Opioid Use Disorders: Health Focus Area 4

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Definition

Opioid Addiction

Opioid addiction (also called dependence) is a chronic brain disease that can develop with repeated daily exposure to opioids. It is characterized by the development of tolerance (the need for an increasingly higher dose to achieve the same effect) and withdrawal (an extremely painful condition that occurs when people try to stop usage abruptly). The natural progression of this disease leads to using greater amounts of drugs over time, which typically drives people to increasingly desperate and dangerous behaviors.[1]

Opioid Use Disorder

The *Diagnostic and Statistical Manual of Mental Disorders, Volume Five (DSM-V)* indicates that opioid use disorder (OUD) results from a problematic pattern of opioid use, inconsistent with use solely under medical supervision, leading to clinically significant impairment or distress as evidenced by meeting at least two of the following indicators in a 12-month period:

- Taking opiates in larger amounts or for longer periods of time than intended under medical supervision;
- Experiencing cravings;
- Continued use despite negative personal, social, and physical consequences;
- Development of tolerance; and
- Experience withdrawal.

OUD can result from the inappropriate use of prescription opioid medications, such as Vicodin, Percocet, or OxyContin, as well as illicit drugs, such as heroin.[2]

The prevalence of neonatal abstinence syndrome (NAS); past-year illicit drug dependence or abuse among individuals age 12 or older in Rhode Island presented in this Report is based on National Survey on Drug Use and Health (NSDUH) data (2009–2013).[3] The overdose-related death rates are as reported by the Rhode Island Centers for the Office of State Medical Examiners.

Prevalence across the Life Span

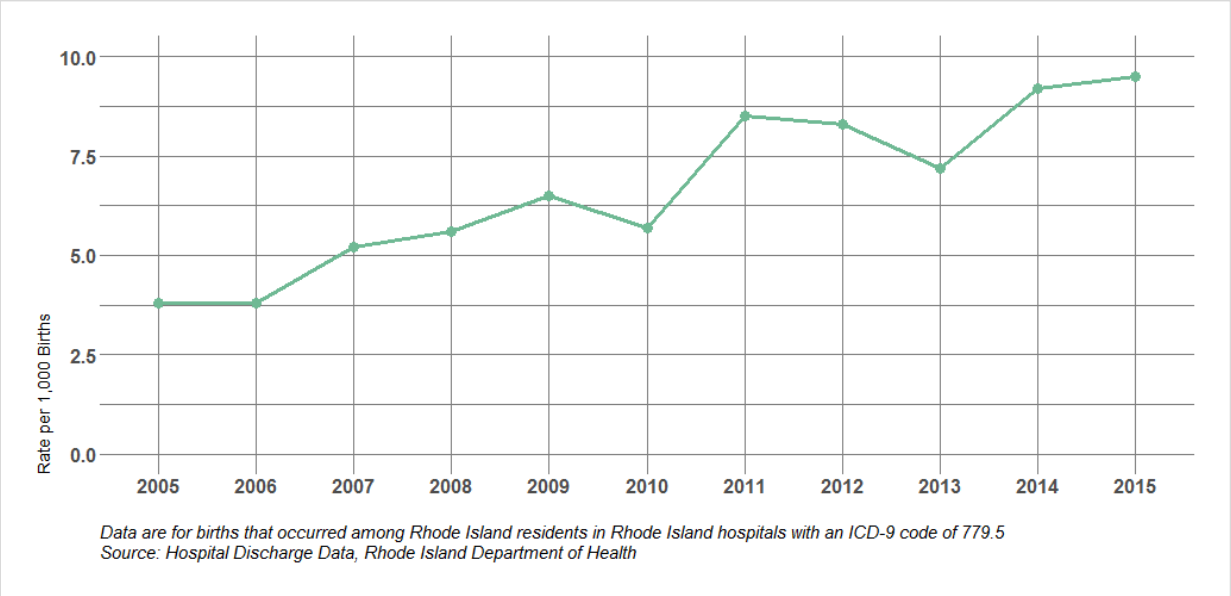
Neonates

NAS is a postnatal drug withdrawal syndrome that occurs in infants shortly after birth. NAS is most likely to occur as the result of in-utero exposure to opioids.[4] This exposure can result from maternal prescription opioid use, illicit opioid use, or medication-assisted treatment for an opioid use disorder. Newborns with

NAS experience symptoms that include central nervous system irritability (e.g., tremors, increased muscle tone, high-pitched crying, and seizures), gastrointestinal dysfunction (e.g., feeding difficulties), and temperature instability.[5]

