



CHAPTER 6

Addiction





Addiction

This chapter provides information about addiction, which covers substance use disorder and problem gambling, in the Commonwealth of Massachusetts and related trends, disparities and resources. It includes the following topic areas:

- Prevalence of Addiction, Related Morbidity, and Mortality
- Opioid Epidemic in Massachusetts
- Governor's Working Group on Opioids Action Plan: Massachusetts Continuum of Care
- Addiction and Specific Populations
- Selected Resources, Programs, and Services

Chapter Data Highlights

- Addiction affects 27.1 million people in the US
- Opioid-related deaths have increased 450% over the last 16 years in Massachusetts
- Since 2010, over 10,000 naloxone rescues have been reported in Massachusetts
- Approximately 13,000 people in MA have been trained in SBIRT (Screening, Brief Intervention, & Referral to Treatment) to date
- Enrollment in Medication Assisted Treatment (MAT) following non-fatal opioid-related overdose reduces the risk of subsequent fatal overdose by 50%
- The risk of opioid-related overdose death for persons released from prisons and jails is 120 times higher than for the general population
- Fentanyl has a growing presence in the illicit drug market and is involved in the majority of opioid overdose deaths
- In Fiscal Year 2016, 52.6% of BSAS clients reported a history of mental health treatment

Overview

Addiction is a chronic relapsing disease affecting the brain. One in twelve people aged 12 and older are affected by addiction.²⁹¹ Recent research suggests that addiction is a chronic disease with many expressions, including: alcohol, cannabis, hallucinogens, inhalants, opioids, sedatives, hypnotics, and anxiolytics; tobacco; caffeine; and other behavioral expressions, such as gambling²⁹². The overall annual national cost of addiction is estimated to exceed \$740 billion dollars, including expenses related to health, crime, and lost productivity.²⁹³

The consequences of addiction extend far beyond economic costs. Addiction adversely affects individuals and their families, friends, and communities. Substance misuse and excessive behavior patterns enhance risk of developing adverse health and social outcomes such as HIV, hepatitis, unplanned pregnancy, family disintegration, domestic violence, criminal behavior, financial instability, housing instability, child abuse, non-fatal overdose, and fatal overdose.

The causes of addiction are multifaceted, including psychological, social, environmental, and biological factors.²⁹⁴ Accordingly, some individuals are at greater risk of developing addiction. Addiction can develop following exposure to and/or interaction with a substance or activity. When the relationship between a person and that drug or activity yields a desirable shift in subjective experience, addiction can develop. Increased exposure to a substance or activity increases the potential for an individual to develop addiction.

The health and social consequences of addiction are often related to the type of addiction. For example, liver cirrhosis may develop for an individual addicted to alcohol; debt is possible for individuals addicted to gambling; pulmonary carcinoma is a possible outcome for individuals who smoke; and sepsis and hepatitis are possibilities for individuals who use intravenous drugs. Overdose deaths are typically caused by consuming substances at high intensity and/or by consuming combinations of substances such as alcohol, sedatives, tranquilizers, and opioids to the point where critical areas in the brain that control breathing, heart rate, and body temperature stop functioning.

Prevalence of Addiction, Related Morbidity, and Mortality

According to the National Survey on Drug Use and Health (NSDUH) in 2015, an estimated 27.1 million people in the US aged 12 and older used illicit drugs in the past month. Of these, a majority (22.2 million) reported using marijuana and 3.8 million misused prescription opioids.²⁹⁵ During the same survey period, an estimated 20.8 million, approximately 1 in 10 people needed substance use treatment (i.e., treatment for problems related to the use of alcohol or illicit drugs). Of this population, 10.8 percent received treatment.²⁹⁶

According to the 2013-2014 NSDUH, 6.7% of Massachusetts residents 12 years of age or older met the criteria for dependence or abuse of alcohol and 3% met the criteria for dependence or abuse of illicit drugs.

Problem gambling is also a concern. Nationally, gambling disorder affects about 1% of the general population, and subclinical past year gambling-related problems affect 2-3% of the general population.²⁹⁷ In Massachusetts, according to the Social and Economic Impacts of Gambling in Massachusetts (SEIGMA) 2013-2014 survey, problem gambling affects 1.7% of the population.²⁹⁸

Substance misuse was considered a top health concern in focus groups and interview discussions. Participants mentioned a variety of substances including prescription drug use, alcohol, and opioids as being among the most concerning. The rise of Fentanyl was viewed as especially problematic.

“Fentanyl is deadly and we’re seeing more and more of it on a regular basis.”

Key Informant Interviewee

Many people in Massachusetts who have a substance use disorder also have co-occurring mental health disorders. In Fiscal Year 2016, 52% of treatment admissions reported to MDPH Bureau of Substance Addiction Services (BSAS) had a history of mental health treatment. Approximately one in four persons ages 11 and older in the MassHealth population were identified as having a serious mental illness (SMI). The risk of fatal opioid-related overdose is six times higher for persons diagnosed with an SMI and three times higher for those diagnosed with depression.²⁹⁹

Interviewees and focus group participants also reported the need for improved care for individuals with dual diagnoses and comorbidities—especially for mental health and behavioral services. Participants described a high prevalence of co-occurring substance misuse and mental illness but reported barriers to care that addresses both issues simultaneously. As one participant said, *“We can fix the substance use but if they still have a mental health issue that they’re self-medicating for, it will inevitably come up again.”*

In 2014, among those under the age of 45, Massachusetts ranked highest among all states for rate of opioid-related emergency department visits and second highest for rate of opioid-related inpatient stays.³⁰⁰ The Centers for Disease Control and Prevention (CDC) reported that Massachusetts had the nation’s second highest rate of fentanyl seizures among all states in 2014.³⁰¹

From 2002 to 2015 there was a 2.2-fold national increase in the total number of deaths from all drug overdoses.³⁰² Each year in the US, more than 2,200 overdose deaths are due to alcohol and 5,415 deaths are attributed to cocaine/crack. Drug overdose deaths also occur as a result of the illicit manufacturing and distribution of synthetic opioids, such as fentanyl, and the illegal distribution of prescription opioids. Illicit fentanyl, for example, is often combined with heroin or counterfeit prescription drugs or sold as heroin, and may be contributing to recent increases in drug overdose deaths. In 2014, there were 17,465 overdoses from illicit drugs and 25,760 overdoses from prescription drugs in the US. For opioid-specific-related deaths, there was a 2.8-fold increase in the total number of opioid-related overdose deaths during this time period. In 2015, US overdose deaths totaled 52,404, including 33,091 (63.1%) that involved an opioid.³⁰³

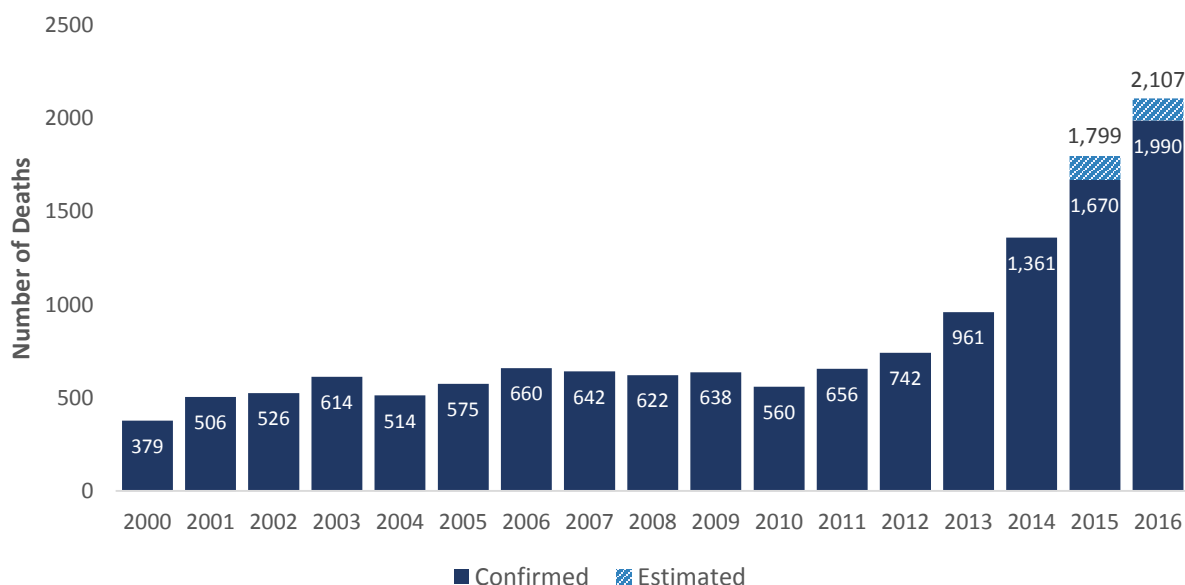
Deaths due to driving under the influence (DUI) are also a public health concern. According to the National Highway Traffic Safety Administration (NHTSA), there is an alcohol-related highway fatality in the US every 48 minutes. In 2015, nearly 1.1 million drivers were arrested for DUI of alcohol or narcotics. The NHTSA estimates that DUIs cost the United States more than \$44 billion each year in prosecution, higher insurance rates, higher taxes, medical costs, and property damage. Of note, DUI statistics account for only alcohol-related driving impairment and fail to measure driving under the influence of other impairing substances. Drugs other than alcohol are involved in 16% of motor vehicle crashes³⁰⁴.

Opioid Epidemic in Massachusetts

In Massachusetts, there has been a dramatic increase in opioid-related deaths. The number of opioid-related deaths in 2016 represents a 17% increase over 2015, and a 450% increase since 2000 (see Figure 6.1).³⁰⁵ Almost every community in Massachusetts is affected by the opioid epidemic. A key strategy to understanding the opioid epidemic is to improve the timely analysis and dissemination of data on opioid overdoses. Since April 2015, MDPH reports opioid data on a quarterly basis and uses predictive modeling techniques to estimate the number of opioid-related deaths on cases that have not been confirmed by the Office of the Chief Medical Examiner. Such timely information would help the state respond better to pressing policy and health concerns related to the opioid epidemic, guide policy development, and make programmatic decisions.

Figure 6.1

Number of Opioid-Related Overdose Deaths, Massachusetts, 2000-2016

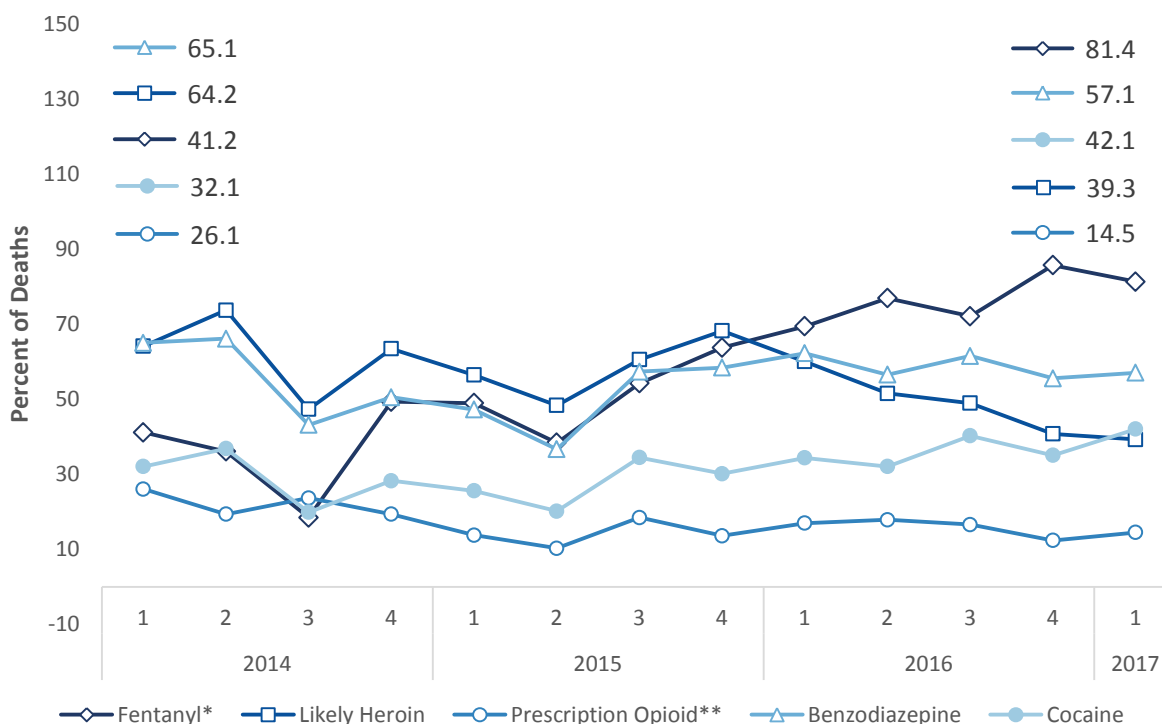


NOTE: OPIOIDS INCLUDE HEROIN, OPIOID-BASED PRESCRIPTION PAINKILLERS, AND OTHER UNSPECIFIED OPIOIDS

Increasingly, there's evidence suggesting fentanyl is fueling the current opioid epidemic. A Massachusetts- Centers for Disease Control and Prevention (CDC) collaborative epidemiologic investigation identified that the proportion of opioid overdose deaths in the state involving fentanyl, a synthetic, short-acting opioid with 50-100 times the potency of morphine, increased from 32% during 2013–2014 to 74% in the first half of 2016. Data from the MDPH quarterly opioid-related overdose death report shows the rate of fentanyl present in opioid-related deaths with a toxicology screen increased from a low of 19% in the third quarter of 2014 to 81% in the first quarter of 2017 (see Figure 6.2).³⁰⁶ Evidence for rapid progression of fentanyl overdose was common among both fatal and nonfatal overdoses. This rapid progression is a critical component in regards to overdose prevention and education.³⁰⁷

Figure 6.2

Percent of Opioid Deaths with Specific Drugs Present, Massachusetts, 2014-2017



NOTE: *THIS IS MOST LIKELY ILLEGITIMATELY PRODUCED AND SOLD, NOT PRESCRIPTION FENTANYL

NOTE: ** PRESCRIPTION OPIOIDS INCLUDE: HYDROCODONE, HYDROMORPHONE, OXYCODONE, OXYMORPHONE, AND TRAMADOL

In response to the opioid crisis in Massachusetts, the Baker-Polito Administration, the Massachusetts State Legislature, medical professionals, academic institutions, advocates, experts, and individuals collaborated to marshal a comprehensive long-term response to the opioid epidemic. Selected examples of actions taken include:

- Increased detox and treatment capacity
- Increased Naloxone distribution and education to reverse overdoses and prevent deaths
- Passage of the Good Samaritan Law to enhance and facilitate the use of Naloxone
- Launched first-in-the-nation core competencies for safe prescribing of opioids to medical schools, community health centers, nursing, physician assistant and dental schools
- Enhancing the Prescription Drug Monitoring Program (PDMP) to promote safe prescribing and dispensing of opioid prescriptions, including a first-in-the-nation law limiting first-time opioid prescriptions to seven days
- Passage of legislation, Chapter 55 of the Acts of 2015, that permits linking and analyzing data sets across multiple state agencies to better understand social determinants and risk factors related to the opioid epidemic, and to guide policy and program development

- An effort funded by a Prescription Drug Overdose Prevention grant to strengthen the Massachusetts PDMP increase its utilization rate by prescribers
- Creating three public awareness campaigns: State without Stigma, Stop Addiction, and the Good Samaritan Law. These campaigns intend to reduce stigma, increase awareness about addiction, and promote making the right call to provide help when needed
- Enhancing the Massachusetts Substance Abuse Helpline to provide free and anonymous information and referral for prevention and treatment for addiction to assist individuals and families in navigating treatment services
- Increasing access to and engagement in medication assisted treatment (MAT) to address the opioid epidemic, including expanding community and office-based services to all three federally approved medications (methadone, buprenorphine, and extended release injectable naltrexone)
- Implementing new models for providing timely, comprehensive assessment, and referral to treatment, including Opioid Urgent Care Centers
- Adopting a standardized assessment tool for consistent and evidence-based assessment of individuals' treatment needs

Governor's Working Group on Opioids Action Plan: Massachusetts Continuum of Care

The MDPH's Bureau of Substance Addiction Services (BSAS) has a pivotal role in addressing the current opioid epidemic under the Action Plan developed by the Governor's Working Group on Opioids. As the federally-designated single state authority responsible for substance abuse **prevention, intervention, treatment, and recovery support** for the Commonwealth, MDPH also collaborates with other state agencies tasked with the responsibilities related to the Action Plan.

Prevention initiatives serve to educate the general public, particularly adolescents and young adults, on techniques to reduce the risk of developing a substance use disorder. These prevention strategies help individuals develop the knowledge, skills, and attitudes to make good choices, and avoid or stop harmful behaviors before the behavior becomes addictive.

Intervention initiatives also focus on early identification of substance use, treatment referral, and strategies to reduce fatal drug overdoses such as administration of naloxone to reverse opioid-related overdoses.

Treatment goals are similar to the treatment goals for other chronic illnesses: to eliminate or reduce the primary symptoms (substance use or compulsive behavior), improve general health and function, and increase the motivation and skills of patients and their families to manage threats of relapse. The addiction treatment system includes acute services, stabilization services, medication assisted treatment (MAT), outpatient services, residential services, and wrap-

"I think it's important to address those who are already using substances, but we need to go back even further—even before middle school to work on prevention."

Key Informant Interviewee

around and supportive services for special populations. Addiction can be treated effectively, with recurrence rates equivalent to those of other chronic illnesses such as diabetes, asthma, or hypertension.³⁰⁸

Recovery support services are essential to assisting individuals and families affected by substance use disorder attain and maintain recovery. They require a coordinated, community-wide range of support programs, resources and tools.

