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Changes in Drug Overdose Mortality in New Mexico

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New Mexico has experienced increasing death rates due to drug overdose and has consistently had higher rates than the U.S. In 2012, NM's drug overdose death rate was third in the US, after which it dropped to 17th in 2017. Mortality rates increased once again in 2018, leaving New Mexico ranked 15th.

New Mexico has had some success with decreasing deaths due to non-fentanyl prescription opioids. The rate in 2012 was 9.8 per 100,000, which increased to 12.7 in 2014. With specific prevention measures put into place, the mortality rate due to prescription opioids dropped to 9.2 in 2018. Deaths due to methamphetamine began to increase in 2014, leading to the increase in the overall drug overdose mortality rate in 2018. Fentanyl overdose deaths also began increasing in 2016, though at a lower rate than methamphetamine overdose death. While there are good interventions for reducing opioid overdose, there are currently few evidence-based interventions for reducing methamphetamine overdose deaths.

Methods

Mortality information is extracted from multiple cause of death files obtained from the NM DOH Epidemiology and Response Division Bureau of Vital Records and Health Statistics (BVRHS) and the New Mexico Office of the Medical Investigator (OMI). Both ICD-10 codes and text fields are used to determine the drugs involved in an overdose death. ICD-10 codes X40-44 (unintentional poisonings), X60-64 (suicide), X85 (homicide) and Y10-14 (undetermined intent) as underlying causes of death are extracted from BVRHS data. Data extracted from OMI files are defined using text fields that list all drugs involved in the overdose death, including alcohol. Deaths that list multiple drugs are counted once for each drug type, so counts are not mutually exclusive. US rates were obtained from CDC Wonder (https://wonder.cdc.gov/ucd-icd10.html). All rates are age adjusted to the US 2000 standard population.

Results

Total drug overdose deaths have been increasing in New Mexico and the U.S. New Mexico's rate is higher than the U.S. rate and has consistently been so (Figure 1). In 2012, New Mexico had 486 deaths due to drug overdose and the rate for overdose death in NM was 24.2 per 1000,000. The rate increased to 26.8 in 2014. The rate decreased to 24.6 in 2017 but increased to 26.6 in 2018.

Overdose death rates for benzodiazepines have declined from 5.1 in 2012 to 4.7 in 2018 (Figure 2). Overdose death rates due to cocaine have gone from 3.3 in 2012 to 2.8 in 2018. Overdose deaths due to illicit fentanyl are increasing in NM, although at a slower rate than that for methamphetamines. The overdose death rate for illicit fentanyl was 0.7 in 2012, increasing to 3.4 in 2018. Overall, males have higher rates of overdose death due to heroin, especially in the 25-44 year age group, while females have higher rates of overdose death due to prescription opioids primarily in the 45-64 year range. Hispanics have the highest rate of overdose death due to heroin, while whites have the highest overdose death rate due to prescription opioids. American Indians have the lowest overdose death rate due to opioids - both prescription and illicit. The overdose death rate due to methamphetamine was 3.0 per 100,000 in 2012 and increased to 10.0 in 2018, driving the overall rate increase in 2018 (Figure 3). Methamphetamine overdose deaths were more common in males, and Hispanic males have a higher rate than White males. Hispanic females had higher rates in the 25-34 age group, while White females had a higher rate in the 35-54 year age group.

Non-fatal opioid overdose cases seen in an emergency department (ED) have also decreased. The rate of ED visits in 2014 was 29.7, which increased to 69.7 in 2016 and decreased to 61.1 in 2018. The rate for am-

phetamine related visits was 3.0 in 2014, which increased to 19.6 in 2017 and declined to 10.3 in 2018. Substance use epidemiologists have met with several ED physicians and were told that most methamphetamine overdose visits to the ED are not coded as a poisoning, but as amphetamine-related psychosis instead. NM DOH is currently determining the best codes to use to determine the actual rate of methamphetamine related overdose ED visits.

All Prescription Monitoring Program (PMP) measures are currently trending in the right direction. The total number of patients on controlled substances has declined 6.6% from 2018 to 2019, the number of opioid and benzodiazepine prescriptions (both individual and in combination) have declined, the numbers of persons on high dose opioids (-13.8%) or benzodiazepines (-9.7%) have declined and the number of buprenorphine/naloxone prescriptions have increased 6.9%. While there are concerns that reducing the number of people prescribed opioids may lead to increased illicit opioid use, the death rate for heroin overdose in New Mexico has dropped from 8.6 per 100,000 in 2015 to 7.1 in 2018.