According to a study published by the Centers for Disease Control and Prevention (CDC) in 2016, the incidence of NAS in 28 states with retrievable data from the Healthcare Cost and Utilization Project increased almost 300% from 1999 to 2013, from 1.5 to 6.0 cases per 1,000 hospital births.[6] The 2013 incidence of NAS per 1,000 births in Rhode Island was 7.2.[7] While the rate of NAS in Rhode Island is not the highest reported nationally, it has more than doubled between 2005 and the first three quarters of 2015, from 4.4 cases per 1,000 live births to 9.5 cases per 1,000 live births.[8] (See Figure 1 below).

Figure 1: Neonatal Abstinence Syndrome in Rhode Island, 2005-2015.



While the increase in the number of infants born with NAS is a concern, the national impact on healthcare utilization and costs is alarming.

- In some hospitals, infants with NAS comprise 50% of admissions to their Neonatal Intensive Care Units;
- Mean length of hospital stay = 23 days;
- Mean hospital charge = $93,400 per infant; and
- Total NAS inpatient cost in 2012 = $1.5 billion.[9]

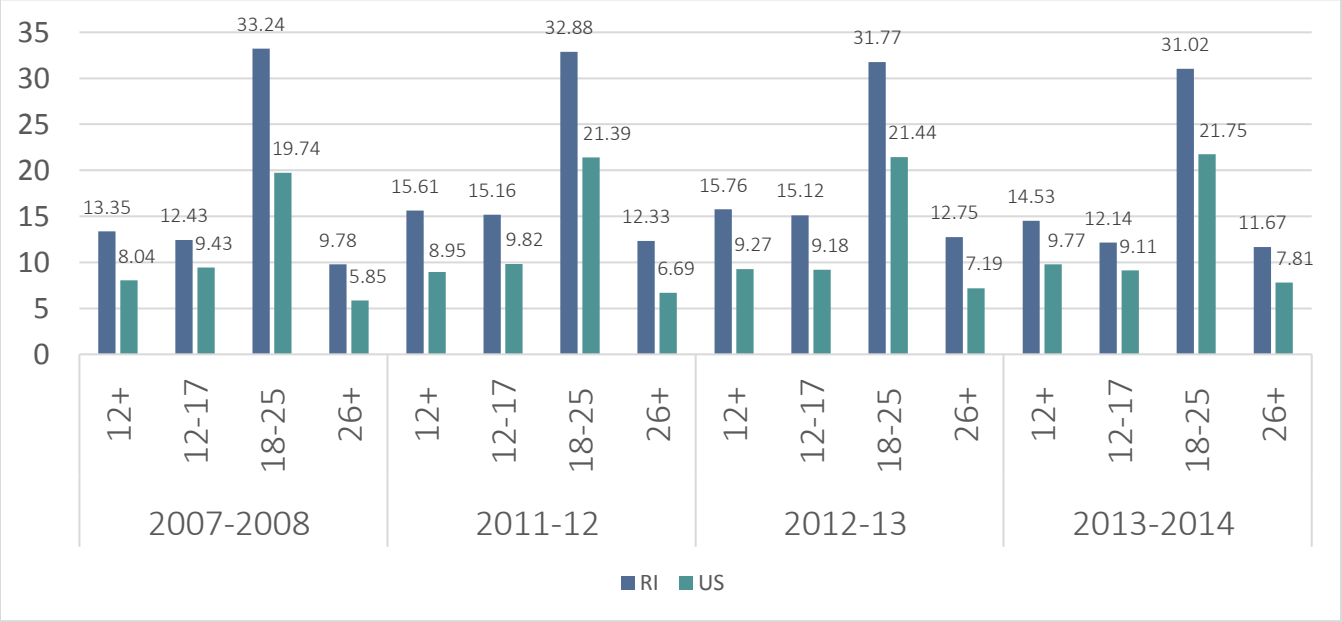
Individuals Age 12 and Older

According to data collected in the NSDUH, between 2009 and 2013, rates of illicit drug abuse or dependence among Rhode Islanders age 12 or older exceeded the national average.[10] (See Figure 2). In 2013,

Rhode Island had one of the highest rates of illicit drug use in the nation, as well as the highest rate of drug overdose in New England.[11]