Figure 6.3
Massachusetts Addiction Care Continuum



NOTE: SBIRT = SCREENING BRIEF INTERVENTION AND REFERRAL TO TREATMENT; SUPPORTIVE CM = SUPPORTIVE CASE MANAGEMENT; MAT=MEDICATION ASSISTED TREATMENT; RSC=RECOVERY SUPPORT CENTERS; RHS= RECOVERY HIGH SCHOOLS; MOAR= MASSACHUSETTS ORGANIZATION FOR ADDICTION RECOVERY

Prevention

Massachusetts’ initiatives to prevent SUD focus on educating citizens, particularly adolescents and young adults, with techniques to help reduce the risk of addiction. These data-informed, evidence-based addiction prevention strategies are critical for avoiding or delaying early substance use and stopping the progression from substance use to addiction. Additional initiatives to prevent SUD focused on prescribers. Massachusetts is the first state in the nation to incorporate substance misuse prevention and management education for all medical, dental, physician assistant, and advanced practice nursing students.³⁰⁹

According to the Substance Abuse and Mental Health Services Administration (SAMHSA), preventive interventions are most effective when they are matched to their target population’s level of risk. These prevention efforts can be categorized as universal, selective, and indicated.³¹⁰ Universal prevention targets the general public or a whole population. Selective prevention targets individuals or a population sub-group with no substance abuse disorders, but

where the risk of developing them is high. Finally, indicated prevention efforts focus on individuals who are already exhibiting risk and substance use/misuse.

A key to the development of effective prevention strategies is to understand the onset of use. The prevalence of substance use increases rapidly with age during adolescence and peaks in the early twenties.³¹¹ Early substance misuse, including alcohol misuse, is associated with a greater likelihood of developing a substance use disorder later in life.^{312,313}

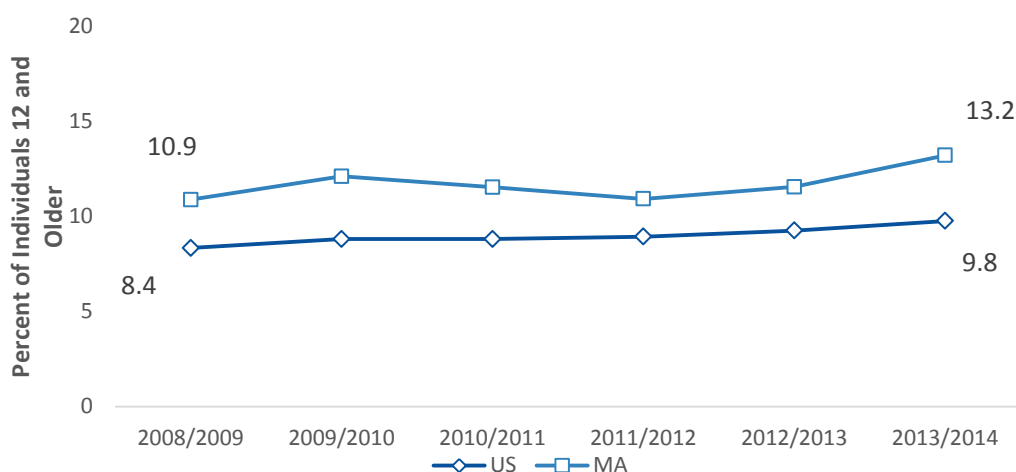
According to 2015 Massachusetts Youth Health Survey (YHS) high school students who started drinking alcohol before the age of 13 were significantly more likely to misuse prescription drugs than those who started drinking at the age of 13 or older. (Odds Ratio = 3.09, 95% Confidence Interval: 1.88-5.08).

Similar association of early onset of marijuana use with later prescription drug misuse was also found from the survey. High school students who initiated their marijuana use under the age of 13 were significantly more likely to report misuse of prescription drugs in the past month than those who started using marijuana after the age of 13 (Odds Ratio = 3.36, 95% Confidence Interval: 2.01- 5.61).

According to 2013-2014 NSDUH estimates, the prevalence of past month binge drinking, past month illicit drug use and past month marijuana use among Massachusetts residents age 12 and older exceeded the national averages (binge drinking: 24.2% vs. 22.9%; illicit drug use: 13.2% vs 9.8% and marijuana use: 11.8% vs 8%).

Figure 6.4

**Individuals Age 12 and Older Reporting Past Month Illicit Drug Use
(2008-2014 NSDUH, US vs Massachusetts)**



SOURCE: SAMHSA REPORTS ON 2008/2009 TO 2013/2014 TWO-YEAR COMBINED AVERAGE ESTIMATES; NSDUH DATA

Intervention

Intervention is an important component of a continuum of services to address substance use disorder (SUD) in a community. Intervention can also be referred to as Secondary or Tertiary Prevention, or Harm Reduction.

Secondary Prevention targets individuals who have low levels of alcohol and/or drug use and would benefit from prevention and safety messages. Tertiary Prevention targets individuals who exhibit a greater degree of SUD and experience problems associated with their alcohol or drug use and would benefit from prevention and harm reduction

messages as well as referrals to treatment. Individuals may experience a range of alcohol and drug use from no use to addiction, and can benefit from different levels of service depending on what they are ready to receive at any given time. A person-centered approach includes prevention, safety and harm reduction messages tailored to what the individual is ready to receive. BSAS incorporates intervention and harm reduction into a range of services provided either directly or through a partnership with the Bureau of Infectious Disease and Laboratory Sciences' Office of HIV and AIDS.

SBIRT Program

A key component of an intervention approach is SBIRT - Screening, Brief Intervention, and Referral to Treatment.

The screening process involves a short, validated questionnaire that identifies risk. While most people who are screened will have negative screening results, the screening process provides an opportunity to remind patients of drinking guidelines and allows health care providers to identify patients in recovery. Brief intervention provides individual feedback about actual substance use and safe limits, as well as patterns of use relative to the broader population. Routine, universal alcohol screening and screening for drug use should occur regularly for all individuals who present in health care settings, including primary, urgent, psychiatric, hospital, and emergency care.

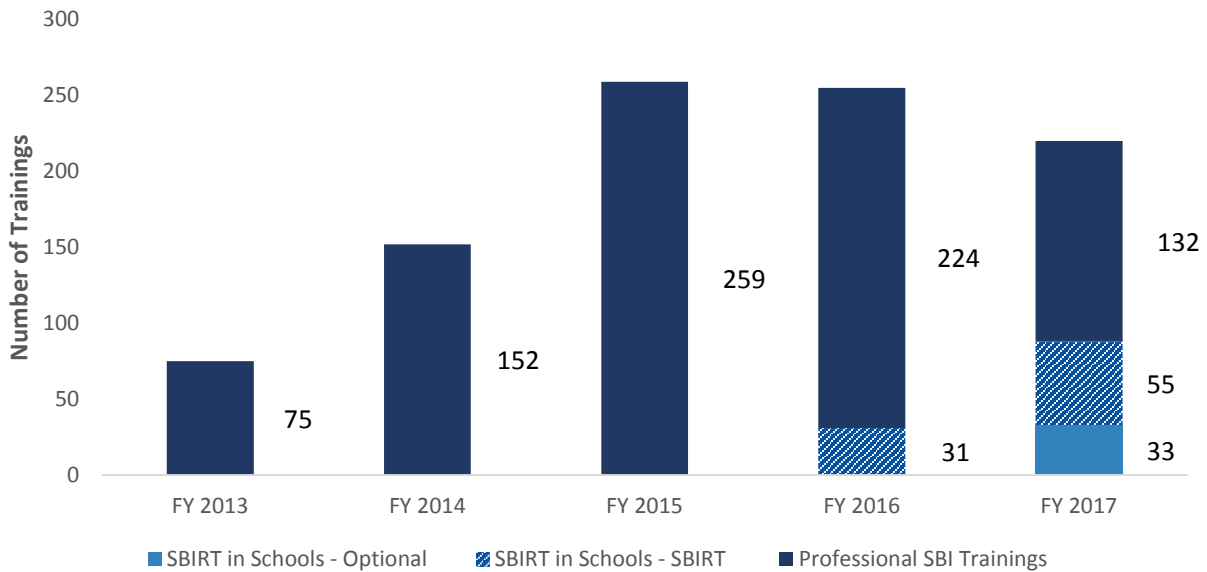
Screening for excessive alcohol use is an effective tool to address “binge drinking” defined as more than five drinks for men or more than four drinks for women, on a single occasion and generally within about 2 hours. “Heavy drinking” is defined as more than 15 drinks per week for men and more than eight drinks per week for women. While individuals that engage in binge drinking may not meet DSM-5 criteria for addiction, this risky behavior predisposes them for other adverse outcomes such as DUI, or DUI-related fatalities.³¹⁴

The success of interventions designed to reduce substance misuse, reduce harm, or treat an individual's substance use disorder depends on the quality and provision of trainings for those delivering the interventions.

Beginning in Fiscal Year 2013, MDPH provided support for SBIRT trainings. To date, 842 SBIRT training sessions have been held at various settings, including: hospitals; community health centers; health clinics; behavioral health settings for mental health and SUDs; academic institutions; and others.

Of these trainings, 760 were skills trainings, 191 were for technical assistance, and 78 were for one-on-one coaching. As a result, 12,862 individuals are now trained to provide quality intervention services, including 1,229 doctors, 1,999 nurses, 522 nurse practitioners and physician assistants, and 2,140 behavioral health providers.

Figure 6.5
SBIRT Trainings, Massachusetts, Fiscal Years 2013-2017



Naloxone Access Program

Opioid-related overdose deaths often can be prevented by rescue breathing and administering naloxone, an opioid antagonist, in a timely manner. As a result, MDPH has prioritized increased community access to naloxone as a critical strategy to combat the opioid epidemic. Since 2011, the Overdose Education and Naloxone Distribution Program (OEND) has documented more than 10,000 opioid overdose reversals and rescues in Massachusetts.

“There are so many barriers to getting Naloxone, but the demand and need for it is so great.”

Key Informant Interviewee

The major components of the naloxone access strategy have been:

- **Community Bystander Program (OEND):** Under the MDPH OEND program, public health and community-based agencies deploy trained, non-medical workers and citizens to provide training to community members on how to prevent, recognize, and respond to an opioid-related overdose, including administering nasal naloxone. This program targets high-risk individuals and families in communities experiencing a large number of overdoses.
- **First Responder Naloxone:** MDPH provides First Responder Naloxone grants to 32 high-incident municipalities to support training, technical assistance and costs associated with police and fire departments carrying and administering naloxone. Since the grant program began in 2015, grantees have reported 4,738 confirmed naloxone rescues.
- **Pharmacy Access to Naloxone:** Since 2014, Massachusetts pharmacies have had the option to establish naloxone standing orders. This allows community members to request naloxone from a pharmacy without having to get a prescription. As of June 2017, 771 pharmacies have been stocking and dispensing naloxone under a standing order.
- **Naloxone Training:** Since OEND began in 2006, the program has trained approximately 60,000 individuals to recognize and respond to an opioid-related overdose, and has documented more than 10,000 overdose rescues.

Figure 6.6

Overdose Education and Naloxone Distribution Program Activity Over Time, 2008-2016

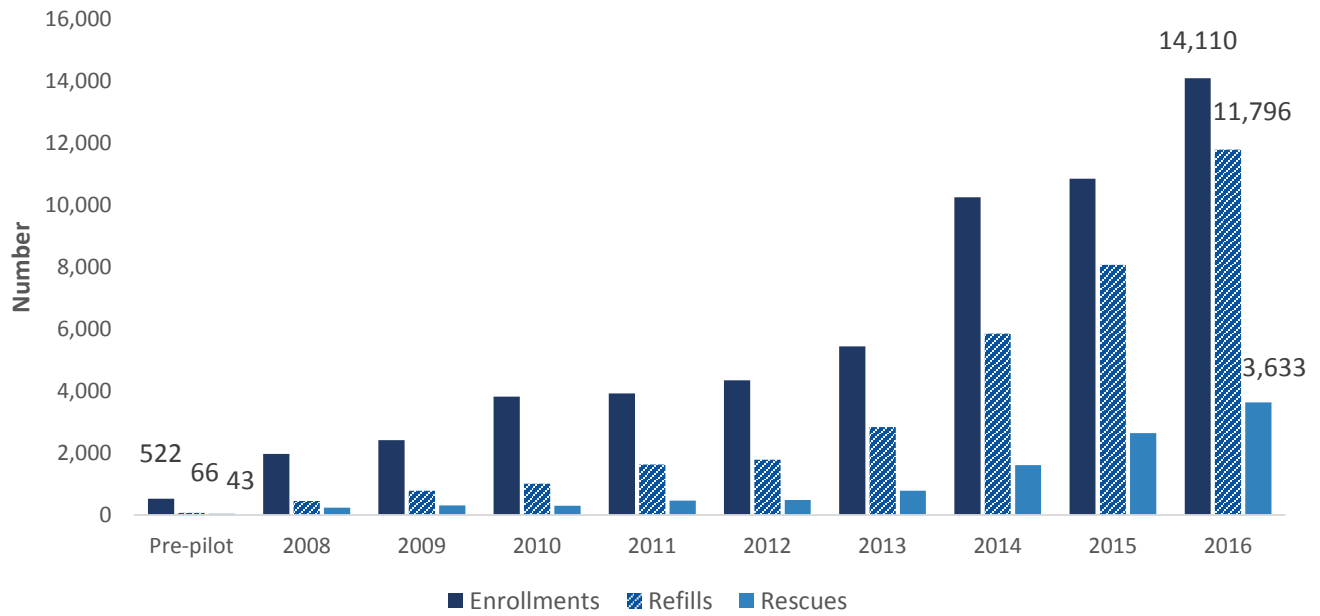


Figure 6.7

Overdose Education and Naloxone Distribution Program Reported Rescues, 2011-2016

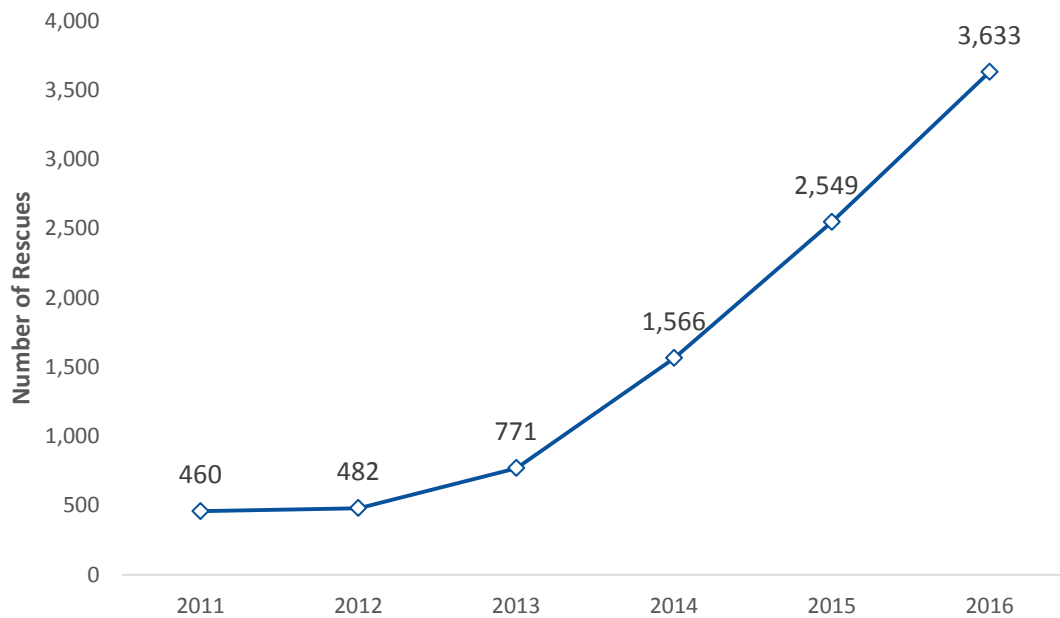
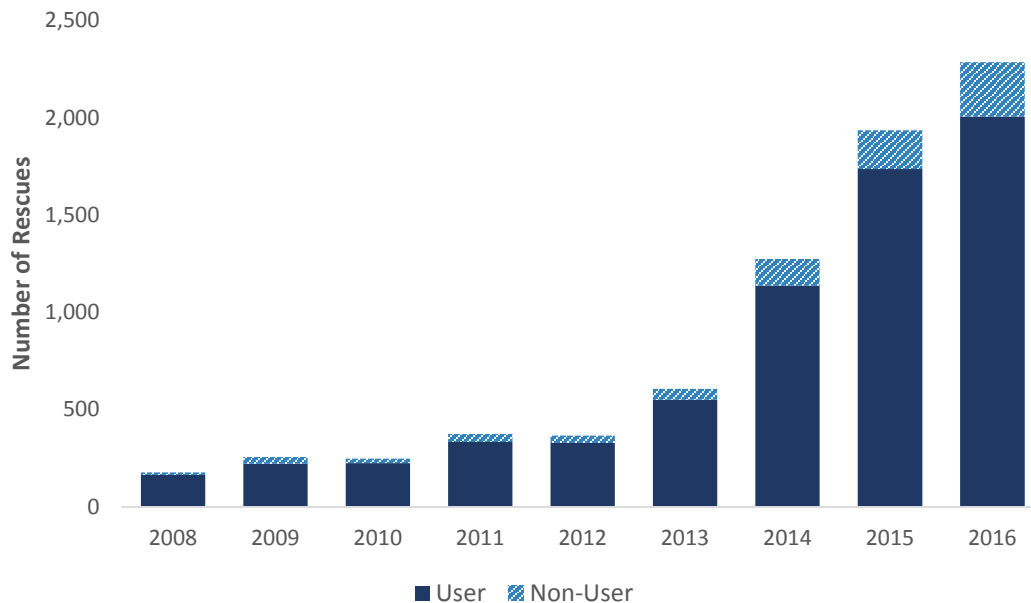


Figure 6.8

Number of Rescues by Overdose Education and Naloxone Distribution by Participant Type, 2008-2016



NOTE: A “USER” IS A PERSON WHO HAS LIVED EXPERIENCE USING DRUGS, A “NON-USER” IS AN ENROLLMENT TYPE FOR INDIVIDUALS WHO DO NOT HAVE THAT LIVED EXPERIENCE.

