



HIV and Opioid Use in California and Nevada

Background

This brief seeks to outline the intersections between the HIV and opioid epidemics in two heavily impacted western states: California and Nevada. People living with HIV (PLWH) face higher risk of opioid misuse than HIV-negative people because PLWH are more likely to suffer chronic pain and to receive opioid analgesic treatment for symptom relief (Canan et al., 2018; Lemons et al., 2019). PLWH also disproportionately suffer from co-occurring mental health challenges and/or other substance use disorders (Cunningham, 2018). Conversely, the sharing of needles, syringes, or other injection equipment accompanying injection drug use (IDU) increases the risk of transmission of HIV and other blood-borne infectious diseases, like Hepatitis C, and health issues, such as tissue infections, abscesses, and cellulitis (Ciccarone et al., 2016). Indeed, rural Scott County, Indiana, experienced an HIV outbreak in 2015 “linked to syringe-sharing partners injecting the prescription opioid oxycodone” (Conrad et al., 2015, p. 443). More recently, Cabell County, West Virginia, also experienced an unusual HIV cluster associated with surging opiate use in the city and surrounding rural communities (Swenson, 2019). Understanding the relationship between IDU and HIV risk is important to avoid future HIV outbreaks among people who inject drugs (PWID).

Opioid Use and People Living with HIV

The opioid crisis, which is driven largely by the misuse of prescription and synthetic opioids and illicit substances, such as heroin and illegally manufactured fentanyl, directly impacts public health efforts to reduce HIV transmission. Through 2017, the rate of deaths from natural opioid pain reliever and semisynthetic opioid use had climbed fairly steadily since 2000 and rates of deaths from heroin use rose sharply beginning in 2010 (see Figure 1). The steepest increase in the rate of deaths has been tied to use of synthetic opioids from 2013 onward.

Between 1999 and 2017, over 700,000 people died from drug overdoses in the United States, and an average of 130 people in the U.S. die from opioid-related overdoses each day (Centers for Disease Control and Prevention (CDC), 2018). In 2017, Nevada had a per capita opioid-involved overdose death rate of 13.3 and California had a rate of 5.3. More than half of opioid overdose deaths in both states involved prescription opioids (see Table 1). The second highest number of opioid deaths involved heroin, followed by synthetic opioids (Scholl et al., 2019).

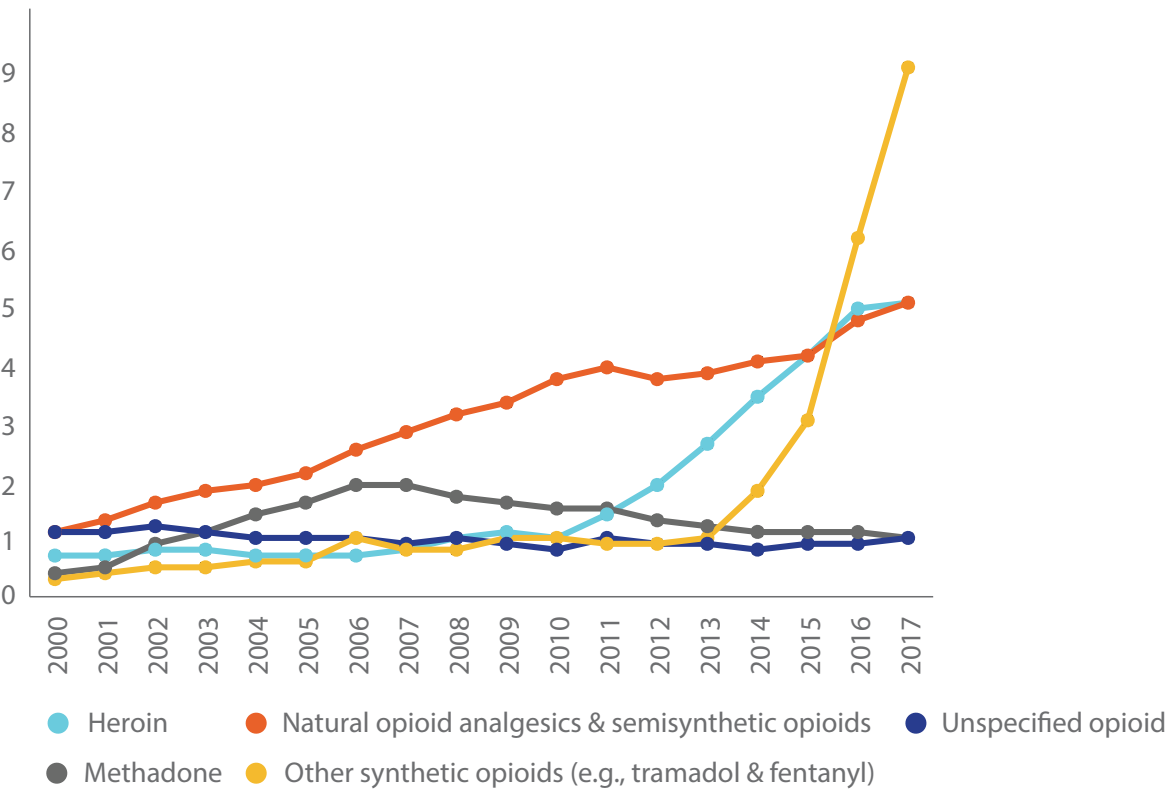
Table 1: Opioid-Involved Overdose Deaths in 2017