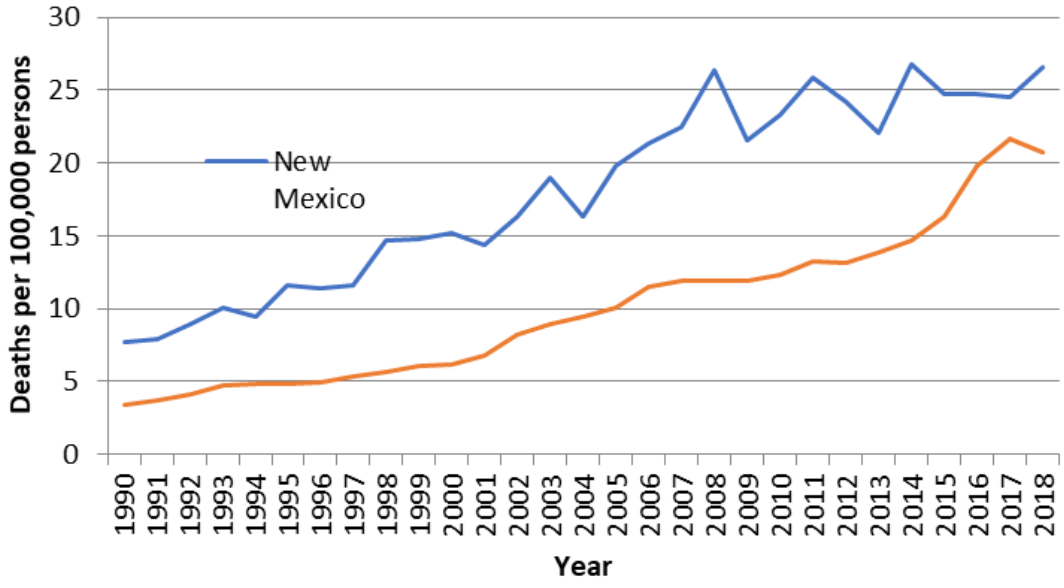
Discussion

New Mexico has implemented several policies that have helped decrease the opioid overdose death rate, particularly the prescription drug overdose death rate. The overdose death rate due to only prescription opioids was 11.1 per 100,000 in 2012 and dropped to 9.4 in 2018. In 2016, a law was passed that required clinicians who prescribe opioids to check the patient's history in the Prescription Drug Monitoring Program (PMP). The New Mexico licensing boards then took the law one step farther and required clinicians to check the PMP before prescribing any controlled substances. In 2019, the naloxone co-prescribing law was passed, which required any opioid prescription to be given in conjunction with a prescription for naloxone. Medication assisted treatment (MAT) is available in most counties in NM, although more MAT providers are still needed. All counties provide some kind of substance use treatment, but seven counties do not have any MAT providers at all, while 17 counties have 3 or fewer providers. Integrating SUD screening and treatment into primary care settings could help alleviate barriers to getting that treatment, especially in rural and frontier areas of the state. In addition, academic detailing for clinicians is promoted and clinicians are encouraged to get their DATA waivers which are needed in order to prescribe medications used for opioid use disorder treatment.

Unlike opioids, there are few evidence-based interventions for methamphetamine overdose and deaths due to methamphetamine overdose are increasing in both NM and in the U.S. Methamphetamine overdoses differ from opioid overdoses, primarily due to the fact that methamphetamines are a stimulant, so deaths are often due to cardiovascular events like a heart attack or stroke. Opioid overdoses are due to the respiratory depressive effects of the drug. Naloxone is effective for opioid overdose, but there is no comparable treatment for methamphetamine overdoses.

There are several promising drugs under investigation for methamphetamine dependence and

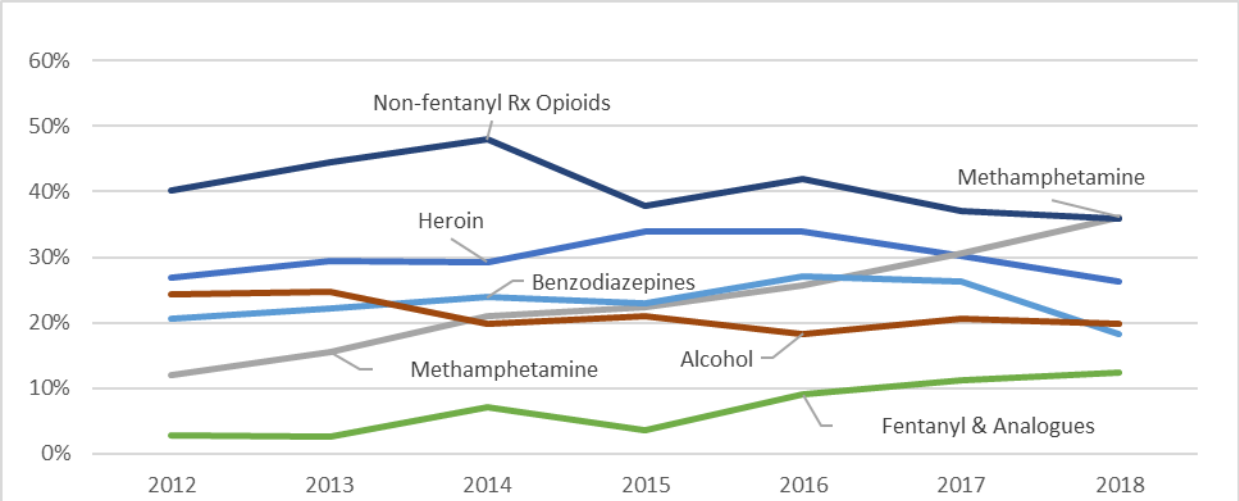
Figure 1. Drug Overdose Death Rates, New Mexico and United States, 1990-2018