A prominent theme among focus groups was the challenge of meeting the demand of naloxone because of regulatory barriers at the state level. As one participant shared, *“We have a good group of trainers who can now go out into the community and educate, but they can’t distribute Narcan. The problem is that no one is going to the pharmacy to buy Narcan because of the stigma and price, so we need to change these systems that limit distribution.”*

Treatment

Addiction is a chronic disease that requires ongoing treatment and services. As individuals experience recurrences, they require a recovery-oriented system of care to sustain their progress towards recovery. MDPH has established comprehensive recovery-oriented services and a system of care for individuals and families aimed at engaging the client and supporting them in their ongoing recovery. The Commonwealth is working to ensure that everyone who seeks treatment is appropriately assessed, triaged and provided with facilitated referral to services in a timely manner, which is essential for improved outcomes.

Treatment-specific services include acute detoxification (detox), clinical stabilization, short-term transitional and long-term residential, and a range of community-based services, including outpatient and medication assisted treatment (MAT). All substance use disorder treatment programs offer a set of evidence-based clinical components. An individual's diagnosis and severity indicate the type of treatment needed, regardless of the substance for which the individual seeks treatment.³¹⁵

Massachusetts is in the process of adopting a standardized assessment tool across the continuum of care for consistent and evidence-based assessment of an individual’s treatment needs. Innovative models such as the Opioid Urgent Care

Centers provide timely, comprehensive assessment and referral to treatment across the state. Additionally, the Massachusetts Substance Abuse Helpline is being enhanced to provide clinical and facilitated referral support to assist individuals and families navigating treatment services.

Research indicates that combining behavioral therapy and counseling with medication assisted treatment (MAT) are effective approaches to treating addiction.^{316,317} MAT (e.g. buprenorphine, naltrexone, and methadone) has been shown effective in reducing illicit drug use, fatal overdoses, and HIV transmission, as well as increasing retention in treatment.³¹⁸ In Massachusetts, enrollment in MAT following a non-fatal opioid-related overdose reduces the risk of subsequent fatal overdose by 50%.³¹⁹

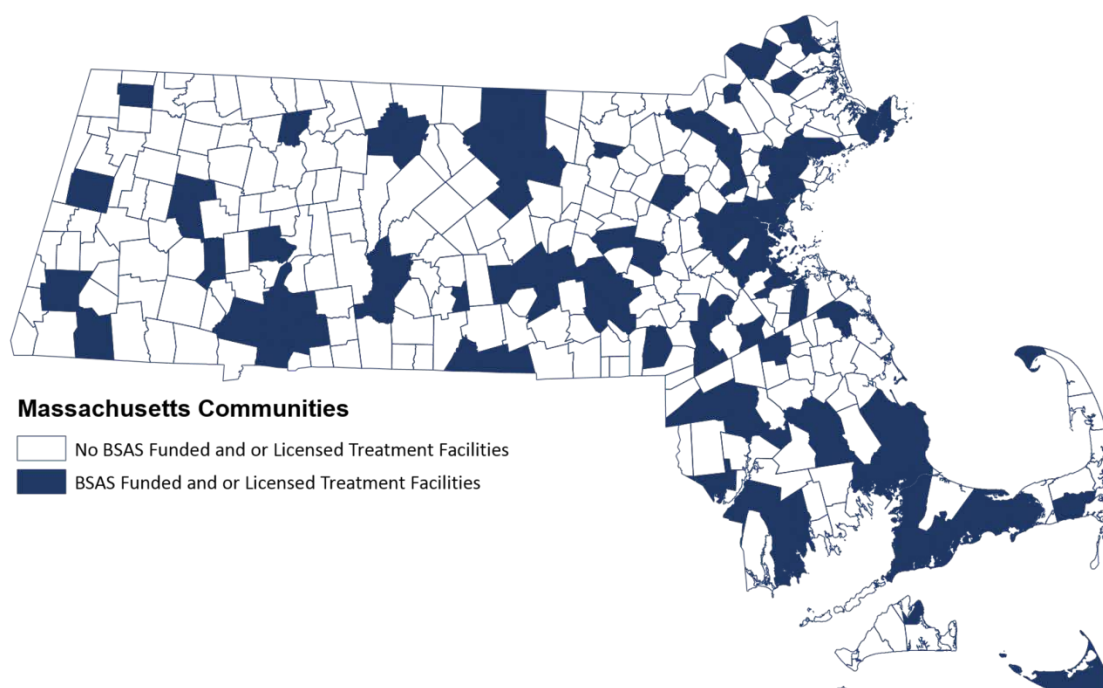
One-year post-discharge follow-up studies suggest that 40% to 60% of discharged patients have no indication of recurrence.³²⁰

Trends/Disparities

Geographic disparities exist in accessing appropriate substance use treatment services. Residents of more rural regions distant from treatment services face physical barriers, such as available and affordable public transportation, to accessing needed treatment. Disparities exist for access to MAT treatment across the state. Individuals from upper north shore, western Massachusetts, and the Cape/Islands seeking MAT are more likely to have to travel more than five miles to access care compared to those in more densely populated areas.³²¹

Figure 6.9

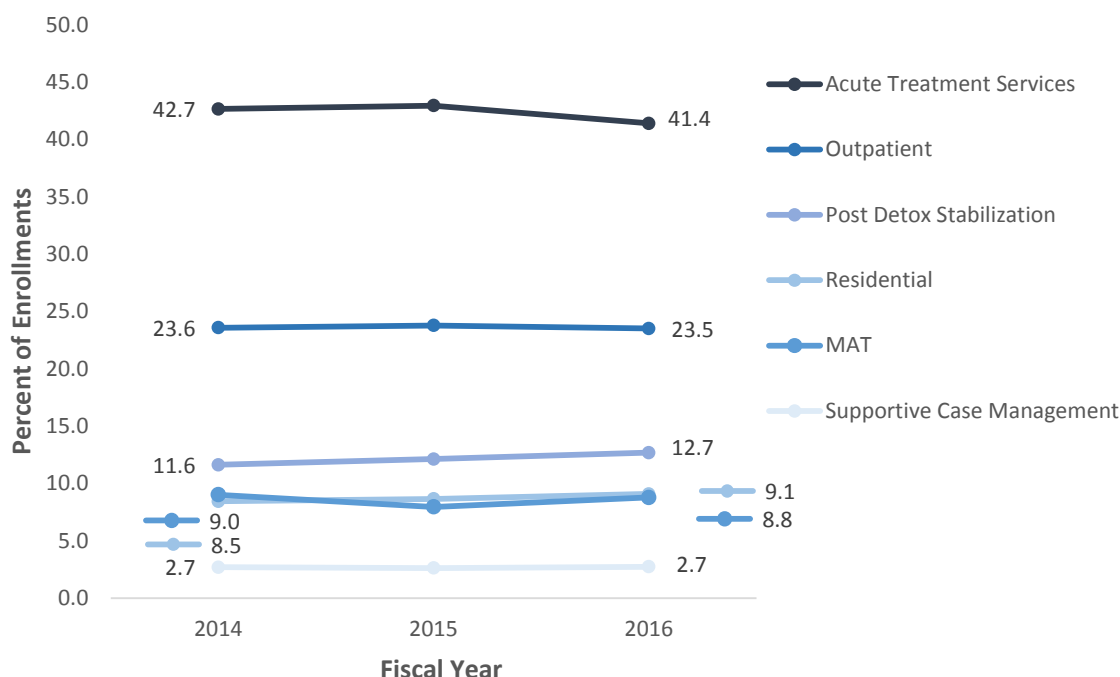
Communities with BSAS Funded and or Licensed Treatment Facilities



In Fiscal Year 2016, 53,007 individuals enrolled in BSAS treatment services accounting for 104,848 admissions. More than 40% of these admissions were for acute treatment services, followed by outpatient (23.5%), post detox stabilization (12.7%), residential (9.1%); and MAT (8.8%).

Figure 6.10

BSAS Enrollments by Service Category, Fiscal Years 2014-2016



Primary drug, prior substance use, and homelessness patterns vary across racial/ethnic groups. Black non-Hispanic and Hispanic individuals are less likely to complete treatment than White non-Hispanics.³²² Differences in economic resources and experience with social services may also place racial/ethnic minorities at a disadvantage in terms of meeting the demands of a structured treatment program.

There were differences in education levels among BSAS clients when compared with the Massachusetts general population. 89.8% of the Massachusetts population has a high school diploma and 40.5% has a bachelor's degree or higher. Among BSAS enrollments in Fiscal Year 2016, 75% had high school diplomas and 10% had bachelor's degrees.

The current licensed capacity of acute detoxification is 1,062 beds. Clinical stabilization includes 623 beds and transitional support services have 342 beds. Additionally, long-term residential treatment has 2,333 individual beds and 110 families are in family residential programs. Figure 6.9 shows the location of funded and/or licensed treatment providers across the Commonwealth.

Focus group participants stated that there is a need for more inpatient treatment beds for people with substance use disorders, inpatient long-term behavioral health treatment beds, outpatient, and on-demand ambulatory behavioral health services. Participants also called for increased reimbursement rates as well as state and local funding for services. As one interviewee stated, *"We have high rates of provider burn out and turnover because the compensation for these positions are very low."*

Recovery Support Services

Recovery support services (RSS) refer to the collection of community services available to provide emotional and practical support for attaining and sustaining recovery and continued remission.³²³ SAMHSA has delineated four major dimensions that support a life in recovery: health, home, purpose, and community.³²⁴

Even after one or two years of remission is achieved, it can take four to five years before the risk of relapse drops below 15%.³²⁵ Similar to other chronic conditions, a person with SUD often requires ongoing monitoring and management to maintain remission and to provide early re-intervention in case the person relapses.³²⁶

“Recovery coaches are a huge asset in the addiction fight.”

Key Informant Interviewee

Recovery support is provided through treatment and community-based programs operated by behavioral health care providers, peer support, family members, friends, social networks, the faith community, and people with experience in recovery. Recovery support services help people enter into and navigate systems of care, remove barriers to recovery, stay engaged in the recovery process, and live full lives in communities of their choice.

Recovery coaches are an increasingly significant element of recovery support services. A recovery coach’s responsibilities may include providing strategies to maintain abstinence, connecting people to housing and social services, and helping people develop personal skills necessary to maintain recovery.³²⁷

It is critical that housing issues be addressed when individuals are discharged from inpatient or outpatient mental health or addiction treatment settings. Clients leaving intensive treatment settings who do not have adequate housing to support their recovery have a significantly higher risk of relapse.³²⁸

Sober Homes, also known as alcohol-and drug-free housing, can offer a safe and positive environment for individuals new to recovery. These group-living homes ensure that individuals in recovery are not isolated and can share their success and support with others reaching for the same goal. Sober Homes are not treatment programs, but rather supportive environments where individuals finishing inpatient or residential treatment without a healthy home environment can live to support their recovery. The Massachusetts Alliance for Sober Housing (MASH) certifies sober housing and provides training and technical assistance. Certification is voluntary, and the Helpline, as well as any state-funded program, refers callers only to certified homes.

In the past year, BSAS has provided seven, five-day recovery coach academies, which have trained more than 545 individuals from 2015 to 2017.

There are now 12 recovery support trainers across the Commonwealth. BSAS has also conducted two-day Ethical Considerations trainings for recovery coaches. From Fiscal Year 2015 to Fiscal Year 2017, 263 Massachusetts residents have completed the course (47 in Fiscal Year 2015, 66 in Fiscal Year 2016, and 150 in Fiscal Year 2017).³²⁹

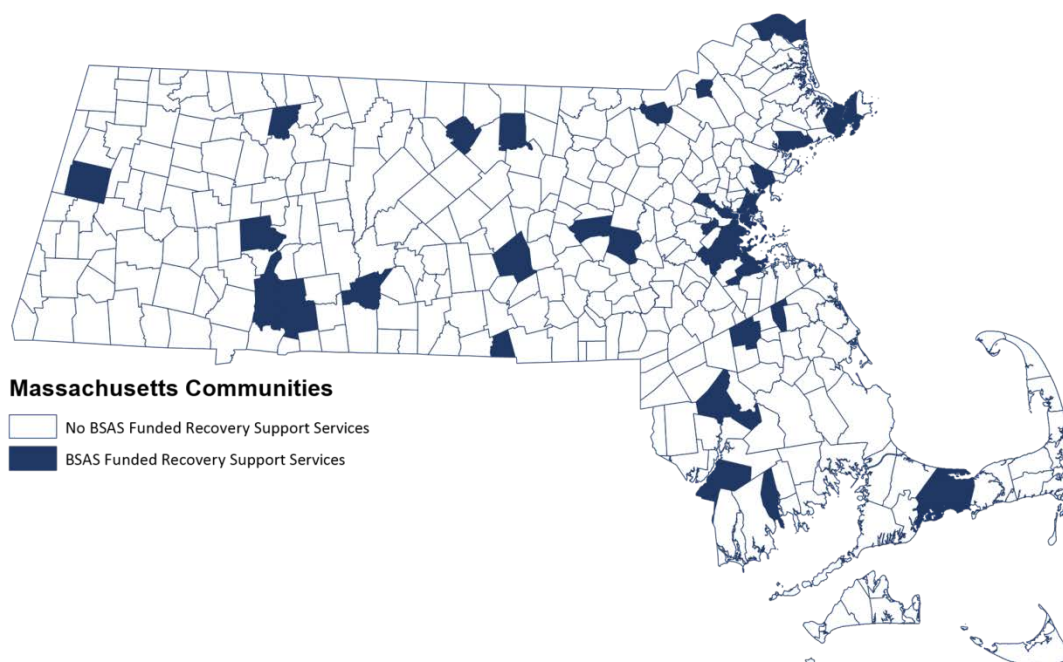
In Fiscal Year 2017, BSAS piloted a three-day Motivational Interviewing Skills training specifically designed for recovery coaches. Also in Fiscal Year 2017, BSAS piloted a three-day recovery coach supervision curriculum. Five trainings were held with a total of 151 attendees. These supervisors support recovery coaches seeking their 500 Certified Addiction Recovery Coach required hours for certification.

By the time of this assessment, there are 157 sober homes certified by the MASH in Massachusetts.³³⁰ MASH-certified sober homes must uphold several core principles that ensure the houses are well-operated, maintain the rights of residents, are recovery-oriented, and promote health.

The non-profit organization, Learn to Cope, provides weekly support meetings and maintains a private online message board and resource guide for family members of recovering substance abusers.³³¹ Since its inception in 2004, Learn to Cope has opened chapters in Brockton, Gloucester, Lowell, and Salem. New chapters are planned for Quincy and at Massachusetts General Hospital in Boston.³³²

Figure 6.11

BSAS Funded Recovery Support Services



Addiction and Specific Populations

Rates of substance use and misuse vary by demographics and geographic factors. Variations across population groups are shaped by several factors, including biological, genetic, psychological, familial, religious, cultural, and historical circumstances.

Massachusetts offers a variety of treatment approaches to address the needs of individuals with substance use disorders. However, there are important disparities in the outcomes and effectiveness of substance use treatment for different populations. Treatment needs can differ across populations, suggesting that treatment interventions should be individually tailored and incorporate culturally competent and linguistically appropriate practices relevant to specific populations and subpopulation groups.

Youth and Young Adults

The majority of individuals with substance use disorder begin using substances during adolescence.^{333,334,335} Youth (12 to 17 years old) and young adults (18 to 25 years old) with substance addiction tend to exhibit more reckless and unpredictable behavior due to hormonal changes that characterize this life stage.³³⁶ Additionally, components of the

brain that regulate impulsivity do not fully develop until 25 years of age. Youth and young adults have substance use patterns that differ from those of adults,³³⁷ and have different treatment needs than their adult counterparts.

Substance use among youth can lead to lifelong issues such as substance dependence, chronic health problems, and social and financial consequences.³³⁸ Problems at school, adverse physical and mental health outcomes, poor peer relationships, motor vehicle accidents, and increased financial and emotional family pressures are additional consequences of substance use among youth.³³⁹

According to the 2015 NSDUH, the percentage of individuals identified as needing substance use treatment was highest among young adults. Approximately 5.4 million young adults (15.5%) needed substance use treatment in the past year versus 15.0 million adults aged 26 or older (7.2%).

Youth and young adults are more likely than adults to need but not perceive the need for substance use treatment. According to 2015 NSDUH, of those that needed but did not receive treatment, 1.4% of adolescents perceived a need for substance use treatment, while that percentage was 2.7% for young adults and 5.5% for adults. Among people who needed substance use treatment, 93.7% of youth, 92.3% of young adults, versus 87.7% of adults did not receive treatment at a specialty facility in the past year.