	Nevada	California	U.S.
Total Overdose Deaths involving Opioids	412	2,199	47,600
Deaths per 100,000	13.3	5.3	14.9
Deaths involving Prescription Opioids	276	1,169	17,029
Deaths involving Heroin	94	715	15,482
Deaths involving Synthetic Opioids	66	536	28,466

Source: Scholl et al., 2019

As prescription opioid misuse increased in the U.S. through the first decade of the 21st century, policies were introduced to reduce their availability. However, these policy shifts have been linked with an increase in heroin use (Kuehn, 2014; Rigg & Monnat, 2015). Almost four out of five heroin users report that using prescription opioids preceded their use of heroin (Jones, 2013). National data on opioid misuse for 2018 indicate that 10.3 million people aged 12 or older were affected. Of that number, 5% engaged in both pain reliever misuse and heroin use, 92% engaged only in pain reliever misuse, and 3% engaged only in heroin use (Center for Behavioral Health Statistics and Quality, 2018).

Figure 1: U.S. Crude Death Rate Per 100,000 by Opioid Type



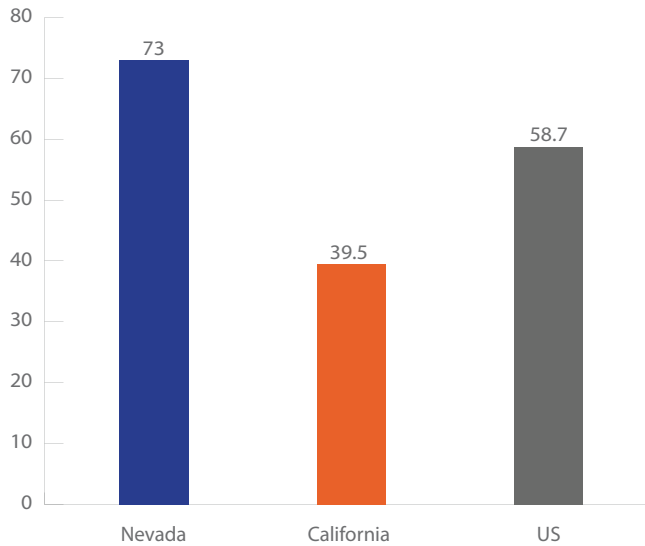
Source: CDC, WONDER Online Databases, Multiple Cause of Death

Heroin Use and Painkiller Misuse and Disorder in Nevada and California

After assessing the scope of heroin and painkiller misuse in California and Nevada, we reviewed literature on the potential interaction between the opioid crisis and HIV transmission through injection drug use. The National Survey on Drug Use and Health (NSDUH) distinguishes between drug misuse and substance use disorder. Misuse is defined as “use without a prescription of one’s own; use in greater amounts, more often or longer than told to take a drug; or use in any other way not directed by a doctor” (Center for Behavioral Health Statistics and Quality, 2016, p. 1) while substance use disorder refers to “clinically significant impairment caused by the recurrent use of alcohol or other drugs (or both)” (Ibid., p. 20).

