students and Staff

Secondary schools have been authorized since August 2015 to have opioid overdose response capacity. Through a collaboration that includes NYSDOH, the NYS Education Department, the NYS Center for School Health, and HRC, a web-based curriculum and guidance tools have been developed. As of April 2019, 107 school districts have become registered overdose programs, representing 451 distinct schools, with over 22,000 school personnel trained.

5.3.2.4 - Syringe Exchange Program Participants

All 23 of the State's SEPs have opioid overdose prevention programs. SEPs were among the first registered programs and reach individuals at greatest risk, particularly in light of fentanyl. All of the SEPs also have the capacity to either provide buprenorphine directly to their participants or to refer them to buprenorphine providers. Buprenorphine and methadone, medications used for opioid addiction treatment, lower the risk for an overdose occurring.

6 - EMERGING ISSUES

The breadth and scope of opioid poisonings in NYS continue to evolve. In the past few years, the involvement of synthetic opioids (other than methadone), predominantly illicitly manufactured fentanyl, has become more prevalent. NYSDOH has initiated a rapid response project as an effort to rapidly identify where clusters of opioid overdoses are occurring. Currently, there is no method to rapidly identify new drugs on the street. This information is important to law enforcement, first responders, and medical providers, as well as to people who use drugs so they are better informed of their risks. As new synthetic drugs are identified, it is important that both public health and public safety responses be thorough and rapid. Following the syndromic surveillance model used to rapidly identify possible outbreaks or clusters of disease, NYSDOH developed an electronic syndromic surveillance system for opioid drug overdoses. This system uses nearly real-time ED chief complaint data provided daily from 136 hospitals. Three syndromes have been developed: all drug overdoses, opioid overdoses, and heroin overdoses. When a syndrome definition has been met, a flag is created when the chief complaint matches the definition. Results are currently shared through the Health Commerce System, allowing localities to view overdoses by county or by hospital. In addition, time-space permutations are analyzed to detect clusters in zip codes.

When an illness or injury does not appear to be life threatening but can not wait until the next day, urgent care centers (UCCs) can provide easy access to quality health care when primary care physician's offices are closed. As more residents of NYS access UCCs rather than hospital EDs, it becomes more critical for true situational awareness to include this data. In 2018, NYSDOH completed the development of an urgent care database, developed the test plan, performed data testing, and developed the data validation procedures as well as the SAS codes for urgent care data validations. The urgent care database is now in production. Seventeen UCCs are reporting to NYSDOH, and the validity of the data is being analyzed.

NYSDOH will continue to explore ways to rapidly identify increases in deaths and new drugs on the street. E-PCRs from EMS are an excellent source of data from the scene of the overdose event. Some EMS services still use a paper-based PCR system, which does not allow for capture of the data required for reporting, syndromic surveillance, and overdose cluster identification. Work is being conducted to increase the number of EMS agencies using the e-PCR, allowing for more rapid surveillance of incidents.

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