Trends/Disparities

Despite the legal drinking age of 21, alcohol is the primary substance used by youth. According to NSDUH (2013-2014), there has been a decrease in past month alcohol use and binge drinking in the US among individuals 12 to 17 years of age. However, the prevalence of alcohol use in Massachusetts exceeded the national average in 2013-2014 (past month alcohol use: 13.3% in Massachusetts vs. 11.6% nationally; binge drinking: 7% vs. 6.2%). In 2015, 61% of Massachusetts high school students reported using alcohol in their lifetime: 34% reported past month use; 18% reported binge drinking in the past month.³⁴⁰

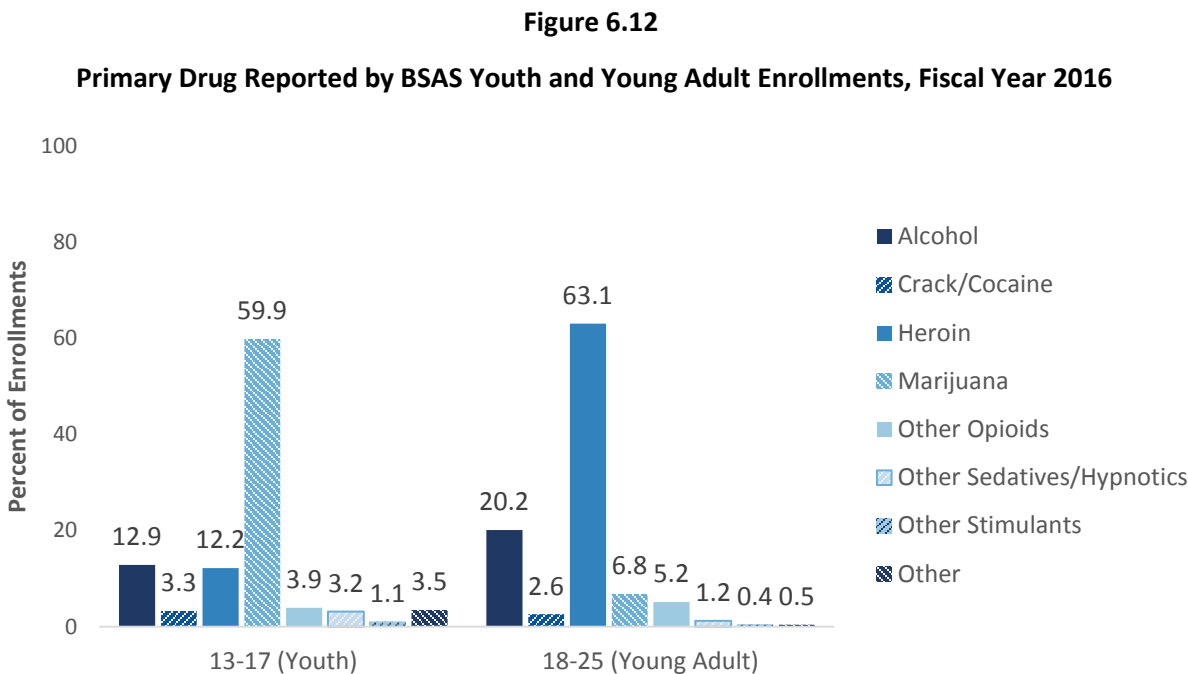
Alcohol is also the most prevalent substance used in the past month by Massachusetts residents 18 to 25 years of age. In 2013-2014, 70.2% of Massachusetts young adults reported using alcohol in the past month and 43.9% reported binge drinking in the past month, exceeding national averages for alcohol use among this population (past month alcohol use: 59.6%; past month binge drinking: 37.8%).

Nationally, illicit drug use among youth and young adults has remained stable since 2011-2012. In Massachusetts, the illicit drug use among 18 to 25 year olds increased from 27.2% in 2011-2012 to 31.1% in 2013-2014. Current marijuana use for individuals 18 to 25 years of age was higher in Massachusetts as compared to the national average (28.7% vs. 19.3%).³⁴¹

In Fiscal Year 2016, among BSAS treatment program enrollments, 59.9% of those 13 to 17 years of age reported marijuana as their primary drug, and 16.2% reported opioid as their primary drug of choice. Of enrollees that were 18 to 25 years of age, 68.3% reported opioids as their primary drug.

In Fiscal Year 2016, approximately 1,600 youth aged 13 to 17 were enrolled into BSAS funded and/or licensed treatment programs. Inpatient youth treatment programs (youth stabilization and youth residential programs) served the majority of these youth. Fiscal year 2016 was the year with the lowest percentage of youth enrollments into these programs in the last ten years. This decline is attributed to program capacity, lack of access, and shifting of youth treatment service focus from residential-based to community-based treatment. For example, the Adolescent Community Reinforcement Approach and Assertive Continuing Care (ACRA/ACC) provides community-based outpatient service to more than 14% of the adolescents among all BSAS substance treatment program enrollments.

There are important disparities in substance use patterns among youth and young adults. Nationally, prevalence of substance misuse and SUD among Lesbian, Gay, Bisexual, Transgender, and Queer (LGBTQ) youth is twice that of their non-LGBTQ peers.³⁴² Middle and high school students with cognitive, emotional, and physical disabilities are more likely to drink alcohol, binge drink, or use illicit drugs, compared to students without disabilities.³⁴³



Although a majority (68.3%) of young adults served in BSAS treatment programs reported heroin or other opioids as their primary drugs of use, only 6.8% of them were admitted into MAT programs in Fiscal Year 2016. Less than 1% of youth served were enrolled in methadone or office-based opioid treatment programs, highlighting unmet treatment needs for opioid addiction for these age groups.

There are gender disparities in prevalence of substance misuse and substance use disorders among youth and young adults. During mid-adolescence, females are at greater risk than males for alcohol use.³⁴⁴ In 2015, the national prevalence of past year illicit drug use among females exceeded that of males 12-17 years of age (16.8% vs. 18.1%), whereas among persons 18 to 25 years of age this prevalence was higher for males than females (41.1% vs. 33.9%).

Pregnant and Postpartum Women

Pregnant women generally use alcohol and drugs less than other women of reproductive age.³⁴⁵ However, use of any substances and combination of multiple substances while pregnant can have adverse effects on the developing fetus.

Nationally, in 2015, among pregnant women 15 to 44 years of age, 9.3% reported alcohol use, 4.6% reported binge drinking, and 4.7% reported using illicit drugs in the past month. Approximately 13.6% reported smoking cigarettes, thus increasing risk of pre-term delivery, pregnancy complications, and, once in recovery, risk of relapse.³⁴⁶

In Massachusetts, 60% of pregnant women admitted into addiction treatment reported heroin as their primary substance. While another 10% reported alcohol as the primary substance, 43% of total reported using alcohol, indicating the prevalence of polysubstance use. Infants born to women with a substance use disorder are more likely to have low birth weight and, depending on the substance, to experience neonatal withdrawal syndrome. Alcohol use

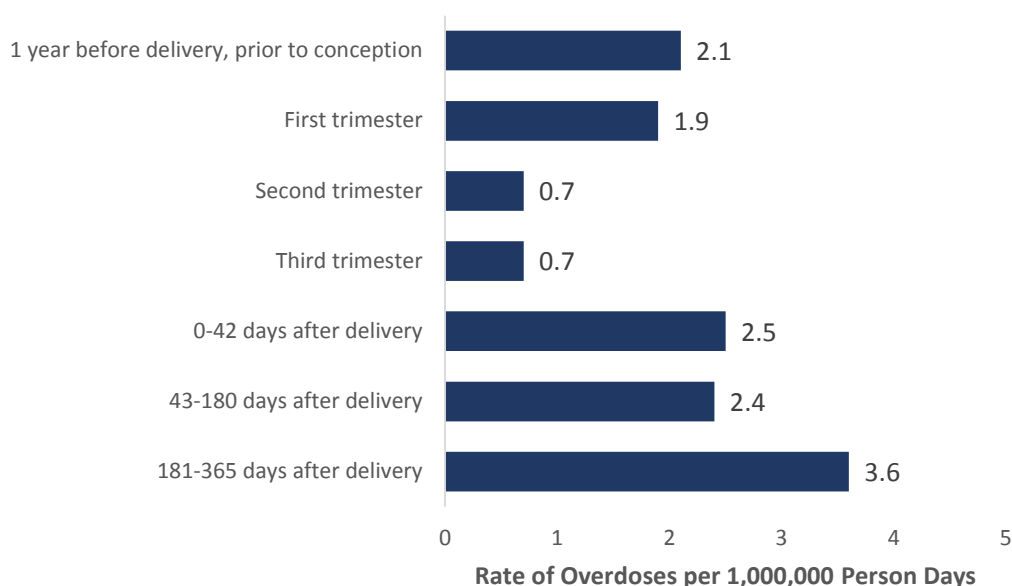
among pregnant women places the fetus at risk of fetal alcohol spectrum disorders. Prenatal alcohol exposure is the leading cause of preventable intellectual disabilities. Fetal alcohol spectrum disorders are estimated to affect 2% to 5% of the US population and to cost the country around \$4 billion every year.³⁴⁷

Rates of neonatal abstinence syndrome (NAS) and neonatal opioid withdrawal syndrome (NOWS) have increased dramatically in the last decade in both the US and Massachusetts. Nationally, there were over 21,000 cases of neonatal abstinence syndrome in 2012, a five-fold increase from the number in year 2000.³⁴⁸ In 2009, the rate of NAS in Massachusetts was three times the national rate.³⁴⁹ In Massachusetts, the rate of neonatal abstinence syndrome increased, from approximately 3 per 1,000 births in 2004 to 16 per 1,000 births in 2013. NAS can result from prescribed MAT use in pregnant women who are being treated for opioid use disorder. However, these treatments are considered best practice for pregnant women with opioid use disorder. Inconsistent or unregulated use of illicit opioids present a much greater risk to fetal development.

Pregnant and postpartum women with substance use disorders are at higher levels of risk for viral infections, adverse birth outcomes, other co-occurring diagnoses such as perinatal emotional complications, depression, or anxiety, and fatal opioid-related overdoses.³⁵⁰ The rates of opioid-related overdose decrease during pregnancy and are lowest during the second and third trimesters, but significantly increase in the postpartum period, with the highest rates 6 months to 1 year after delivery (**see Figure 6.13**). Mothers with evidence of opioid use disorder (OUD) have an opioid-related death rate more than 300 times higher than the rate among mothers without evidence of OUD.³⁵¹ Despite these stark statistics, pregnancy and the postpartum periods are pivotal windows of opportunity for a woman to engage in treatment and recovery. Historically, society and providers have cast a disproportionate amount of stigma and discrimination toward childbearing women with substance use disorders. High-quality maternal treatment and coordinated services can serve as primary prevention for healthy early child development. This is particularly true during the postpartum period, when family preservation, parenting supports, and coordinated community-based care serve as a woman's best defenses against mental health concerns or substance use relapse.

Figure 6.13

Rate of Opioid Overdose Events After Delivery for Mothers with Opioid Use Disorders, Massachusetts, 2011-2015



Intimate partner violence (IPV), childhood violence and abuse, and other adverse childhood experiences are risk factors for substance use disorders.^{352,353} Further, women seeking treatment for substance use report histories of violence and abuse more frequently than their male counterparts.^{354,355} Without the economic means to access safe, independent housing, many find it difficult to sustain recovery. Housing vacancy in Massachusetts is very low, meaning those seeking stable, safe, and affordable housing have an increasingly difficult time. This is particularly relevant for women of childbearing age with substance use disorders.³⁵⁶

Many pregnant or postpartum women in need of treatment are parenting children and avoid treatment settings where they would be unable to carry out their caretaking responsibilities. In Massachusetts, between 2002-2008, less than half (48.3%) of women 18 to 49 years of age with substance use disorders received treatment.³⁵⁷ Some research has suggested that treatment retention among women may be improved by treatment programs that allow women to remain in caretaking roles, which they feel obligated to fill.

Trends/Disparities

Past-year use patterns are different among pregnant women compared to non-pregnant women and their male counterparts, including use of heroin, crack/cocaine, and marijuana. In 2016, 669 pregnant women in Massachusetts entered substance use disorder treatment, representing 2.2% of the female treatment population. Among these women, 71.4% reported past year use of heroin, 44% reported crack/cocaine, and 36.6% reported marijuana at enrollment into substance use treatment.

In 2016, pregnant women were 5.7 times more likely to be enrolled in a methadone, naltrexone, or buprenorphine program than non-pregnant women (95% CI 4.6 to 7.0). A similar trend was observed among postpartum women, who were 2.9 times more likely to be enrolled in a methadone, naltrexone, or buprenorphine program than women who were not postpartum (95% CI 2.2 to 3.8). Among pregnant women not enrolled in a medication-assisted treatment program, 37.2% initiated medication-assisted treatment while in the program, compared to 15.4% of non-pregnant women.

There were no significant differences in pregnancy status at enrollment by race/ethnicity, but there was a racial/ethnic disparity in medication-assisted treatment status at enrollment at the time of admission to treatment. In 2016, pregnant, Black non-Hispanic women were nearly 75% less likely to report prior or current medication assisted treatment (MAT) than their pregnant, White, non-Hispanic counterparts.

In a SAMHSA funded initiative organized by MDPH (*Moms Do Care*) to increase access to improve engagement in MAT for pregnant post-partum women, the evaluation indicated positive changes across all individual outcome measures except for housing stability, which remained constant from baseline to follow-up. Of women who report being pregnant at admission into addiction treatment, 41.4% reported being homeless compared to 32.8% of non-pregnant women. Stable housing is a crucial component in the success of MAT.

Criminal Justice Involved Population

Each year, more than 11 million people move through America's 3,100 local jails. Of this population 64% suffer from mental illness, 68% have a substance abuse disorder, and 44% suffer from chronic health problems.³⁵⁸ Among the US prison population, an estimated 50% have a substance use disorder,³⁵⁹ though relatively few individuals receive substance use treatment while incarcerated. Abstinence from drug use in prison contributes to decreased tolerance for substances among incarcerated individuals with a substance use disorder. Upon release, those who resume previous substance use levels may not realize that their tolerance has diminished, raising the risk of drug overdose deaths after

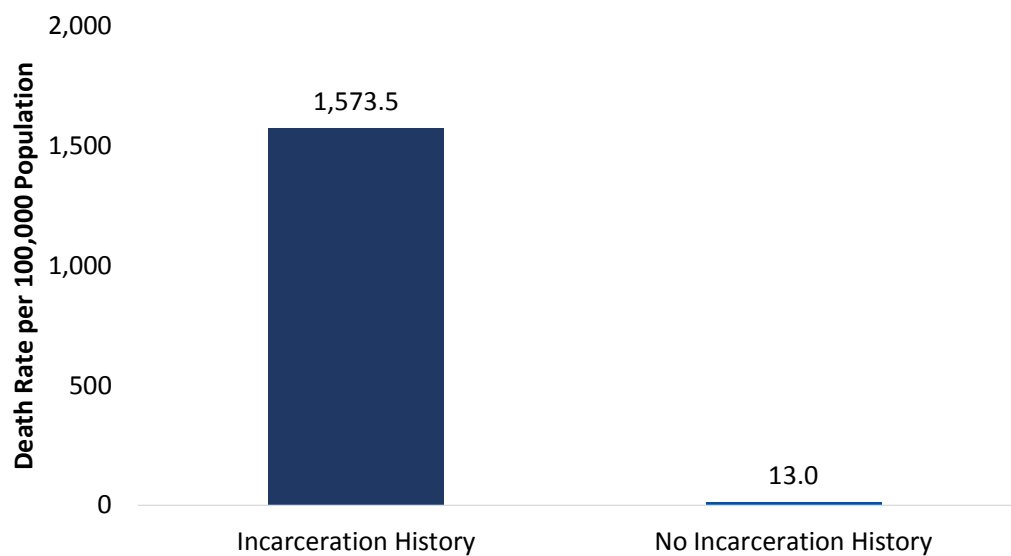
release from incarceration. Indeed, one study found that from 1999 to 2009 14.8% of all deaths among formerly incarcerated individuals were related to opioids.³⁶⁰

A recent Chapter 55 report from MDPH shows that the criminal justice involved population’s risk of opioid-related overdose death following release from incarceration is 120 times higher than for the general public.³⁶¹ (see Figure 6.14) Additionally, in 2015, nearly 50% of all deaths among those released from incarceration were opioid-related. Initiating substance use treatment in prison and continuing treatment upon release is vital to both an individual’s recovery and to public health and safety, and more importantly, to save lives. Combining prison- and community-based treatment for incarcerated individuals with addiction reduces the risk of both recidivism to drug-related activities and relapse to drug use.³⁶² Pre-release counseling and post-release follow-up may reduce risk of opioid overdose mortality.

Individuals who complete prison-based treatment and continue with treatment in the community have the best outcomes.³⁶³ Continuing substance use treatment helps with challenges post release, such as learning to handle situations that could lead to relapse, learning how to live drug-free in the community, and developing a drug-free peer support network. Treatment in prison or jail can begin a process of therapeutic change, resulting in reduced drug use and criminal behavior post-incarceration. Continuing drug treatment in the community is essential to sustaining these gains.

The most effective substance use treatment models for populations involved in the criminal justice system integrate criminal justice and drug treatment systems and services.³⁶⁴ Treatment and criminal justice personnel work together on treatment planning, including implementation of screening, placement, testing, monitoring, supervision, and systematic use of sanctions and rewards. Treatment for incarcerated individuals with a substance use disorder should include continuing care, monitoring, and supervision after incarceration and during parole. Methods to achieve better coordination between parole/probation officers and health providers are being studied to improve outcomes for criminal justice involved individuals.³⁶⁵

Figure 6.14
Opioid Death Rate for Individuals with Histories of Incarceration, Massachusetts, 2011-2015



The criminal justice system refers individuals convicted of an offense to addiction treatment through a variety of mechanisms. These include: diverting individuals convicted of a nonviolent offense to treatment; stipulating treatment as a condition of incarceration, probation, or pretrial release; and convening drug courts to handle drug offense cases.

Several social factors shape substance use treatment outcomes for individuals in the criminal justice system. For example, clients leaving intensive treatment settings who do not have adequate housing to support their recovery have a significantly higher risk of relapse.³⁶⁶

Young people in the criminal justice system often have wide-ranging health and welfare needs.³⁶⁷ Experiences while incarcerated, including traumas from physical, sexual, and mental abuse, and from isolation, can lead to drug use and further violence.³⁶⁸

Additionally, structural forces and experiences earlier in the life course may also affect substance use treatment outcomes among the criminal justice population. Structural racism contributes to over-policing of Black non-Hispanic communities and disproportionate punishment of racial/ethnic minorities throughout the justice system. Lead exposure in childhood contributes to developmental delays, behavioral issues, and crime. Unemployment can lead to drug use, involvement in the underground economy, theft, and various forms of violence. Conditions that lead to adverse childhood experiences, such as exposure to violence in the community, homelessness, or incarceration of a parent, can lead to behavioral issues in school and beyond, substance use disorders, as well as mental health disorders.³⁶⁹

Trends/Disparities

Although the past several decades have witnessed an increased interest in providing substance abuse treatment services to individuals in the criminal justice system,³⁷⁰ only a small percentage of individuals convicted of an offense have access to adequate services, especially in jails and community correctional facilities.^{371,372}

Not only is there a gap in the availability of these services for this population, but often there are few choices in the types of services provided. Combining prison and community-based treatment for incarcerated individuals with addiction, reduces the risk of recidivism for drug related criminal behavioral, and recurrence of substance use. Treatment is the most effective course for interrupting the addiction/criminal justice cycle for criminally involved individuals with addiction.³⁷³

In Fiscal Year 2016, 32% of admissions to BSAS treatment reported criminal justice involvement in their lifetime. Among this population, 41% were between the ages of 25 and 34, 72% were male, 75% identified as White non-Hispanic, 75% were on community supervision, and 54% reported a history of mental health treatment.