While the rates of prescription drug misuse among both middle and high school students have declined since 2011, according to 2015 Rhode Island Youth Risk Behavior Survey (RI YRBS) data, 12% of high school students and 4% of middle school students reported use of prescriptions drugs not prescribed to them.[12] From 2007-08 to 2013-14, for all age groups, Rhode Island had higher rates of illicit drug use compared to the national average. Despite recent decreases, Rhode Island continues to fare worse than the national average for illicit drug use in the past month across all age groups.[13] The State also ranks 35th highest for youth dependence on, or abuse of, illicit drugs or alcohol with a prevalence of 6.9%, or 5,000, youths reporting drug or alcohol dependence or abuse.[14]

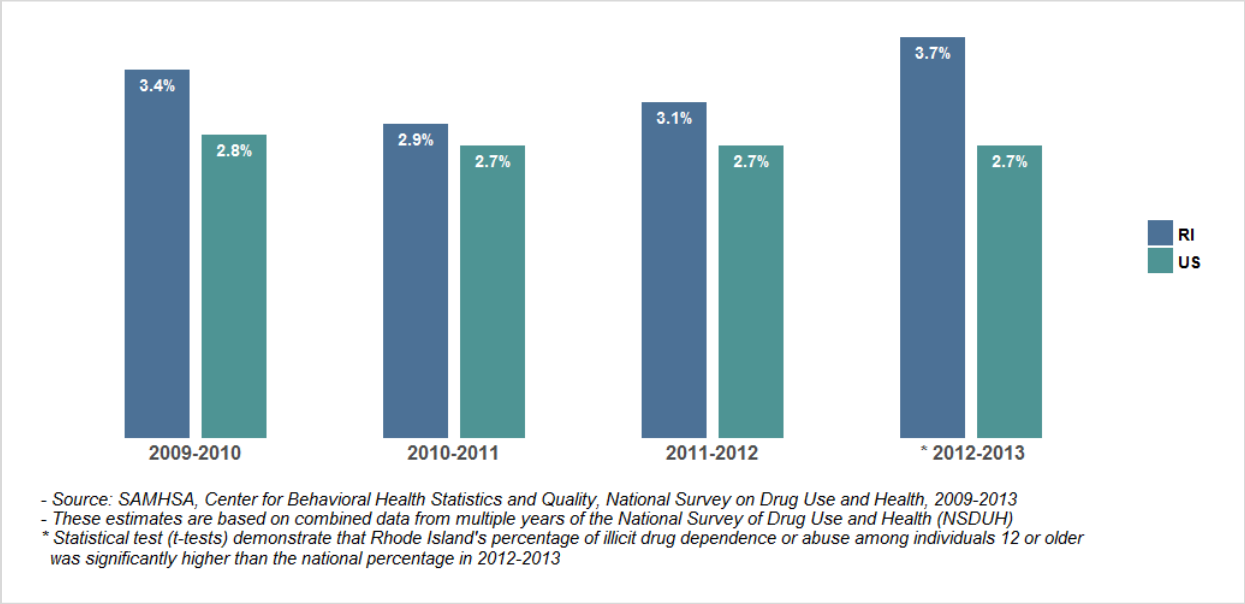
Figure1A: Any Illicit Drug Use in the Past Month (%) by Age Group, Rhode Island versus United States, 2007-2014.



Adults

Among adults, Rhode Island ranked second highest nationally for adult dependence on, or abuse of, illicit drugs or alcohol with a prevalence of 10.9% or 89,000 adults. [15]

Figure 2: Past-Year Illicit Drug Dependence or Use among Individuals Age 12 or Older, in Rhode Island versus the United States, 2009-2013.



The rate of opiate use in Rhode Island, similar to many states throughout the country, is described as an epidemic. According to a report issued by The Rhode Island Opiate Task Force, this recent increase in opiate use is directly related to a dramatic increase in the amount of opioids prescribed. The accessibility of opioid pain medications—such as Vicodin, Percocet, or OxyContin—often leads to the use of heroin, which has become much cheaper. Since 2002, rates of heroin use have doubled in the United States.[16]

Table 1 summarizes recent trends in the dispensing of opioids in Rhode Island as captured through the RIDOH Prescription Drug Monitoring Program. Between 2015 and 2016, there was a 4.4% decrease in the number of prescriptions filled for opioid pain medications. However, there was a 1.5% increase in the total number of doses prescribed during this same time. Fewer prescriptions for opioid medications, excluding buprenorphine, are being filled, but there is a slight increase in the average number of opioids dispensed per prescription. The number of prescriptions filled for methadone (to treat pain) during this same time did not change.