National figures for 2018 show that the three most highly misused opioid analgesics were oxycodone, buprenorphine, and methadone used respectively by 28.4%, 28.3%, and 23.5% of any past-year users (Center for Behavioral Health Statistics and Quality, 2018). The U.S. average rate of opioid prescriptions was 58.7 prescriptions for every hundred persons in 2017; the rate for Nevada was higher at 73 prescriptions and lower for California at 39.5 prescriptions for every hundred persons (CDC, 2017; National Institute on Drug Abuse (NIDA), 2019a and 2019b).

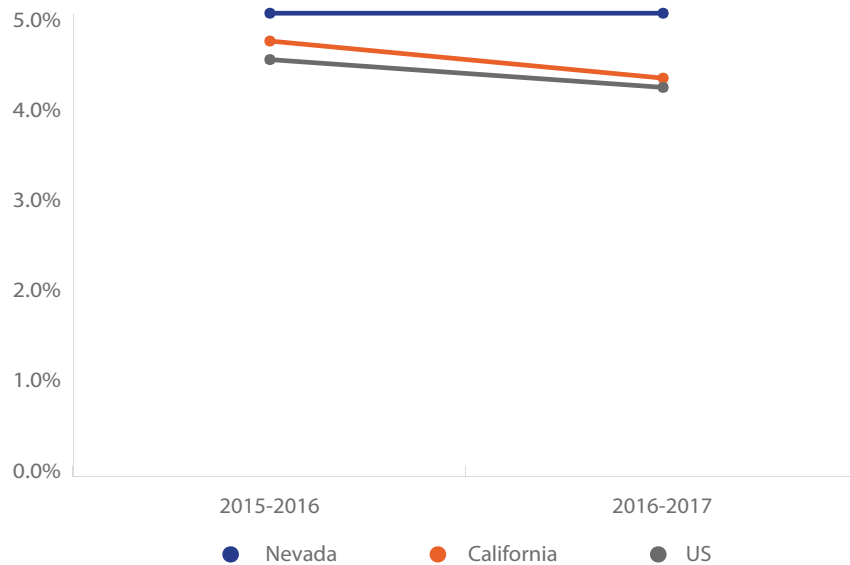
Figure 2: Average Opioid Prescriptions for Every Hundred Persons, 2017



Sources: CDC, U.S. Opioid Prescribing Rate Maps; NIDA Opioid Summaries by State

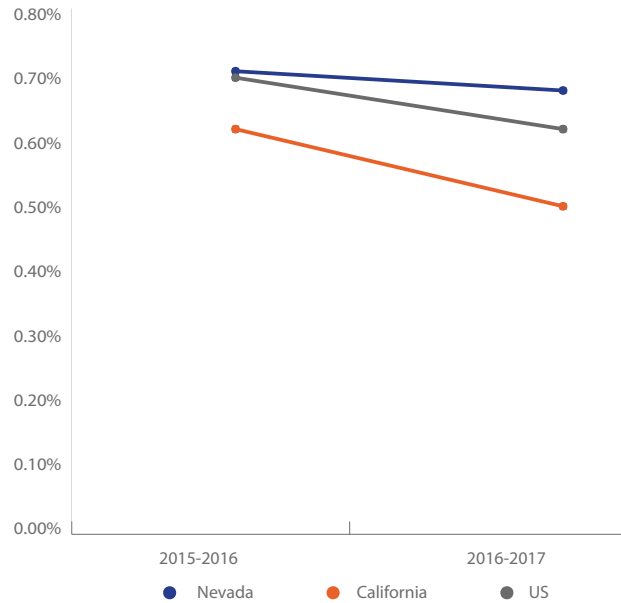
Pain reliever misuse in the past year among those aged 12 or older barely moved from 4.5% in 2016 to 4.2% in 2017 nationally (see Figure 3), which corresponds to an average of 11.3 million people misusing pain relievers between these years. In the same time period, in Nevada, the rate of misuse of pain relievers among those aged 12 or older slightly exceeded the national rate at 5%, representing an average of 123,000 individuals misusing pain relievers between 2016 to 2017. California more closely followed the national rate and pattern, dropping from 4.7% in 2016 to 4.3% in 2017 and averaging about 1.4 million persons misusing pain relievers during that time period (SAMHSA, 2019).