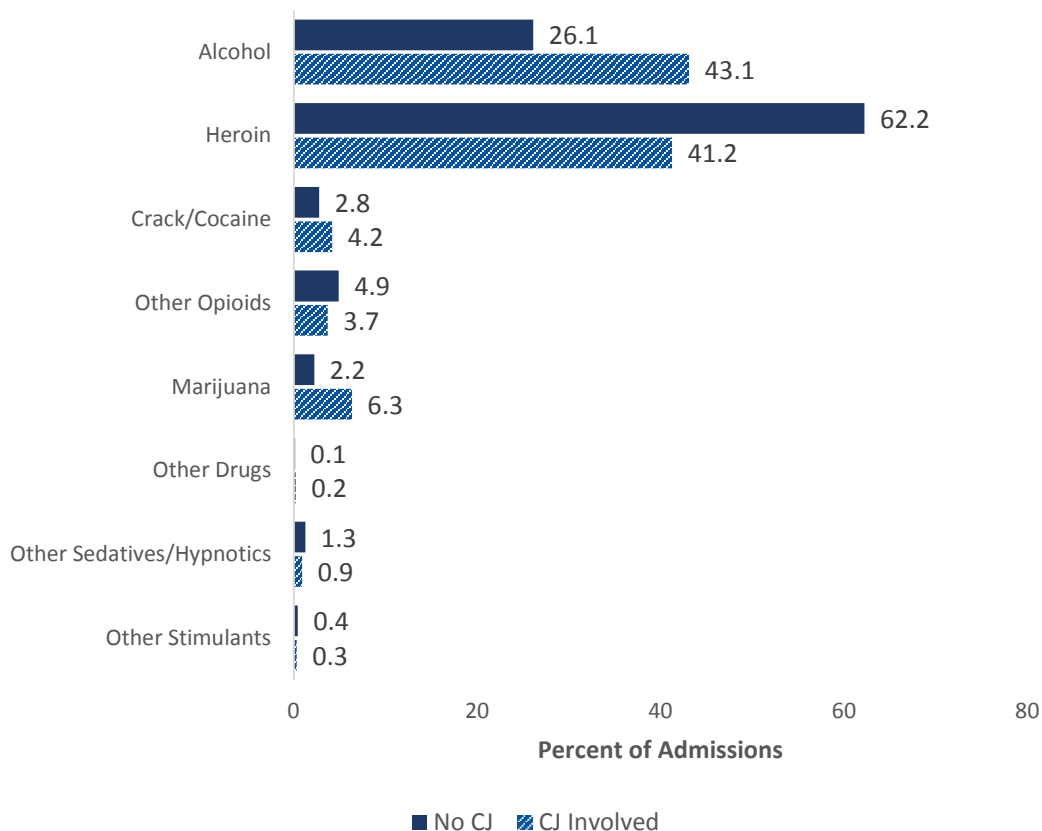
As shown in **Figure 6.15**, substance use and treatment utilization patterns among BSAS clients that report criminal justice involvement is different than those without a history of criminal justice involvement. Those with a history of criminal justice involvement are more likely to report alcohol as their primary drug (43.1% vs. 26.1%) and utilize residential and outpatient services (residential: 16.3% vs. 6.9%; outpatient: 39.3% vs. 14.7%).

Incarcerated individuals with substance use disorder who complete prison-based treatment and continued with treatment in the community show the best outcomes.³⁷⁴ MAT such as methadone, buprenorphine, and extended-release naltrexone have been shown to reduce heroin use³⁷⁵ and should be made available to individuals who could benefit from them. The National Institutes of Health also recommends methadone treatment be available to persons under legal supervision such as probationers, parolees, and the incarcerated.³⁷⁶ Additionally, behavioral treatment can increase adherence to medication regimens.

Given the proven efficacy of MAT for individuals with opioid use disorder, MDPH funded the Department of Corrections \$1 million to pilot a Medication Assisted Treatment Re-Entry Initiative (MATRI) for individuals being released to the community. This pilot includes screening incarcerated individuals scheduled to be released for eligibility to receive naltrexone treatment; providing substance use disorder treatment, medication-assisted treatment and pre-release education; providing Recovery Navigators for up to one year post-release. The program is offered at ten Department of Correction (DOC) facilities. By October 2016, 1,711 incarcerated individuals had been screened through the program. As of June 5, 2017, 258 offenders received a pre-release injection, of whom 62% received a post release injection and 16% engaged in an alternative treatment. BSAS and the Massachusetts Parole Board co-fund the House of Corrections (HOC) initiatives involving substance use disorder treatment. To date, 11 of the 13 Houses of Correction offer naltrexone to inmates, with 1,656 enrollments in Fiscal Year 2016. Additionally in Fiscal Year 2018, new funding allows for expanded pre- and post-release treatment and recovery services for incarcerated individuals in Houses of Correction.

Figure 6.15

Primary Drug Reported at Admission to BSAS Treatment, by Criminal Justice Status, Massachusetts, 2016



LGBTQ Population

Lesbian, Gay, Bisexual, Transgender, and Queer (LGBTQ) populations often enter treatment with more severe substance misuse problems, have a greater likelihood of experiencing a substance use disorder in their lifetime, and initiate alcohol consumption earlier than heterosexual clients.³⁷⁷

Many factors contribute to the role of substance use and misuse among LGBTQ populations. Legal prohibitions against LGBTQ behavior and discrimination limit LGBTQ social outlets to bars, private homes, or clubs where alcohol and drugs often play a prominent role.³⁷⁸

A report from the National Institute on Alcohol Abuse and Alcoholism indicated that stigma, intolerance and open discrimination were the most substantial barriers to substance use prevention and treatment among the LGBTQ community. These barriers hinder exposure to healthy role models and limit access to LGBTQ-supportive resources and substance-free outlets. They also contribute to the alienation of LGBTQ individuals, increasing their vulnerability to substances of abuse.³⁷⁹

LGBTQ youth and young adults are disproportionately affected by risks arising from harassment, victimization, violence, homelessness, and family rejection. For example, 25% of Massachusetts lesbian and gay adolescents and 15% of bisexual adolescents report homelessness, compared with 3% of heterosexual youth.³⁸⁰ Homelessness also increases risk of harm and decreases access to resources.³⁸¹ LGBTQ youth who report family rejection are more likely to report suicide attempts, depression and substance use, compared with LGBTQ youth with no or low rejection.^{382,383}

For many LGBTQ youth, school is a place of fear and torment, resulting in high absenteeism and poor academic performance. In Massachusetts' schools, LGBTQ students are more than twice as likely as other students to report being bullied, threatened or injured with a weapon, or skipping school because they are afraid.³⁸⁴ Gay/Straight Alliances (GSAs) can help reduce risks in schools by serving as resources for LGBTQ students, and supporting the development of resiliency and leadership skills.³⁸⁵

Health and social consequences of rejection continue beyond adolescence. LGBTQ young adults who reported higher levels of family rejection during adolescence are 8.4 times more likely to report having attempted suicide, 5.9 times more likely to report high levels of depression, and 3.4 times more likely to use illegal drugs than those who experienced acceptance.³⁸⁶

Additionally, LGBTQ youth experience significantly higher levels of depression and suicidality than do their heterosexual peers, and the difference increases with severity of suicide ideation and attempts.³⁸⁷

Developing effective treatment programs that address the specific needs of LGBTQ populations is critical. Treatment providers should be knowledgeable about sexuality, sexual orientation, and unique aspects of LGBTQ developmental and social experiences. For example, factors such as transphobia or homophobia, violence, family issues, and social isolation may need to be addressed within the substance use disorder treatment environment for transgender people.

Given the experiences of LGBTQ youth and young adults, treatment programs and their staff must be able to demonstrate safety, cultural competence, care coordination, and ability to engage families. Program and staff ability and willingness to protect LGBTQ youth from harassment, discrimination and threats must be clear to all and reinforced through immediate response to incidents. Responses should be effective in protecting all involved and promoting their continued engagement in treatment. It is also important to consider the types of treatment that have been shown effective with the LGBTQ population.

Treatment programs with specialized groups for gay and bisexual clients have shown better outcomes for men compared to gay and bisexual men in non-specialized programs.³⁸⁸ Despite evidence indicating the importance of treatment tailored to LGBTQ populations, a significant minority of the nation's substance use disorder treatment agencies indicate that they offer treatment services tailored to LGBTQ populations, although only a small portion (7.4%) offered a service that they could identify as an LGBTQ-specialized service.³⁸⁹

Fully integrated cultural competence will include understanding LGBTQ culture as well as effects of race, ethnicity, country of origin and socioeconomic status on youth development, self-identification, coming out and supports. Cultural competence includes understanding how oppression arising from racism and sexism compound other traumas LGBTQ youth and young adults may experience.

Trends/Disparities

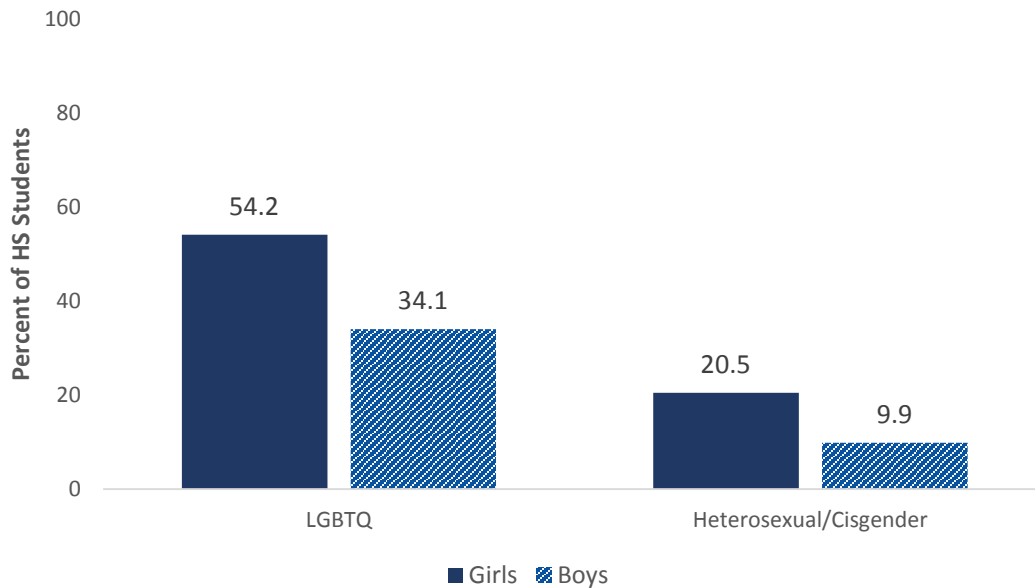
In Fiscal Year 2016, 3.1% of individuals enrolled in BSAS treatment identified as LGBTQ; 10.3% of those 13 to 17 years of age identified as LGBTQ, and 4.1% of those 18 to 25 years of age identified as LGBTQ.

According to a survey of LGBTQ youth of color in Boston in 2014, LGBTQ racial/ethnic minority youth experience disproportionate challenges to their physical and mental health.³⁹⁰ Approximately 40% of youth reported symptoms of depression and/or anxiety and nearly one in five attempted suicides within the past year. Half of the sample reported binge drinking and half reported marijuana use in the past month. More than one in ten youth reported any lifetime methamphetamine use. Child maltreatment, discrimination, and food insecurity were prevalent and are correlated with poor mental health and substance misuse.

The Massachusetts Youth Risk Behavior Survey (YRBS) indicates that LGBTQ youth are at significantly higher risk than their heterosexual counterparts for substance use and suicide. More than one-third of Massachusetts LGBTQ students report attempting suicide, compared to 4.6% of heterosexual youth.³⁹¹ Furthermore, 54.2% of LGBTQ girls in Massachusetts public high schools reported non-suicidal self-injury compared to 20.5% of straight/cisgender girls. **Figure 6.16** indicates that a difference was also visible in boys, where 34.1% of LGBTQ boys reported non-suicidal self-injury compared to only 9.9% of straight/cisgender boys. Cisgender is defined as denoting or relating to a person whose sense of personal identity and gender corresponds with their sex at birth.

Figure 6.16

Percent of Massachusetts High School Students who Hurt Them Self on Purpose, MYRBS 2015



NOTE: LGBTQ GIRLS (95% CI 45.7-62.7) STRAIGHT/CISGENDER GIRLS (95% CI 17.7-23.3). LGBTQ BOYS (95% CI 24.1-44.2) STRAIGHT/CISGENDER BOYS (95% CI 7.8-12.1).

Military and Veteran Population

Military service members, veterans, and their families require culturally competent approaches to addiction treatment and services. They are a growing community exposed to traumatic events: losses, fears, and injuries associated with combat, repeated deployments and/or relocations, and military sexual violence may exert an emotional toll on military personnel, their families, and their communities.

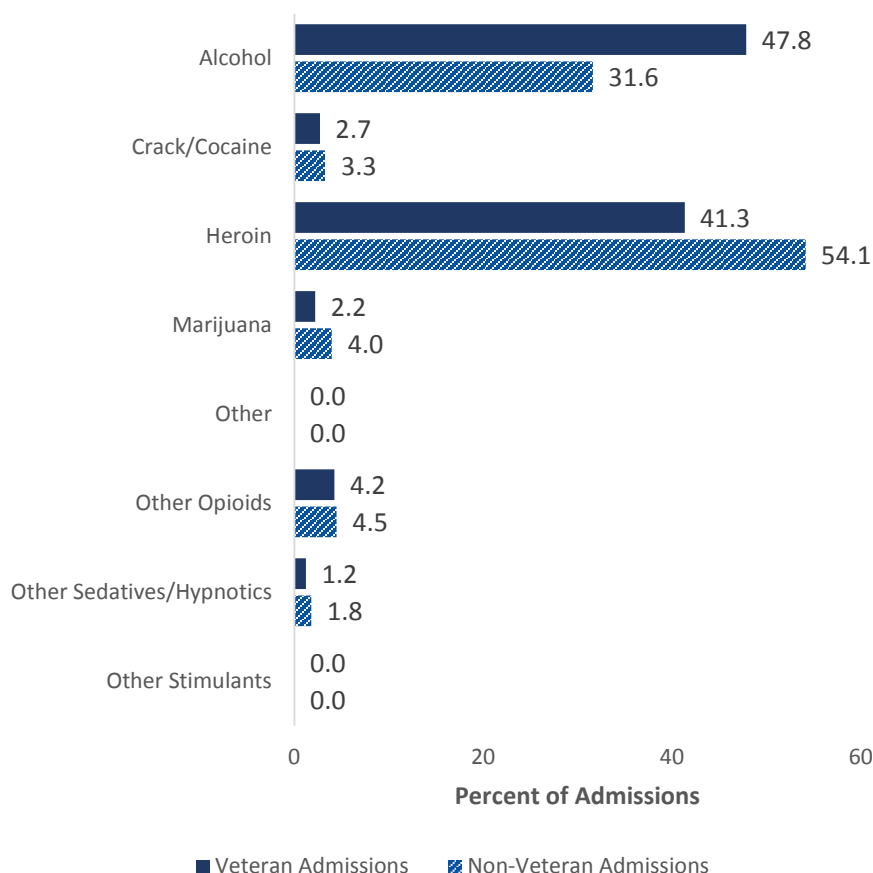
Different eras of service have different hallmarks. For example, the Vietnam War saw an increase in use of heroin and opiates while the post-9/11 military has seen a tripling of prescription drug abuse. Heavy alcohol use is also common among military populations: 20% of active duty personnel meet criteria for heavy alcohol use compared to 6.2% of the general population.³⁹²

Trends/Disparities

The number of BSAS clients who identified as veterans increased 12.1% from Fiscal Year 2011 (5,095 clients) to Fiscal Year 2016 (5,713 clients). In Fiscal Year 2016, 4% of the BSAS treatment population identified as veterans. Also in Fiscal Year 2016, alcohol was the primary drug reported among the BSAS veteran population (48%).

Figure 6.17

Primary Drug Reported among BSAS Admissions, by Veteran Status, Massachusetts, Fiscal Year 2016



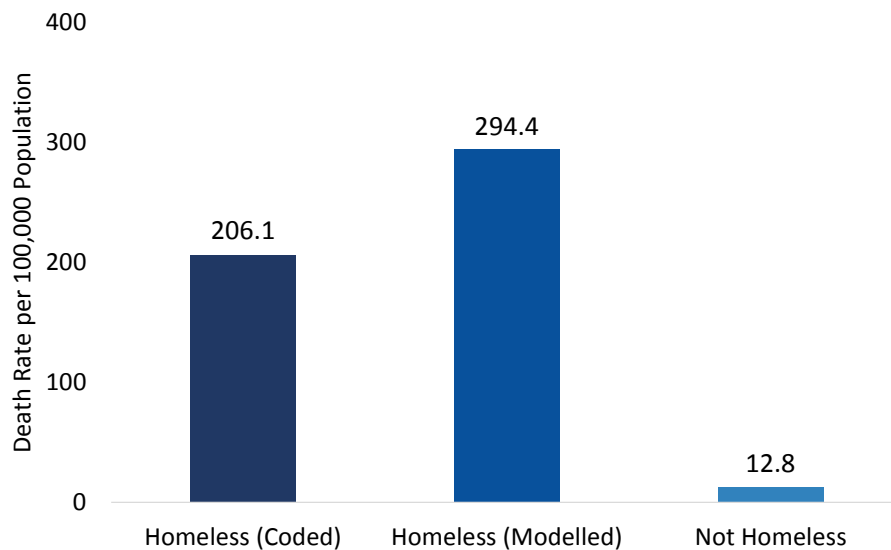
In Fiscal Year 2015, there were 13 trainings across Massachusetts for Veterans Affairs behavioral health workforce on military cultural competence. These trainings involved 603 participants. In Fiscal Year 2016 twelve military cultural competence trainings were implemented, which reached 552 individuals.