Table 1: Dispensing of Opioid Pain Medications* in Rhode Island, 2015-2016.

	2015	2016
Number of opioid prescriptions filled	716,254	685,042
Total doses dispensed	43,337,863	43,975,183
Average number of doses/script	60.5	64.2
Methadone prescriptions filled	6,710	6,748

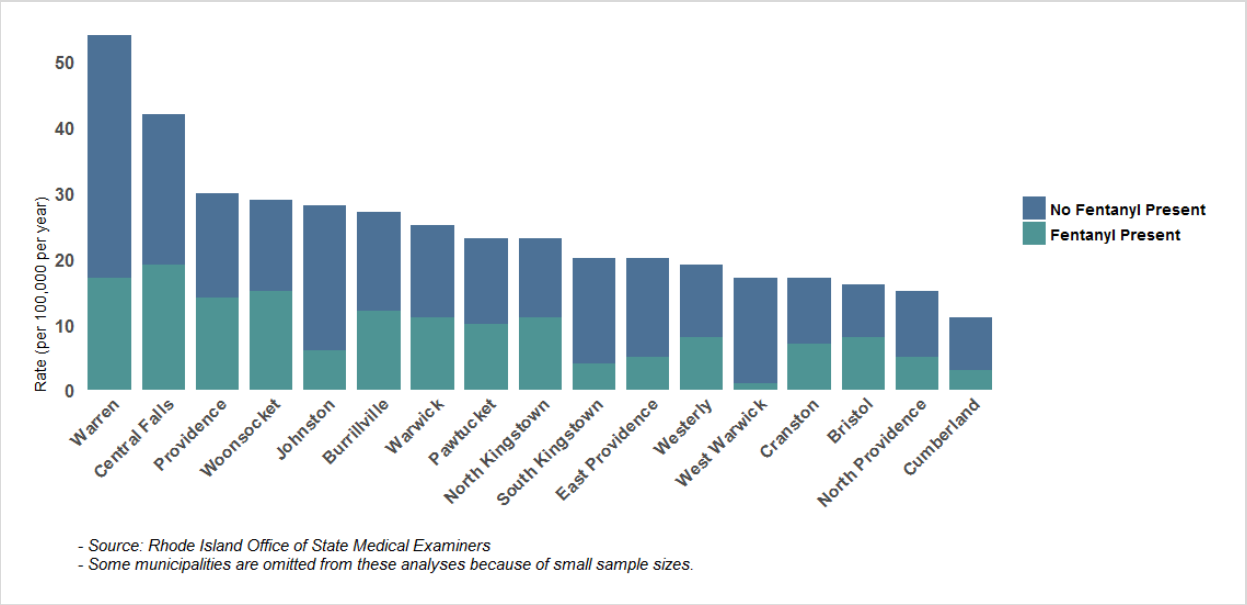
** Primary active ingredient was butorphanol, codeine, dihydrocodeine, fentanyl, hydrocodone, hydro-morphone, levorphanol, meperidine, methadone, morphine, opium, oxycodone, oxymorphone, paregoric, tapentadol, or tramadol. Excludes buprenorphine tablets, strips and patches.*

Source: Data are from Rhode Island DOH Prescription Drug Monitoring Program.

The opioid epidemic has had grave consequences for Rhode Islanders. From 2012 to 2013, the number of emergency department visits with a primary diagnosis of opioid overdose for youth/young adults up to age 19, increased by 80%, from 20 to 36; the number of visits for 20-24 year-olds increased by 32%, from 175 to 231.[17] Since 2002, the rate of heroin-related overdose deaths nearly quadrupled.[18] The death rate for all ages attributed to illicit drugs, including heroin, illicit fentanyl and cocaine, increased 400%, from 42 in 2011 to 171 in 2015.[19] Furthermore, the death rate for all ages attributed to narcotics, including opioids and hallucinogens more than doubled between 2011 and 2013. Eighty percent of overdose deaths in 2015 involved illicit drug use, up from 67-70% in prior years.[20] Overdose deaths related to fentanyl-laced illicit drugs increased from 35.3% (84/238) in 2014 to 46.9% (136/290) in 2015.[21]

According to the Rhode Island Center for the Office of State Medical Examiners, the highest rates of drug-related deaths in Rhode Island counties are (in order): Kent County, Providence County, Washington County, Newport County, and Bristol County.[22] According to the Opiate Task Force Report, reported overdose death rates for 2014-2015 were highest in Warren, Central Falls, Providence, and Woonsocket. [23]

Figure 3: Overdose-Related Death Rates Per Capita by Rhode Island City, 2014-2015.