Figure 3: Pain Reliever Misuse in the Past Year Among Persons Aged 12 or Older



Source: SAMHSA, Interactive NSDUH State Estimates

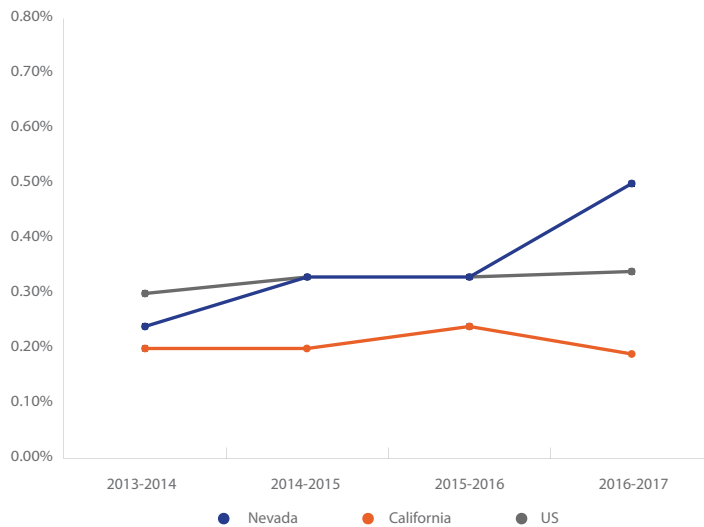
Figure 4: Pain Reliever Use Disorder in the Past Year among Persons Aged 12 or Older



Source: SAMHSA, Interactive NSDUH State Estimates

The proportion of the population aged 12 or older in the U.S. with pain reliever use disorder in the past year was 0.71% in 2016 and 0.63% in 2017 (see Figure 4), an average of 1.7 million individuals for these two years. In Nevada by comparison, the proportion of those aged 12 or older with pain reliever use disorder was 0.72% in 2016 and 0.69% in 2017, an average of 17,000 individuals between these years. The rate of pain reliever use disorder in California in the same age group was 0.63% and 0.51% in 2016 and 2017 respectively, lower than that of Nevada or the national rate, representing an average of 166,000 individuals for the period (SAMHSA, 2019).

Figure 5: Heroin Use in the Past Year among Persons Aged 12 or Older



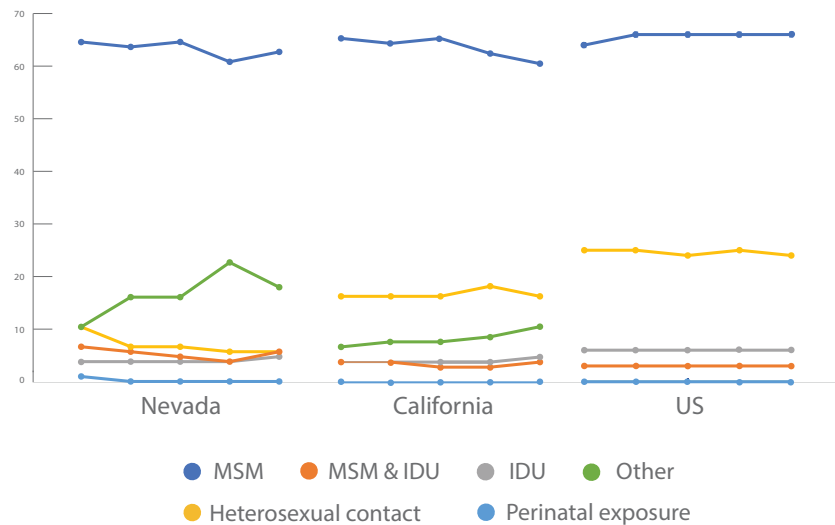
Source: SAMHSA, Interactive NSDUH State Estimates

As for past-year heroin use among those aged 12 or older, the national rate has been constant since 2013, averaging about 0.32% (see Figure 5); the 2016 to 2017 average is estimated at 917,000 persons. In California, that proportion rose to 0.24% in 2016, after being at 0.20% in the previous two years, and then fell to 0.19% in 2017. This is an average of 61,000 persons between 2016 and 2017. In Nevada, the rate of heroin use doubled from 0.24% in 2014 to 0.50% in 2017 (SAMHSA Interactive NSDUH State Estimates). Between 2016 to 2017, past-year heroin users averaged 12,000 persons in the 12 or older age group (SAMHSA, 2019).