Homeless Population

Homelessness has been a persistent societal problem in Massachusetts and nationwide for decades.³⁹³ The MDPH Chapter 55 study estimated that approximately one in every 25 adults in Massachusetts has been homeless at some point between 2011 and 2015. People with mental and/or substance use disorders can be particularly vulnerable to becoming homeless or being precariously housed. According to Housing and Urban Development's (HUD) 2016 Annual Homelessness Assessment Report, of those who experience homelessness, approximately 202,297 people have a severe mental illness or a chronic substance use disorder.³⁹⁴ In Massachusetts, the risk of opioid-related overdose death for persons who reported experiencing homelessness is up to 30 times higher than it is for the rest of the population.³⁹⁵ Substantial progress toward recovery and self-sufficiency may require significant engagement efforts and repeated attempts at treatment and housing stabilization. In addition to substance use and mental health disorders, a range of complex, interrelated individual risk factors are related to homelessness, including trauma-related symptoms, cognitive impairment, medical conditions, lack of support from family, limited education and job skills, and incarceration.^{396,397}

Figure 6.18

Opioid Death Rate for Individuals Experiencing Homelessness, Massachusetts, 2011-2015



In 2016, nationally, one in five people experiencing homelessness had a serious mental illness, and a similar percentage had a chronic substance use disorder.³⁹⁸ In Massachusetts, it is estimated that approximately two in five homeless adults have been diagnosed with a serious mental illness.³⁹⁹ People who have or have had mood disorders, schizophrenia, antisocial personality disorder, or any substance use disorder are at least two times more likely to have been homeless than those without these diagnoses.⁴⁰⁰

The removal of institutional supports for lower income individuals contributes to fewer housing options for people diagnosed with a serious mental illness.⁴⁰¹ It is critical that housing issues be addressed in disposition planning when individuals are discharged from inpatient or outpatient mental health or addiction treatment settings. Clients leaving intensive treatment settings who do not have adequate housing to support their recovery have a significantly higher risk of relapse.⁴⁰²

Of people who are homeless and in addiction treatment, 68% of men and 76% to 100% of women report trauma-related events,^{403,404} similar to the prevalence of trauma reported by people who are homeless.

Approximately 80% of people who are homeless exhibit cognitive impairment, which can affect their social and adaptive functioning as well as their ability to learn new information and new skills.⁴⁰⁵ Additionally, people who are homeless have high rates of HIV/AIDS, hepatitis C, cardiovascular conditions, dental problems, asthma, diabetes, and other medical problems.^{406,407,408}

Trends/Disparities

In Fiscal Year 2016, 36% of BSAS admissions reported being homeless within the past year. Among this population, 72% were male, and 43% were between the ages of 25 and 34. Approximately 67% reported heroin as their primary drug at the time of admission, and 50% were admitted for acute treatment services. BSAS clients who reported homelessness were more likely to be admitted to acute treatment services, post detox services, and residential services as compared to non-homeless admissions.

Figure 6.19

BSAS Treatment Utilization, by Homeless Status, Massachusetts, Fiscal Year 2016

	Not Homeless	Homeless
Acute Treatment Services	37%	50%
Post detoxification	10%	22%
Residential	7%	15%
Other Services	46%	13%
Total	100%	100%

Co-occurring Mental Health

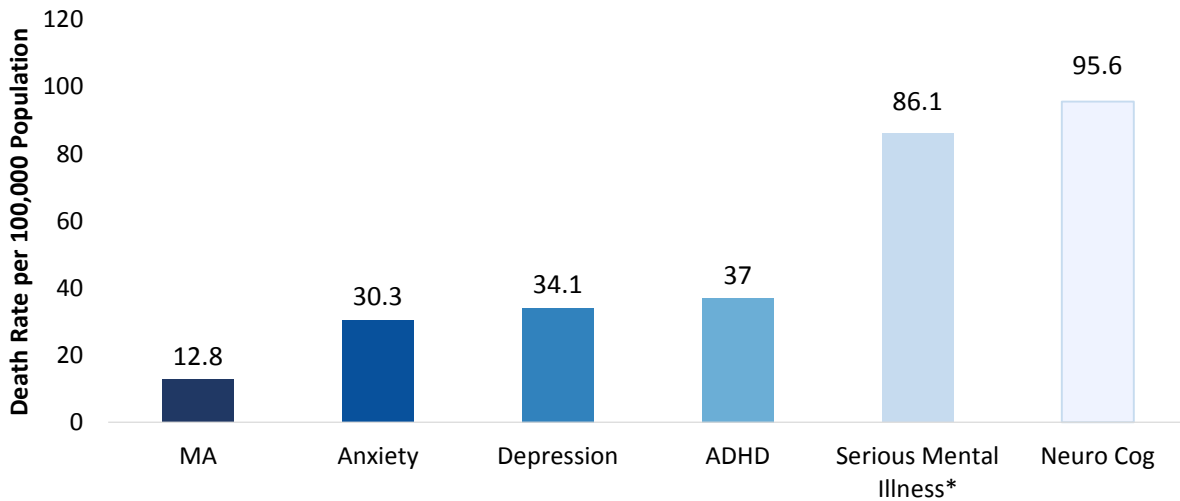
The coexistence of both a mental disorder and a substance use disorder (SUD) is known as co-occurring disorders. People with mental health disorders are more likely to experience a SUD. Often, people receive treatment for one disorder while the other disorder remains untreated. Undiagnosed, untreated, or undertreated co-occurring disorders can lead to a higher likelihood of experiencing negative outcomes, such as homelessness, incarceration, medical illnesses, suicide, or even early death.⁴⁰⁹ Mental health intersects with many areas of public health, including addiction, cancer, cardiovascular disease, and HIV/AIDS, therefore requiring common services and resource mobilization effort.

Integrated treatment is critical for treating people with co-occurring disorders, and can ultimately achieve better health outcomes and reduce costs. Increasing awareness and building capacity in service systems are important in helping identify and treat co-occurring disorders. Treatment planning should be client-centered, addressing clients' goals and using treatment strategies that are acceptable to them.

According to the Chapter 55 study, approximately one in four persons ages 11 and older in the MassHealth patient population were identified as having a serious mental illness. Of these individuals, roughly two in five have been homeless for some period of time between 2011 and 2015. The risk of fatal opioid-related overdose is six times for those with a serious mental illness (SMI) and three times higher for those diagnosed with depression compared to those without any mental health diagnosis.

Figure 6.20

Rates of Fatal Opioid Overdoses for Persons with Some Mental Health Diagnoses, Massachusetts, 2011-2015



NOTE: *AMONG MASSHEALTH MEMBERS ONLY

Trends/Disparities

According to the NSDUH, among the 19.6 million adults ages 18 or older in 2015 that had a past year SUD, 2.3 million (11.9%) also had serious mental illness in the past year.⁴¹⁰ Of those that have co-occurring SUD and mental health disorders, only 6.8% received care for co-occurring conditions.⁴¹¹

In Fiscal Year 2016, 52.6% of BSAS clients reported a history of mental health treatment, including either counseling, prior psychiatric hospitalizations, and or prescriptions for psychotropic medications.

Gambling Disorder and Problem Gambling

The latest edition of the standard Diagnostic and Statistical Manual of Mental Disorders (DSM-5) is the first iteration where gambling appears in the same section as substance use disorder. This reflects a new understanding that gambling disorder and substance use disorder fall under one disease: addiction. As with substance use disorders, gambling involvement can occur on a spectrum that ranges from non-gambling (level 0), to recreational gambling (level 1), people who gamble but do not meet diagnostic criteria (level 2), people who gamble and meet diagnostic criteria for gambling disorder (level 3).⁴¹²

Gambling disorder affects approximately 1% of the US population, and subclinical past year gambling-related problems affect 2% to 3% of the general population.⁴¹³ In Massachusetts, problem gambling affects 2% of the population, and at-risk gambling affects 8.4% of the population.⁴¹⁴ Individuals who report playing many different types of games (e.g., slot machines, lotteries, horse racing) are at greater risk for gambling-related problems than people who report playing fewer types of games.⁴¹⁵ Gambling disorder is characterized by individuals:

- Feeling a loss of control over their gambling, including previous unsuccessful attempts to quit or efforts to hide gambling behavior

- Continuing to gamble despite negative consequences such as interference with work or home obligations, legal problems, or fights and conflicts with other people
- Craving gambling or feeling a compulsion to gamble

People with gambling problems often have many of the same risk factors that predispose individuals to other expressions of addiction, other psychiatric problems such as depression, and an unstable home life.⁴¹⁶ Gambling disorder is often co-occurring with mental health conditions and/or substance use disorders. According to the 2001 National Comorbidity Survey replication, 96.3% of individuals reporting gambling disorder also met lifetime criteria for one or more other psychiatric disorders. Among the 96.3%, approximately one in five (22%) individuals reporting a gambling disorder also report a single additional disorder, one in ten (10%) report two additional disorders, and nearly two thirds (64%) report three or more additional lifetime disorders (e.g. impulse-control disorder, mood disorder, anxiety disorder, etc.).⁴¹⁷

Additionally, people with gambling-related problems are more likely to smoke, consume excessive amounts of caffeine, have more emergency department visits, and be obese.⁴¹⁸ Studies have also indicated the same health-related consequences for people that gamble recreationally. Recreational gamblers are more likely to be obese, smoke heavily, and use alcohol or prescription drugs.⁴¹⁹ Recreational gamblers that gamble two or more times a week are also more likely to report poor mental health.⁴²⁰

A few Massachusetts interviewees commented on a lack of services for residents struggling with gambling problems. As one participant shared, *“Gambling isn’t taken seriously. Gambling is fun until it’s not. It’s misunderstood and that’s why I think there is a lack of treatment. If it was more advertised...There’s so much shame, stigma. We have to get it out onto more-billboards – but we don’t have any money to do that.”*

In Fiscal Year 2016, the Massachusetts problem gambling helpline received 1,061 calls, walk-ins, and emails regarding problem gambling. The website has received an additional 70,780 views.

The Massachusetts Council on Compulsive Gambling also has initiated several programs including: statewide trainings, regional trainings, and annual conferences; a Massachusetts Problem Gambling Specialist (MA-PGS) certification program; and technical assistance and resources for problem gambling professionals.⁴²¹

From 2015 to 2016, the Council conducted 217 provider trainings, which involved more than 4,600 participants. The council has issued 74 newly offered Massachusetts Problem Gambling Specialist (MA-PGS) certificates for gambling disorder treatment certification, and 29 MA-PGS have been renewed.

Trends/Disparities

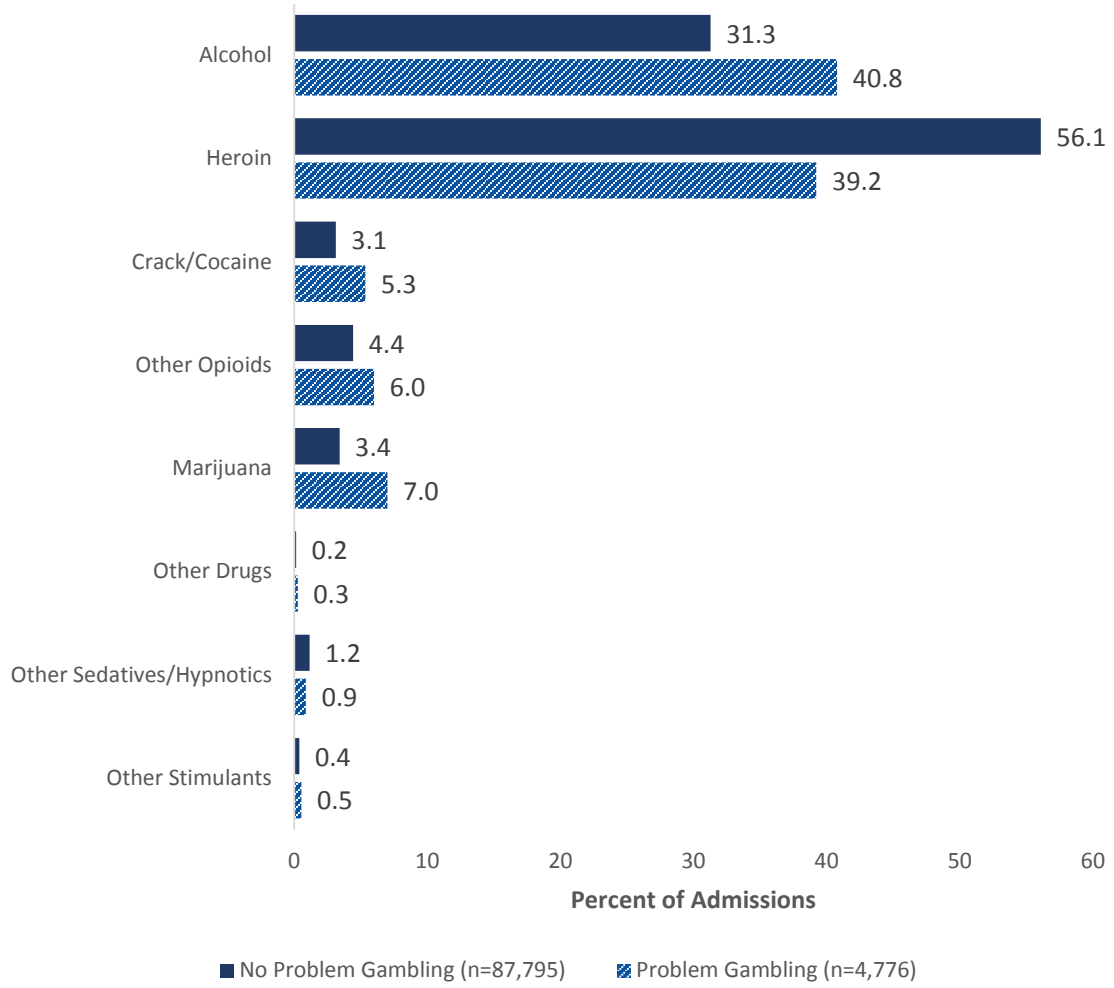
According to the 2013-2014 Social and Economic Impacts of Gambling in Massachusetts (SEIGMA) survey, 1.7% of survey respondents reported problem gambling, 7.5% reported at-risk gambling, and 63.4% reported recreational gambling.

Among the BSAS treatment population in Fiscal Year 2016, 5.2% (or 4,776 individuals) reported problem gambling. The majority of admissions who reported problem gambling were White non-Hispanic (78%), and 82% were male. Nearly half of those who reported problem gambling were between 25 to 34 years of age (48%) and approximately one-third (36%) were homeless.

Substance use patterns among those that report problem gambling are different than those that report no problem gambling. In Fiscal Year 2016, BSAS admissions that reported problem gambling were more likely to report alcohol as their primary drug than those who did not report problem gambling. The opposite was observed for Heroin.

Figure 6.21

Primary Drug Reported by BSAS Admissions, by Problem Gambling Status, Fiscal Year 2016



Selected Resources, Programs, and Services

Following are selected resources, services and programs that support the topics discussed in this chapter.