Rates are age adjusted to the US 2000 standard population

Source: United States (CDC Wonder); New Mexico (NMDOH BVRHS/SAES, 1990-1998,2016-2018 ; NM-IBIS, 1999-2015)

Figure 2. Overdose Death Involvement Percentage by Drug Type, NM, 2012-2018



Drug categories are not mutually exclusive

Source: NMDOH Bureau of Vital Records and Health Statistics death data

abuse. Sustained-release methylphenidate was shown to be safe and significantly reduced methamphetamine cravings and depressive symptoms.[1] Another study showed that Mirtazipine, in addition to substance use counseling, reduced methamphetamine use and some HIV risk behaviors in MSM, even with suboptimal adherence.[2] Further study on developing medication assisted treatment for methamphetamine use is urgently needed.

Other measures could be used to decrease deaths due to methamphetamines and other non-opioid drugs, while MAT for those substances is being developed. Drug courts and diversion to monitored treatment have been shown to reduce recidivism due to methamphetamines. The PAX Good Behavior game has been shown to increase resiliency in youth, leading to better coping skills later in life. Interventions at the ED level, including peer support and referrals to treatment after a non-fatal overdose have proven to be effective in reducing opioid overdoses in individuals; tailoring a similar response for other substances could also prove to be valuable. Safe injection sites have also reduced fatal overdoses in communities that have implemented them.

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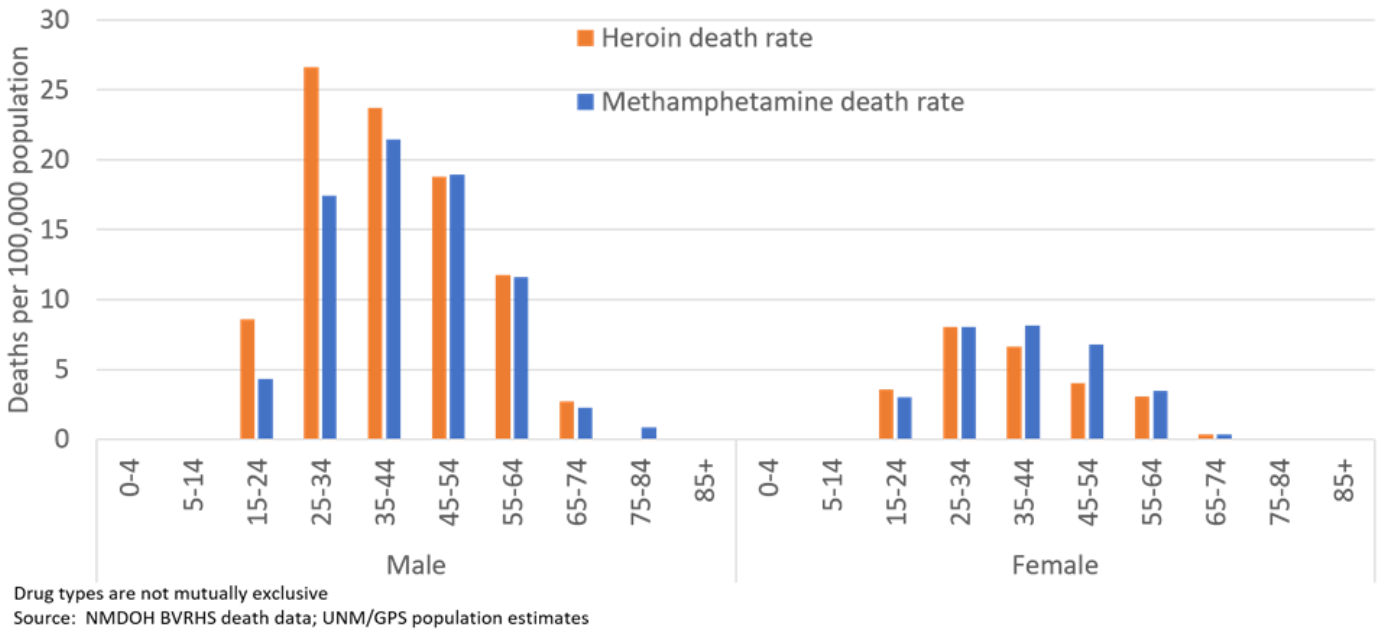
Figure 3. Heroin– and Methamphetamine-involved Overdose Death Rate by Age and Sex, NM, 2014-2018



Drug types are not mutually exclusive
Source: NMDOH BVRHS death data; UNM/GPS population estimates