Older Adults

While the incidence of illicit drug use is not as prevalent among older adults, age-related physiological changes, co-existing chronic health conditions, and social issues, such as isolation, make older adults a unique at-risk population with regard to prescription opioid use and misuse.[24] The increased rate of opioid use among older adults has resulted in increased medical emergencies, as evidenced by increased emergency department visits among older adults. From 2005-2011, the national rate of emergency department visits involving nonmedical use of narcotic pain relievers for patients age 55 and older increased 121%.[25] A recently published pilot study of patients older than 65 in a hospital emergency department within Rhode Island found:

- More than two-thirds of the sample of 88 patients had current or prior experience with prescription opioid use.
- Nearly one in five were actively using opioids.
- Five of the 17 active opioid users surveyed met criteria for opioid misuse. [26]

Access to Treatment

In spite of the escalation of the problem and growing need for treatment, state funding for substance abuse services decreased from about $15.5 million to $5 million between 2007 and 2014.[27] As seen in Table 2, within this time period, Rhode Island exceeded the national average in all age groups for the percent of individuals in need of, but not receiving, treatment for drug use.[28]

Table 2: Percent of Individuals Needing, but Not Receiving, Treatment for Drug Use in Rhode Island, 2011-2014.

	2011-2012			2012-2013			2013-2014		
Age Group	12-17	18-25	26+	12-17	18-25	26+	12-17	18-25	26+
US	4.0	7.0	1.4	3.5	7.0	1.5	3.3	6.4	1.6
RI	4.0	7.1	1.5	4.3	8.0	1.9	3.7	7.2	2.0

Source: 2013-14 National Survey on Drug Use and Health

There was a slight increase in the number of total substance use treatment admissions in Rhode Island, from 14,015 in 2012 to 14,406 in 2014. During this same time, treatment admissions across all ages for heroin increased from 20.5% of all substance use treatment admissions in 2012 to 31% of all admissions in 2014.[29]

Medication-assisted treatment (MAT), a combination of psychosocial therapy and United States Food and Drug Administration (FDA)-approved medication, is the most effective intervention to treat OUD.[30] Research has found MAT to be more effective than either behavioral interventions or medication alone. MAT significantly reduces illicit opioid use compared with nondrug approaches, and can reduce overdose fatalities.[31] Yet, the Rhode Island Governor's Overdose Prevention and Intervention Task Force estimated that in 2015 there were more than 20,000 individuals in Rhode Island with opioid use disorder not on MAT who could benefit from it.[32]

The use of peer recovery specialists in hospital emergency departments, which originated in Rhode Island, is viewed as a national model for combating opioid use disorders and is being replicated in several states including New York, New Jersey, Wisconsin, Maryland, Pennsylvania, Massachusetts, Delaware, and Connecticut. A recent study found that individuals are even more likely to participate in addiction treatment and reduce opioid use long-term if they are started on MAT while in the emergency department.[33]

Co-Morbidities

Illicit drug users are at particular risk for developing one or more primary conditions or chronic diseases, including HIV, AIDS, and viral hepatitis.[34] Similarly, individuals diagnosed with substance use disorders are roughly twice as likely to also have a diagnosed mood and/or anxiety disorder.[35] Some of the most common co-occurring mental health disorders found in individuals receiving MAT include:[36]

- Anxiety and mood disorders;
- Schizophrenia;
- Bipolar disorder;
- Major depressive disorder;
- Conduct disorders;
- Post-traumatic stress disorder; and
- Attention deficit hyperactivity disorder.

In addition to the development of addiction to prescription pain killers, older adults who misuse these drugs may be at increased risk for adverse events often associated with opioid use, such as delirium, falls, fractures, pneumonia, and increased all-cause mortality. [37]

Using alcohol while taking prescription painkillers (such as hydrocodone, oxycodone, morphine) can be very dangerous. Consuming alcohol even when taking a painkiller as prescribed can lead to increased intoxication and possible overdose.[38] Alcohol and opioid medications are central nervous system depressants and can slow down a person's breathing rate, and the combination of the two can significantly repress organ function, causing the body to stop breathing and can lead to brain damage or death. Older adults who mix alcohol and prescriptions opioids are at greater risk of falls resulting from loss of balance, serious memory loss, and increased effects of dementia.[39]

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