Opioid Epidemic

- Chapter 55 of the Acts of 2015 permits the linkage and analysis of existing administrative datasets to better understand the opioid epidemic and guide the policy development and program design to address the epidemic
- The MA Prescription Drug Monitoring Program (PDMP) collects dispensing information on Massachusetts Schedule II through V controlled substances dispensed by prescription
- The Drug Control Program (DCP) analyzes PDMP data to determine prescribing and dispensing trends; provide patient prescription history information to prescribers and dispensers; provide educational information to health care providers and the public; and provide case information to regulatory and law enforcement agencies concerning drug distribution and diversion
- MDPH has launched three public awareness campaigns: State Without Stigma, Stop Addiction, the Good Samaritan Law to make the right call, reduce stigma, and raise awareness about addiction
- Partnering with medical schools, dental schools, advanced practice nursing programs and professional organizations, physician assistant programs, the Massachusetts Association of Physician Assistants, the Massachusetts League of Community Health Centers, and affiliated community health centers to implement a set of core competencies related to the prevention and management of prescription drug misuse for medical professionals
- The Massachusetts Interscholastic Athletic Association program that creates and distributes information to school personnel, parents, and youth about risks, signs, symptoms, and responses to opioid use for school-aged children, particularly athletes
- The Massachusetts Opioid Abuse Prevention Collaborative (MOAPC) initiative to support 116 cities and towns across the commonwealth to prevent the misuse of opioids and opioid overdoses through community-level policy, practice, and systems change

Continuum of Care

- The Massachusetts Health Promotion Clearinghouse website will soon provide substance use prevention and health promotion materials for Massachusetts residents, health care professionals, and social service providers that can be read on phones and any type of digital device
- Substance use prevention resources for parents, youth, older adults, and individuals and organizations who serve these populations
- Culturally and linguistically appropriate adaptations of resources and parenting guides to Spanish-speaking residents and Native American populations of Massachusetts
- Toolkits for health care providers and alcohol retailers on how to use their roles to prevent, address and/or refer people for alcohol and other drug problems

- The Massachusetts Substance Abuse Helpline provides free and anonymous information and referral for prevention and treatment of alcohol and other drug abuse problems and related concerns
- The Massachusetts Technical Assistance Partnership for Prevention (MassTAPP) supports programs across the Commonwealth in implementing substance abuse prevention
- The Substance Abuse Prevention Collaborative (SAPC) initiative supports 140 cities and towns in the state to prevent underage drinking and other drug use
- The Partnerships for Success (PFS) initiative supports 16 cities and towns to prevent prescription drug misuse among high school aged youth

Youth and Young Adult Population

- The Youth SEARCH program engages transitional age youth and young adults who are experiencing homelessness and housing instability
- Stabilization and residential programs
- Recovery high schools to provide educational environments suited to youth recovering from substance use disorders
- SAMSHA funded Youth Treatment - Implementation (SYT-I) grant program to extend Adolescent Community Reinforcement Approach (ACRA) to 16-25 year olds.
- Statewide ACRA learning collaborative

LGBTQ Population

- The Office of Youth and Young Adult Services (OYYAS) within the Bureau of Substance Addiction Services (BSAS) for initiating and implementing a plan to increase the capacity of OYYAS and its provider system to serve LGBTQ youth and young adults
- Partnership MaeBright LLC, a technical assistance and advocacy organization, to conduct a system-wide review of policies and practice guidance; explore strategies for collecting data on sexual orientation and gender identity; train staff in the provider system to ensure a more welcoming environment for LGBTQ youth and young adults; provide specialized training for youth/young adult residential providers, and provide training to new staff and on-going technical assistance
- Collaboration with Gay/Straight Alliances (GSAs) to help reduce risks in schools, serve as resources for LGBTQ students, and support the development of resiliency and leadership skills

Military and Veteran Population

- Projects Assistance in Transition from Homelessness (PATH), a SAMHSA grant program to provide services to veterans with serious mental illness, including those with co-occurring substance use disorders, who are experiencing homelessness

Homeless Population

- The Massachusetts Interagency Council on Housing and Homelessness program to develop and implement trainings for all case managers and housing stabilization staff

Co-occurring Mental Health Population

- The Quality Assurance and Licensing Unit within the Bureau of Substance Addiction Services is working with the Department of Mental Health on a pilot to enhance integrated treatment for people with co-occurring substance use and mental health disorders. Processes for assessing competencies, streamlining applications, and co-licensing are currently underway. In August 2017, the first co-licensing site visit and review commenced.
- Massachusetts offers training programs for providers on addressing co-occurring disorders.
- Regulations governing training and supervision require all BSAS licensees to have written plan for the professional growth and development of all personnel. As part of this plan, annual training programs including those on co-occurring disorders must be provided and evidence of attendance must be documented.

Problem Gambling Population

- Massachusetts Council on Compulsive Gambling statewide trainings, regional trainings, annual conferences
- Massachusetts Problem Gambling Specialist (MA-PGS) certifications

References

- ²⁹¹ SAMHSA. Key Substance Use and Mental Health Indicators in the United States: Results from the 2015 National Survey on Drug Use and Health. Available at: <https://www.samhsa.gov/data/sites/default/files/NSDUH-FFR1-2015/NSDUH-FFR1-2015/NSDUH-FFR1-2015.htm>. Accessed July 27, 2017
- ²⁹² Shaffer HJ, LaPlante DA, Nelson SE. The APA Addiction Syndrome Handbook. Vol 1. Foundations, Influences, and Expressions of Addiction. Washington, D.C.: American Psychological Association Press; 2012.
- ²⁹³ National Institute on Drug Abuse. Trends & Statistics. Available at: <https://www.drugabuse.gov/related-topics/trends-statistics>. Accessed July 27, 2017.
- ²⁹⁴ Zinberg NE. Drug, set, and setting: the basis for controlled intoxicant use. New Haven: Yale University Press; 1984.
- ²⁹⁵ SAMHSA. Key Substance Use and Mental Health Indicators in the United States: Results from the 2015 National Survey on Drug Use and Health. Available at: <https://www.samhsa.gov/data/sites/default/files/NSDUH-FFR1-2015/NSDUH-FFR1-2015/NSDUH-FFR1-2015.htm>. Accessed July 27, 2017
- ²⁹⁶ SAMHSA. America's Need for and Receipt of Substance Use Treatment in 2015. Available at: https://www.samhsa.gov/data/sites/default/files/report_2716/ShortReport-2716.html. Accessed July 27, 2017.
- ²⁹⁷ NCRG Fact Sheet. Available at: <http://www.ncrg.org/resources>. Accessed August 1, 2017
- ²⁹⁸ Volberg, R. A., Williams, R. J., Stanek, E. J., Houpt, K. A., Zorn, M., Rodriguez-Monguio, R. (2015). Gambling and Problem Gambling in Massachusetts: Results of a Baseline Population Survey. Amherst, MA: School of Public Health and Health Sciences, University of Massachusetts Amherst.
- ²⁹⁹ Massachusetts Department of Public Health. Legislative Report: Chapter 55 – An Assessment of Fatal and Non-fatal Overdoses in Massachusetts (2011-2015). Available at: <https://www.mass.gov/files/documents/2017/08/31/legislative-report-chapter-55-aug-2017.pdf>. Accessed September 6, 2017.
- ³⁰⁰ Commonwealth of Massachusetts Health Policy Commission. Opioid use disorder in Massachusetts. An Analysis of its Impact on the Health Care System, Availability of Pharmacologic Treatment, and Recommendations for Payment and Care Delivery Reform. Available at: <http://www.mass.gov/anf/budget-taxes-and-procurement/oversight-agencies/health-policy-commission/publications/opioid-use-disorder-report.pdf>. Accessed Aug 30, 2017.
- ³⁰¹ Centers for Disease Control and Prevention. Increases in Fentanyl Drug Confiscations and Fentanyl-related Overdose Fatalities. Available at: <http://emergency.cdc.gov/han/han00384.asp>. Accessed July 27, 2017.
- ³⁰² National Institute on Drug Abuse. 2017; <https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates>. Accessed August 1, 2017.
- ³⁰³ Rudd RA, Seth P, David F, Scholl L. Increases in Drug and Opioid-Involved Overdose Deaths — United States, 2010–2015. MMWR Morb Mortal Wkly Rep 2016;65:1445–1452. DOI: <http://dx.doi.org/10.15585/mmwr.mm655051e1>
- ³⁰⁴ CDC. Impaired Driving: Get the Facts. Available at: https://www.cdc.gov/motorvehiclesafety/impaired_driving/impaired-driv_factsheet.html. Accessed July 27, 2017.
- ³⁰⁵ Massachusetts Department of Public Health. Data Brief: Opioid-Related Overdose Deaths Among Massachusetts Residents. Available at: <https://mass.gov/files/documents/2017/08/31/data-brief-overdose-deaths-aug-2017.pdf>. Accessed September 6, 2017.
- ³⁰⁶ Massachusetts Department of Public Health. Opioid-related Overdose Death Report – Q2 2017. Available at: <https://www.mass.gov/service-details/current-opioid-statistics>. Accessed September 11, 2017.
- ³⁰⁷ CDC. Characteristics of Fentanyl Overdose — Massachusetts, 2014–2016. Available at: <https://www.cdc.gov/mmwr/volumes/66/wr/mm6614a2.htm>. Accessed July 27, 2017.
- ³⁰⁸ McLellan AT, Lewis DC, O'Brien CP, Kleber HD. Drug dependence, a chronic medical illness: implications for treatment, insurance, and outcomes evaluation. JAMA. Oct 04 2000;284(13):1689-1695.

- ³⁰⁹ Antman, KH, Berman, HA, Flotte, TR, Flier, J, Dimitri, DM, Bharel, M. Developing Core Competencies for the Prevention and Management of Prescription Drug Misuse: A Medical Education Collaboration in Massachusetts. *Acad Med*. 2016 Oct;91(10):1348-1351.
- ³¹⁰ http://www.ca-cpi.org/docs/Publications/Other/EffectiveSubstanceAbusePrevention_March2013.pdf. Accessed Aug 30, 2017.
- ³¹¹ US Department of Health and Human Services (HHS), Office of the Surgeon General. Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health. Washington, DC: HHS, November 2016. Available at: <https://addiction.surgeongeneral.gov/surgeon-generals-report.pdf>. Accessed July 27, 2017.
- ³¹² DeWit DJ, Adlaf EM, Offord DR, Ogborne AC. Age at first alcohol use: a risk factor for the development of alcohol disorders. *Am J Psychiatry*. May 2000;157(5):745-750.
- ³¹³ Moss, H. B., Chen, C. M., & Yi, H. Y. Early adolescent patterns of alcohol, cigarettes, and marijuana polysubstance use and young adult substance use outcomes in a nationally representative sample. *Drug and alcohol dependence*. 2014;136, 51-62.
- ³¹⁴ Connor, JP, Haber, PS, Hall WD. Alcohol use disorders. *The Lancet*. 2016; 387(10022): 988-998.
- ³¹⁵ US Department of Health and Human Services (HHS), Office of the Surgeon General. Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health. Washington, DC: HHS, November 2016. Available at: <https://addiction.surgeongeneral.gov/surgeon-generals-report.pdf>. Accessed July 27, 2017.
- ³¹⁶ CHIA. Access to Substance Use Disorder Treatment in Massachusetts 2015. Available at: <http://www.mass.gov/courts/docs/csat-access-to-substance-use-disorder-treatment-in-mass.pdf>. Accessed July 27, 2017.
- ³¹⁷ SAMHSA. Treatments for Substance Use Disorders. Available at: <https://www.samhsa.gov/treatment/substance-use-disorders>. Accessed July 27, 2017.
- ³¹⁸ US Department of Health and Human Services (HHS), Office of the Surgeon General. Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health. Washington, DC: HHS, November 2016. Available at: <https://addiction.surgeongeneral.gov/surgeon-generals-report.pdf>. Accessed July 27, 2017.
- ³¹⁹ Massachusetts Department of Public Health. Legislative Report: Chapter 55 – An Assessment of Opioid-related Deaths in Massachusetts (2013-2014). Available at: <https://mass.gov/files/documents/2016/09/pg/chapter-55-report.pdf>. Accessed September 6, 2017.
- ³²⁰ National Institute on Drug Use. Principles of Drug Addiction Treatment. Available at: https://d14rmgtrwzf5a.cloudfront.net/sites/default/files/podat_1.pdf. Accessed July 27, 2017.
- ³²¹ Commonwealth of Massachusetts Health Policy Commission. Opioid use disorder in Massachusetts. An Analysis of its Impact on the Health Care System, Availability of Pharmacologic Treatment, and Recommendations for Payment and Care Delivery Reform. Available at: <http://www.mass.gov/anf/budget-taxes-and-procurement/oversight-agencies/health-policy-commission/publications/opioid-use-disorder-report.pdf>. Accessed Aug 30, 2017
- ³²² Guerrero EG, Marsh JC, Duan L, Oh C, Perron B, Lee B. Disparities in Completion of Substance Abuse Treatment between and within Racial and Ethnic Groups. *Health Services Research*. 2013;48(4):1450-1467. doi:10.1111/1475-6773.12031.
- ³²³ US Department of Health and Human Services (HHS), Office of the Surgeon General. Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health. Washington, DC: HHS, November 2016. Available at: <https://addiction.surgeongeneral.gov/surgeon-generals-report.pdf>. Accessed July 27, 2017.
- ³²⁴ SAMHSA. SAMHSA's Working Definition of Recovery. Available at: <https://store.samhsa.gov/shin/content/PEP12-RECDEF/PEP12-RECDEF.pdf>. Accessed July 27, 2017.
- ³²⁵ White, W. L. *Recovery/remission from substance use disorders: An analysis of reported outcomes in 415 scientific reports, 1868-2011*. Philadelphia, PA: Philadelphia Department of Behavioral Health and Intellectual Disability Services; 2012.

- ³²⁶ Kelly, J. F., & White, W. L. *Addiction recovery management: Theory, research and practice*. New York, NY: Springer Science & Business Media; 2010.
- ³²⁷ White, W. *Sponsor, recovery coach, addiction counselor: The importance of role clarity and role integrity*. Philadelphia, PA: Philadelphia Department of Behavioral Health and Mental Retardation Services; 2006.
- ³²⁸ SAMHSA. Behavioral Health Services for People Who Are Homeless. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK138719/>. Accessed July 27, 2017.
- ³²⁹ MDPH, BSAS, internal data related to Recovery Coach, 2017.
- ³³⁰ MASH. Certified Sober Homes. Available at: <https://mashsoberhousing.org/certified-residences/>. Accessed September 8, 2017.
- ³³¹ Learn to Cope. Available at <http://www.learn2cope.org> Accessed July 18, 2017
- ³³² Harm Reduction Coalition. Learn to Cope Parents Group. Available at: <http://harmreduction.org/issues/overdose-prevention/tools-best-practices/naloxone-program-case-studies/learn-to-cope-parents-group/>. Accessed July 27, 2017.
- ³³³ Kessler RC, Berglund P, Demler O, Jin R, Merikangas KR, Walters EE. Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*. 2005;62(6):593-602.
- ³³⁴ Compton, W. M., Thomas, Y. F., Stinson, F. S., & Grant, B. F. Prevalence, correlates, disability, and comorbidity of DSM-IV drug abuse and dependence in the United States: Results from the national epidemiologic survey on alcohol and related conditions. *Archives of General Psychiatry*. 2007;64(5), 566-576.
- ³³⁵ Hasin, D. S., Stinson, F. S., Ogburn, E., & Grant, B. F. Prevalence, correlates, disability, and comorbidity of DSM-IV alcohol abuse and dependence in the United States: Results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Archives of General Psychiatry*. 2007;64(7), 830-842.
- ³³⁶ Teen & Young Adult Drug Intervention Done Right. Available at: <http://taps14.org/teen-young-adult-drug-intervention/>. Accessed July 27, 2017.
- ³³⁷ National Institute on Drug Abuse, Principles of Adolescent Substance Use Disorder Treatment: A Research-Based Guide. Available at: <https://www.drugabuse.gov/publications/principles-adolescent-substance-use-disorder-treatment-research-based-guide/introduction>. Accessed July 31, 2017.
- ³³⁸ Youth Topics :Substance Abuse Prevention. Available at <http://youth.gov/youth-topics/substance-abuse>. Accessed July 27, 2017.
- ³³⁹ Newcomb MD, Locke T. Health, social, and psychological consequences of drug use and abuse. In: Sloboda Z, editor. *Epidemiology of drug abuse*. Springer; New York: 2005. pp. 45–59
- ³⁴⁰ 2015 health & risk behaviors of Massachusetts youth. Available at: <http://www.mass.gov/eohhs/docs/dph/behavioral-risk/youth-health-risk-report-2015.pdf>. Accessed on August 1, 2017
- ³⁴¹ SAMHSA. Key Substance Use and Mental Health Indicators in the United States: Results from the 2015 National Survey on Drug Use and Health. Available at: [https://www.samhsa.gov/data/sites/default/files/NSDUH-FFR1-2015/NSDUH-FFR1-2015.htm](https://www.samhsa.gov/data/sites/default/files/NSDUH-FFR1-2015/NSDUH-FFR1-2015/NSDUH-FFR1-2015.htm). Accessed July 27, 2017
- ³⁴² Marshal, M. P., Friedman, M. S., Stall, R., King, K. M., Miles, J., Gold, M. A., et al. (2008). Sexual orientation and adolescent substance use: A meta-analysis and methodological review. *Addiction*, 103(4), 546-556.
- ³⁴³ Washington State Department of Health, Office of Healthy Communities. Youth with Disabilities Risk Factors for Alcohol, Tobacco and Drug Use Data Monograph. Available at: http://www.doh.wa.gov/Portals/1/Documents/Pubs/160-024_YouthWithDisabilitiesRiskFactorsForSubstanceAbuse.pdf. Accessed July 28, 2017.
- ³⁴⁴ Cheng HG, Cantave MD, Anthony JC1. Taking the First Full Drink: Epidemiological Evidence on Male-Female Differences in the United States. *Alcohol Clin Exp Res*. 2016 Apr;40(4):816-25.
- ³⁴⁵ SAMHSA. Key Substance Use and Mental Health Indicators in the United States: Results from the 2015 National Survey on Drug Use and Health. Available at: [https://www.samhsa.gov/data/sites/default/files/NSDUH-FFR1-2015/NSDUH-FFR1-2015.htm](https://www.samhsa.gov/data/sites/default/files/NSDUH-FFR1-2015/NSDUH-FFR1-2015/NSDUH-FFR1-2015.htm). Accessed July 27, 2017.