HIV Resulting from Injection Drug Use (IDU) in Nevada and California

From 2013 to 2014, the total number of new HIV diagnoses in Nevada was 434 and increased by 11% to 483 in 2015. The number of new diagnoses then rose by 8% to 520 in 2016 and fell by 7% to 486 in 2017. In contrast, the proportion of new diagnoses among people who inject drugs (PWID) was largely constant at 4% from 2013 to 2016, then increased to 5% in 2017 (see Figure 6). In the same time period, the proportion of new diagnoses among men who have sex with men (MSM) who engage in IDU was highest at 7% in 2013 and decreased by a percentage point each year until 2016. This trend reversed from 2016 to 2017, increasing from 4% to 5%. In 2017, 25 newly diagnosed individuals reported IDU, and 29 individuals identified as MSM who inject drugs (MSMWID) (NDPBH-OPHIE, 2017a; NDPBH-OPHIE, 2017b; NDPBH-OPHIE, 2018).

Figure 6: Proportions of New Diagnoses by Transmission Category, 2013-2017



Source: Calculations from data in the US 2017 HIV Surveillance Report, Nevada HIV Epidemiological Profile 2015 Update, Nevada 2016 and 2017 HIV Fast Facts, and the California 2017 HIV Surveillance Report

* Each dot marks a year from 2013 to 2017; US data include six dependent areas.

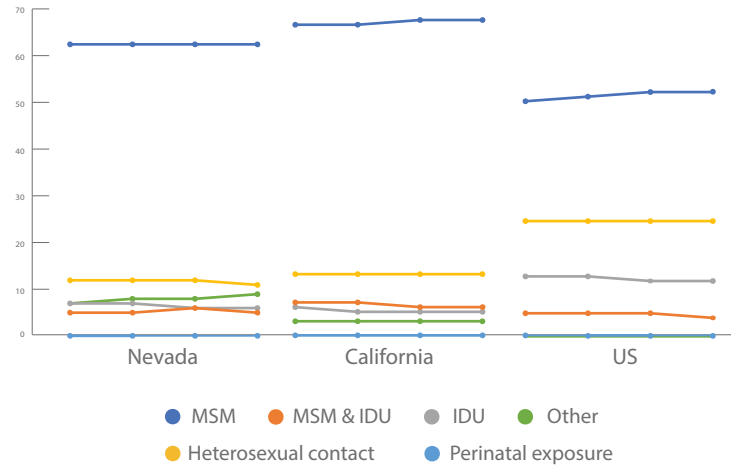
In California, there were a total of 4,752 new HIV diagnoses in 2013, which increased 10% in 2014. The number of new HIV diagnoses held steady through 2016 and then declined by 7.5% to 4,791 in 2017. New diagnoses associated with IDU were stable from 2013 to 2016, making up 4% of the total number of new HIV cases, and increased to 5% in 2017. The proportion of new diagnoses among MSMWID was almost 4% for both 2013 and 2014, at 3.3% for 2015 and 2016, and increased to 4% in 2017. That year, there were 223 new HIV diagnoses associated with IDU and 177 new diagnoses among MSMWID (CDPH, 2017).

In examining the proportions of new HIV diagnoses among PWID and MSMWID, the trends in Nevada and California mirror the national trend.¹

Table 2. Numbers of PLWH												
	Nevada				California				US			
	2013	2014	2015	2016	2013	2014	2015	2016	2013	2014	2015	2016
MSMWID	575	632	661	684	9825	9603	9467	9463	55009	54992	54946	54951
PWID	728	736	734	764	8234	8149	8062	8034	132412	130684	129333	128128