- ³⁴⁶ SAMHSA. Key Substance Use and Mental Health Indicators in the United States: Results from the 2015 National Survey on Drug Use and Health. Available at: <https://www.samhsa.gov/data/sites/default/files/NSDUH-FFR1-2015/NSDUH-FFR1-2015/NSDUH-FFR1-2015.htm>. Accessed July 27, 2017.
- ³⁴⁷ Lupton, C., Burd, L., Harwood, R. Cost of fetal alcohol spectrum disorders. *American Journal of Medical Genetics*, 2004;127C(1), 42-50.
- ³⁴⁸ National Institute on Drug Abuse. Dramatic Increases in Maternal Opioid Use and Neonatal Abstinence Syndrome. Available at: <https://www.drugabuse.gov/related-topics/trends-statistics/infographics/dramatic-increases-in-maternal-opioid-use-neonatal-abstinence-syndrome>. Accessed July 27, 2017.
- ³⁴⁹ Gupta, M., & Picarillo, A. Neonatal abstinence syndrome (NAS): improvement efforts in Massachusetts. NeoQIC, January 2015. Powerpoint presentation. Available at: <http://www.bidmc.org/~media/Files/QualityandSafety/2015%20Silverman%20Symposium/BIDMC/Reduction%20of%20Neonatal%20Nosocomial%20Infections%20through%20a%20Statewide%20Collaborative.pptx>. Accessed July 27, 2017.
- ³⁵⁰ Gyarmathy V, Giraudon I, Hedrich D, Montanari L, Guarita B, Wiessing L. Drug use and pregnancy—challenges for public health. *Euro Surveill*. 2009;14(9):33-36.
- ³⁵¹ Massachusetts Department of Public Health. Legislative Report: Chapter 55 – An Assessment of Fatal and Non-fatal Overdoses in Massachusetts (2011-2015). Available at: <https://www.mass.gov/files/documents/2017/08/31/legislative-report-chapter-55-aug-2017.pdf>. Accessed August 31, 2017.
- ³⁵² Smith PH, Homish GG, Leonard KE, Cornelius JR. Intimate partner violence and specific substance use disorders: findings from the National Epidemiologic Survey on Alcohol and Related Conditions. *Psychology of Addictive Behaviors*. 2012;26(2):236.
- ³⁵³ Agrawal, A., Gardner, C. O., Prescott, C. A., & Kendler, K. S. The differential impact of risk factors on illicit drug involvement in females. *Social Psychiatry and Psychiatric Epidemiology*. 2005;40(6), 454-466.
- ³⁵⁴ Van Den Bergh, N. Feminist perspectives on addictions. New York: Springer Publishing Company. 1991.
- ³⁵⁵ Covington SS. Women and addiction: A trauma-informed approach. *J Psychoactive Drugs*. 2008;40(sup5):377-385.
- ³⁵⁶ Mowbray, C. T., Nicholson, J., & Bellamy, C. D. (2003). Psychosocial rehabilitation service needs of women. *Psychiatric Rehabilitation Journal*, 27(2), 104.
- ³⁵⁷ Bernstein J, Derrington TM, Belanoff C, et al. Treatment outcomes for substance use disorder among women of reproductive age in Massachusetts: a population-based approach. *Drug Alcohol Depend*. Feb 01 2015;147:151-159.
- ³⁵⁸ US Department of Health and Human Services (HHS), Office of the Surgeon General. Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health. Washington, DC: HHS, November 2016. Available at: <https://addiction.surgeongeneral.gov/surgeon-generals-report.pdf>. Accessed July 27, 2017.
- ³⁵⁹ US Department of Health and Human Services (HHS), Office of the Surgeon General. Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health. Washington, DC: HHS, November 2016. Available at: <https://addiction.surgeongeneral.gov/surgeon-generals-report.pdf>. Accessed July 27, 2017.
- ³⁶⁰ Binswanger, I. A., Blatchford, P. J., Lindsay, R. G., & Stern, M. F. Risk factors for all-cause, overdose and early deaths after release from prison in Washington state. *Drug and alcohol dependence*. 2011;117(1), 1-6.
- ³⁶¹ Massachusetts Department of Public Health. Legislative Report: Chapter 55 – An Assessment of Fatal and Non-fatal Overdoses in Massachusetts (2011-2015). Available at: <https://www.mass.gov/files/documents/2017/08/31/legislative-report-chapter-55-aug-2017.pdf>. Accessed August 31, 2017.
- ³⁶² National Institute on Drug Abuse. Principles of Drug Abuse Treatment: A Research-Based Guide (Third Edition). Available at: <https://www.drugabuse.gov/publications/principles-drug-addiction-treatment-research-based-guide-third-edition/frequently-asked-questions/what-role-can-criminal-justice-system-play>. Accessed July 27, 2017.
- ³⁶³ Inciardi JA, Martin SS, Butzin CA. Five-year outcomes of therapeutic community treatment of drug-involved offenders after release from prison. *NCCD news*. 2004;50(1):88-107.
- ³⁶⁴ Chandler RK, Fletcher BW, Volkow ND. Treating drug abuse and addiction in the criminal justice system: improving public health and safety. *JAMA*. 2009;301(2):183-190.

- ³⁶⁵ National Institute on Drug Abuse. Principles of Drug Abuse Treatment for Criminal Justice Populations - A Research-Based Guide. Available at: https://d14rmgtrwzf5a.cloudfront.net/sites/default/files/txcriminaljustice_0.pdf. Accessed July 27, 2017.
- ³⁶⁶ SAMHSA. Behavioral Health Services for People Who Are Homeless. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK138719/>. Accessed July 27, 2017.
- ³⁶⁷ The link between health and the criminal justice system. Available at: http://www.aph.gov.au/Parliamentary_Business/Committees/House_of_Representatives_Committees?url=atsia/sentencing/report/chapter4.pdf. Accessed July 27, 2017.
- ³⁶⁸ Human Impact Partners. A framework connecting criminal justice and public health. Available at: <http://www.humanimpact.org/from-the-hip-blog/a-framework-connecting-criminal-justice-and-public-health/>. Accessed July 27, 2017.
- ³⁶⁹ Human Impact Partners. A framework connecting criminal justice and public health. Available at: <http://www.humanimpact.org/from-the-hip-blog/a-framework-connecting-criminal-justice-and-public-health/>. Accessed July 27, 2017.
- ³⁷⁰ National Institute on Drug Abuse. Principles of Drug Abuse Treatment for Criminal Justice Populations - A Research-Based Guide. Available at: <https://www.drugabuse.gov/publications/principles-drug-abuse-treatment-criminal-justice-populations/principles>. Accessed July 27, 2017.
- ³⁷¹ Taxman, F.S.; Perdoni, M.L.; and Harrison, L.D. Drug treatment services for adult offenders: The state of the state. *J Subst Abuse Treat* 32(3):239–254, 2007.
- ³⁷² Sabol, W.J., West, H.C., and Cooper, M. Prisoners in 2008. Washington, DC: US Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, 2010.
- ³⁷³ National Institute on Drug Abuse. Principles of Drug Abuse Treatment for Criminal Justice Populations - A Research-Based Guide. Available at: <https://www.drugabuse.gov/publications/principles-drug-abuse-treatment-criminal-justice-populations/principles>. Accessed July 27, 2017.
- ³⁷⁴ US Department of Health and Human Services (HHS), Office of the Surgeon General. Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health. Washington, DC: HHS, November 2016. Available at: <https://addiction.surgeongeneral.gov/surgeon-generals-report.pdf>. Accessed July 27, 2017.
- ³⁷⁵ US Department of Health and Human Services (HHS), Office of the Surgeon General. Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health. Washington, DC: HHS, November 2016. Available at: <https://addiction.surgeongeneral.gov/surgeon-generals-report.pdf>. Accessed July 27, 2017.
- ³⁷⁶ Methadone maintenance treatment (MMT): a review of historical and clinical issues. Joseph H, Stancliff S, Langrod J., *Mt Sinai Journal of Medicine*. 2000 Oct-Nov;67(5-6):347-64).
- ³⁷⁷ Cochran, B. N., & Cauce, A. M. (2006). Characteristics of lesbian, gay, bisexual, and transgender individuals entering substance abuse treatment. *Journal of Substance Abuse Treatment*, 30(2), 135-146.
- ³⁷⁸ SAMHSA. A Provider's Introduction to Substance Abuse Treatment for Lesbian, Gay, Bisexual, and Transgender Individuals. Available at: <https://store.samhsa.gov/shin/content//SMA12-4104/SMA12-4104.pdf>. Accessed July 27, 2017.
- ³⁷⁹ LGBTQ+ and Addiction Causes, Resources & Treatment. Available at: <https://www.drugrehab.com/guides/lgbtq/>. Accessed July 27, 2017.
- ³⁸⁰ Corliss HL, Goodenow CS, Nichols L, Austin SB. High burden of homelessness among sexual-minority adolescents: findings from a representative Massachusetts high school sample. *American Journal of Public Health*. 2011;101(9):1683-1689.
- ³⁸¹ MDPH, BSAS. Practice Guidance: Serving LGBTQ Youth & Young Adults & Their Families / Issues JULY 2014. Available at: <http://www.mass.gov/eohhs/docs/dph/substance-abuse/serving-lgbtq-youth-young-adults-families-july-2014.pdf>. Accessed July 28, 2017.

- ³⁸² SAMHSA. A practitioner's resource guide: helping families to support their LGBTQ children. Available at: <https://store.samhsa.gov/shin/content//PEP14-LGBTKIDS/PEP14-LGBTKIDS.pdf>. Accessed July 28, 2017.
- ³⁸³ Suicide Prevention Resource Center. Suicide risk and prevention for lesbian, gay, bisexual and transgender youth. Available at: http://www.sprc.org/sites/default/files/migrate/library/SPRC_LGBT_Youth.pdf. Accessed July 28, 2017.
- ³⁸⁴ MDPH, BSAS. Practice Guidance: Serving LGBTQ Youth & Young Adults & Their Families / Issues JULY 2014. Available at: <http://www.mass.gov/eohhs/docs/dph/substance-abuse/serving-lgbtq-youth-young-adults-families-july-2014.pdf>. Accessed July 28, 2017.
- ³⁸⁵ GLSEN. Gay-Straight Alliances: Creating safer schools for LGBTQ students and their allies. (GLSEN Research Brief). New York: Gay, Lesbian and Straight Education Network; 2007.
- ³⁸⁶ Caitlin Ryan, David Huebner, Rafael M. Diaz, Jorge Sanchez. Family Rejection as a Predictor of Negative Health Outcomes in White and Latino Lesbian, Gay and Bisexual Young Adults. *Pediatrics* 2009; 123 (1) 346-352.
- ³⁸⁷ Marshal MP, Dietz LJ, Friedman MS, et al. Suicidality and Depression Disparities between Sexual Minority and Heterosexual Youth: A Meta-Analytic Review. *The Journal of adolescent health : official publication of the Society for Adolescent Medicine*. 2011;49(2):115-123. doi:10.1016/j.jadohealth.2011.02.005.
- ³⁸⁸ Senreich E. Are specialized LGBT program components helpful for gay and bisexual men in substance abuse treatment?. *Substance Use & Misuse*. 2010;45(7-8):1077-96.
- ³⁸⁹ Cochran BN, Peavy KM, Robohm JS. Do specialized services exist for LGBT individuals seeking treatment for substance misuse? A study of available treatment programs. *Subst Use Misuse*. 2007;42(1):161-176.
- ³⁹⁰ The Fenway Institute. New Report Addresses Health Disparities Faced by LGBTQ Youth if Color. Available at: <http://fenwayfocus.org/2015/11/new-report-addresses-health-disparities-faced-by-lgbtq-youth-of-color/>. Accessed July 28, 2017.
- ³⁹¹ MYRBS. Massachusetts High School Students and Sexual Orientation: Results of 2011 Youth Risk Behavior Survey. Available at: http://www.mass.gov/cgly/YRBS11_Factsheet.pdf. Accessed July 28, 2017.
- ³⁹² Committee on Prevention, Diagnosis, Treatment, and Management of Substance Use Disorders in the US Armed Forces. Board on the Health of Select Populations; Institute of Medicine. Substance Use Disorders in the US Armed Forces. Washington (DC): National Academies Press (US); 2013 Feb 21. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK207280/>. Accessed July 28, 2017.
- ³⁹³ Lee, B. A., Tyler, K. A., & Wright, J. D. (2010). The new homelessness revisited. *Annual review of sociology*, 36, 501-521.
- ³⁹⁴ SAMHSA. Critical issues facing veterans and military families. Available at: <https://www.samhsa.gov/veterans-military-families/critical-issues>. Accessed July 28, 2017.
- ³⁹⁵ Massachusetts Department of Public Health. Legislative Report: Chapter 55 – An Assessment of Fatal and Non-fatal Overdoses in Massachusetts (2011-2015). Available at: <https://www.mass.gov/files/documents/2017/08/31/legislative-report-chapter-55-aug-2017.pdf>. Accessed August 31, 2017.
- ³⁹⁶ Greenberg, G. A., & Rosenheck, R. A. Mental health correlates of past homelessness in the National Comorbidity Study Replication. *Journal of Health Care for the Poor and Underserved*. 2010;21(4), 1234-1249.
- ³⁹⁷ Greenberg, G. A., & Rosenheck, R. A. An evaluation of an initiative to improve coordination and service delivery of homeless services networks. *The Journal of Behavioral Health Services and Research*. 2010;37(2), 184-196.
- ³⁹⁸ Burt MR. Helping America's homeless: Emergency shelter or affordable housing?. The Urban Institute; 2001.
- ³⁹⁹ Massachusetts Department of Public Health. Legislative Report: Chapter 55 – An Assessment of Fatal and Non-fatal Overdoses in Massachusetts (2011-2015). Available at: <https://www.mass.gov/files/documents/2017/08/31/legislative-report-chapter-55-aug-2017.pdf>. Accessed September 6, 2017.
- ⁴⁰⁰ Greenberg GA, Rosenheck RA. Correlates of past homelessness in the National Epidemiological Survey on Alcohol and Related Conditions. *Administration and Policy in Mental Health*. 2010;37:357–366.
- ⁴⁰¹ Burt MR. Helping America's homeless: Emergency shelter or affordable housing?. The Urban Institute; 2001.

- ⁴⁰² Padgett DK, Stanhope V, Henwood BF, Stefancic A. Substance use outcomes among homeless clients with serious mental illness: comparing Housing First with Treatment First programs. *Community Ment Health J.* Apr 2011;47(2):227-232.
- ⁴⁰³ Christensen, R. C., Hodgkins, C. C., Garces, L., Estlund, K. L., Miller, M. D., & Touchton, R. Homeless, mentally ill and addicted: The need for abuse and trauma services. *Journal of health care for the poor and underserved.* 2005;16(4), 615-622.
- ⁴⁰⁴ Jainchill, N., Hawke, J., & Yagelka, J. Gender, psychopathology, and patterns of homelessness among clients in shelter-based TCs. *The American journal of drug and alcohol abuse.* 2000;26(4), 553-567.
- ⁴⁰⁵ Spence S, Stevens R, Parks R. Cognitive dysfunction in homeless adults: A systematic review. *Journal of the Royal Society of Medicine.* 2004;97:375–379.
- ⁴⁰⁶ Klinkenberg, W. D., Caslyn, R. J., Morse, G. A., Yonker, R. D., McCudden, S., Ketema, F., & Constantine, N. T. Prevalence of human immunodeficiency virus, hepatitis B, and hepatitis C among homeless persons with co-occurring severe mental illness and substance use disorders. *Comprehensive Psychiatry.* 2003;44(4), 293-302.
- ⁴⁰⁷ Magura, S., Nwakeze, P. C., Rosenblum, A., & Joseph, H. Substance misuse and related infectious diseases in a soup kitchen population. *Substance use & misuse.* 2000;35(4), 551-583.
- ⁴⁰⁸ Schanzer, B., Dominguez, B., Shrout, P. E., & Caton, C. L. Homelessness, health status, and health care use. *American Journal of Public Health.* 2007;97(3), 464-469.
- ⁴⁰⁹ Substance Abuse and Mental Health Services Administration. “Co-occurring Disorders”. Available at: <https://www.samhsa.gov/disorders/co-occurring>. Accessed July 28, 2017.
- ⁴¹⁰ SAMHSA. Key Substance Use and Mental Health Indicators in the United States: Results from the 2015 National Survey on Drug Use and Health. Available at: <https://www.samhsa.gov/data/sites/default/files/NSDUH-FFR1-2015/NSDUH-FFR1-2015/NSDUH-FFR1-2015.htm>. Accessed July 28, 2017.
- ⁴¹¹ SAMHSA. Key Substance Use and Mental Health Indicators in the United States: Results from the 2015 National Survey on Drug Use and Health. Available at: <https://www.samhsa.gov/data/sites/default/files/NSDUH-FFR1-2015/NSDUH-FFR1-2015/NSDUH-FFR1-2015.htm>. Accessed July 28, 2017.
- ⁴¹² Shaffer HJ, Kidman R. Shifting perspectives on gambling and addiction. *Journal of Gambling Studies.* Spring 2003;19(1):1-6.
- ⁴¹³ Cambridge Health Alliance. Why Screen for Gambling Disorder? Available at: http://www.divisiononaddiction.org/html/handouts/WhyScreenforGambling_2015.pdf. Accessed July 28, 2017.
- ⁴¹⁴ Volberg, R. A., Williams, R. J., Stanek, E. J., Houpt, K. A., Zorn, M., Rodriguez-Monguio, R. (2015). Gambling and Problem Gambling in Massachusetts: Results of a Baseline Population Survey. Amherst, MA: School of Public Health and Health Sciences, University of Massachusetts Amherst.
- ⁴¹⁵ LaPlante DA, Nelson SE, LaBrie RA, Shaffer HJ. Disordered Gambling, Type of Gambling, and Gambling Involvement in the British Gambling Prevalence Survey 2007. *European Journal of Public Health.* 2011;21(4):532-537.
- ⁴¹⁶ NCRG. Gambling Disorders. Available at: http://www.ncrg.org/sites/default/files/oec/pdfs/ncrg_fact_sheet_gambling_disorders.pdf. Accessed July 28, 2017.
- ⁴¹⁷ Kessler, R. C., Hwang, I., LaBrie, R., Petukhova, M., Sampson, N. A., Winters, K. C., & Shaffer, H. J. DSM-IV pathological gambling in the National Comorbidity Survey Replication. *Psychological medicine.* 2008;38(9), 1351-1360.
- ⁴¹⁸ Ibid
- ⁴¹⁹ Okunna, N. C., Rodriguez-Monguio, R., Smelson, D. A., & Volberg, R. A. (2016). An evaluation of substance abuse, mental health disorders, and gambling correlations: An opportunity for early public health interventions. *International Journal of Mental Health and Addiction*, 14(4), 618-633.
- ⁴²⁰ Okunna, N. C., Rodriguez-Monguio, R., Smelson, D. A., Poudel, K. C., & Volberg, R. (2016). Gambling involvement indicative of underlying behavioral and mental health disorders. *The American journal on addictions*, 25(2), 160-172.
- ⁴²¹ Massachusetts Council on Compulsive Gambling. Certificate Program – MA PGS. Available at: <https://masscompulsivegambling.org/trainings-events/certificate-program-ma-pgs/>. Accessed July 28, 2017.