Source: CDPH, 2017; NDPBH-OPHIE, 2017a

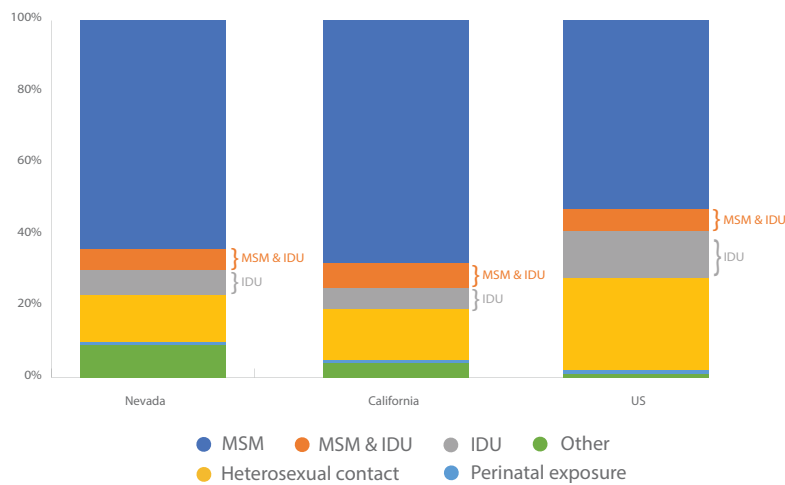
Figure 7: Proportions of PLWH by Transmission Category, 2013-2016



Source: Calculations from data in the US 2017 HIV Surveillance Report, Nevada HIV Epidemiological Profile 2015 Update, Nevada 2016 HIV Fast Facts, and the California 2017 HIV Surveillance Report

* Each dot marks a year from 2013 to 2016; US data include six dependent areas.

Figure 8: Proportions of PLWH by Transmission Category, 2013-2016 Average*



Source: Calculations from data in the US 2017 HIV Surveillance Report, Nevada HIV Epidemiological Profile 2015 Update, Nevada 2016 HIV Fast Facts, and the California 2017 HIV Surveillance Report

* US data include six dependent areas.

¹ National HIV surveillance data for 2017 included in this article are preliminary and were based on a 6-month reporting delay.

Among PLWH (see Table 2), the proportions of PWID and MSMWID have been largely stable from 2013 to 2016 (see Figure 7), ranging from 6% to 7% in Nevada and California (see Figure 8). The national trend in the same time period among PWID and MSMWID was similarly uniform. It is worth noting that the proportion of people in the US who seroconverted as a result of IDU is at 13%. The percentage share of PLWH associated with IDU in the U.S. is double that of either Nevada or California.

Conclusion

Historically, the stigma associated with both injection drug use and HIV worked in tandem to disrupt access to HIV treatment and prevention efforts. People living with HIV who inject drugs were particularly challenged by the misperception that offering someone who is actively using and misusing substances HIV treatment was ineffective (Bogart et al., 2001). This misperception was proven to be inaccurate well over a decade ago (Wood, 2008), giving way to two key interventions: (1) offering substance use treatment to PLWH, and (2) operating syringe exchange programs to ensure a clean needle supply to PWID. These programmatic priorities for addressing barriers to HIV treatment and prevention have been proven to be effective (Bramson et al., 2015; Fiellin et al., 2011).

Recent trends related to the opioid epidemic implicate a renewed focus on both existing strategies and new strategies to address HIV treatment and prevention among PWID. Given outbreaks of HIV among PWID in Indiana in 2015 and West Virginia in 2018 (Conrad et al., 2015; Goldberg, 2019), California and Nevada must continue to be vigilant regarding public health surveillance among PWID and to support strategies that have been proven effective. Indiana, as an example, saw a stark rise in HIV rates when syringe exchange was made unlawful (Peters et al., 2016; Twohey, 2016). Efforts in California and Nevada to similarly limit or eliminate syringe access programs may result in a similar adverse community health impact (City News Service, 2018; Davis, 2019; Robinson, 2018). Undermining these strategies may prove to be detrimental in efforts to address HIV transmission among PWID.

Earlier work on legislation promoting safer drug consumption sites or drug prevention programs which allow for clinically supervised injection drug use highlight the efficacy of alternative models to intervention and may be (re)considered in California and Nevada in coming years. Other policy initiatives, such as increasing funding for substance use treatment, limiting prescriptions of opioids for pain management, routine distribution of Narcan (overdose-prevention medication) by healthcare providers and pharmacies and continuing to establish and fund syringe exchange programs are employed or are currently under consideration in one or both states. More research in this area to inform innovative policy solutions is needed. Recent efforts to view these issues using a syndemics approach, focusing not only on data related to HIV treatment and prevention but also targeting data on Hepatitis C screening, testing and treatment, for example, is a promising example of how viewing these data together could inform better, more effective data-driven solutions in the future.

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