

Emergency Department Visits due to Opioid Overdose, New Mexico, 2013

Drug overdose is a major public health problem in the United States, with death rates having tripled since 1991. Prescription drugs, particularly opioids, account for much of this increase.¹ In 2013, the most recent national data available, New Mexico ranked third in drug overdose death, with an age-adjusted rate of 22.6 deaths per 100,000 population. A rapid increase in sales of opioids since 1999 has led to greater availability and accessibility of these drugs and the adverse outcomes related to them.² However, mortality is just one, and the most extreme, of the health outcomes associated with drug use. In the US, between 2004 and 2009, there has been a 98.4% increase in emergency department (ED) visits related to misuse or abuse of prescription drugs, particularly opioids.¹ Given the toll drug use disorders impose on NM, use of ED data could prove a valuable addition in the effort of tracking, understanding, and eventually intervening with high risk groups for opioid misuse.

In NM, the emergency department dataset (EDD) is collected in accordance with the NM Public Health Act and New Mexico Administrative Code 7.4.3.10. Data collection for the EDD began in 2009, and all non-federal emergency departments in the state are required to report these data to the NM Department of Health (NMDOH). Data since 2010 are the most reliable, with all visits reported. For the period 2008-09, only select causes of visits were reported. The objective of this report is to describe the rate of opioid overdose-related ED visits in NM to help guide opioid misuse prevention efforts in the state.

Methods

The data primarily represent 2013 opioid (intentional and unintentional) overdose-related ED visits in NM, due to illicit or prescription opioids. Data from 2010-2012 are also presented to illustrate trends. An ED visit was considered to be opioid overdose-related when any of the following International Classification of Diseases-

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es, 9th Revision, Clinical Modification (ICD-9-CM) codes was present on any of the EDD diagnoses fields: 965.00 (poisoning by opium [alkaloids], unspecified), 965.01 (poisoning by heroin), 965.02 (poisoning by methadone), 965.09 (poisoning by other opiates and related narcotics), E850.0 (accidental poisoning by heroin), E850.1 (accidental poisoning by methadone), and E850.2 (accidental poisoning by other opiates and related narcotics). Prescription opioid overdose was defined using these same ICD-9-CM codes but excluded 965.01 (poisoning by heroin) and E850.0 (accidental poisoning by heroin), which in turn were used to define heroin overdose (or illicit opioid overdose).

Total drug overdose, from which opioid overdose is a subset, was defined using the same codes as for opioid overdose plus the following ICD-9-CM codes: 967 (poisoning by sedatives and hypnotics), 969.4 (poisoning by benzodiazepine-based tranquilizers), 969.6 (poisoning by psychodysleptics [hallucinogens]), 969.7 (poisoning by psychostimulants), 970.81 (poisoning by other specified central nervous system stimulants - cocaine), E851 (accidental poisoning by barbiturates), E852 (accidental poisoning by other sedatives and hypnotics), E853.2 (accidental poisoning by benzodiazepine-based tranquilizers), E854.1 (accidental poisoning by psychodysleptics), E854.2 (accidental poisoning by psychostimulants), E950.1 (suicide and self-inflicted poisoning by barbiturates), E980.1 (poisoning by solid or liquid substances, undetermined whether accidentally or purposely inflicted: barbiturates), and E980.2 (poisoning by solid or liquid substances, undetermined whether accidentally or purposely inflicted: other sedatives and hypnotics).

EDD contains one principal diagnosis field, 47 secondary diagnosis fields, and 6 external cause of injury fields (E-code fields). The results presented are based on the use of the first thirty diagnosis fields of the EDD. Using only the principal diagnosis field yields a 70% capture of all the opioid overdose-related ED visits. Over 90% capture occurs with the use of the first five diagnosis fields, and 100% with the first thirty. When more diagnosis fields were added, an opioid overdose-related ED visit was counted whenever any of the codes considered was present in at least one of the E-code fields or in at least one of the diagnosis fields (principal or secondary). Hence, each entry containing any of the codes considered was flagged only once. Population estimates used for rates are from the Geospatial and Population Studies Program at the University of New Mexico. The US 2000 standard population was used to calculate age-adjusted rates.

Results

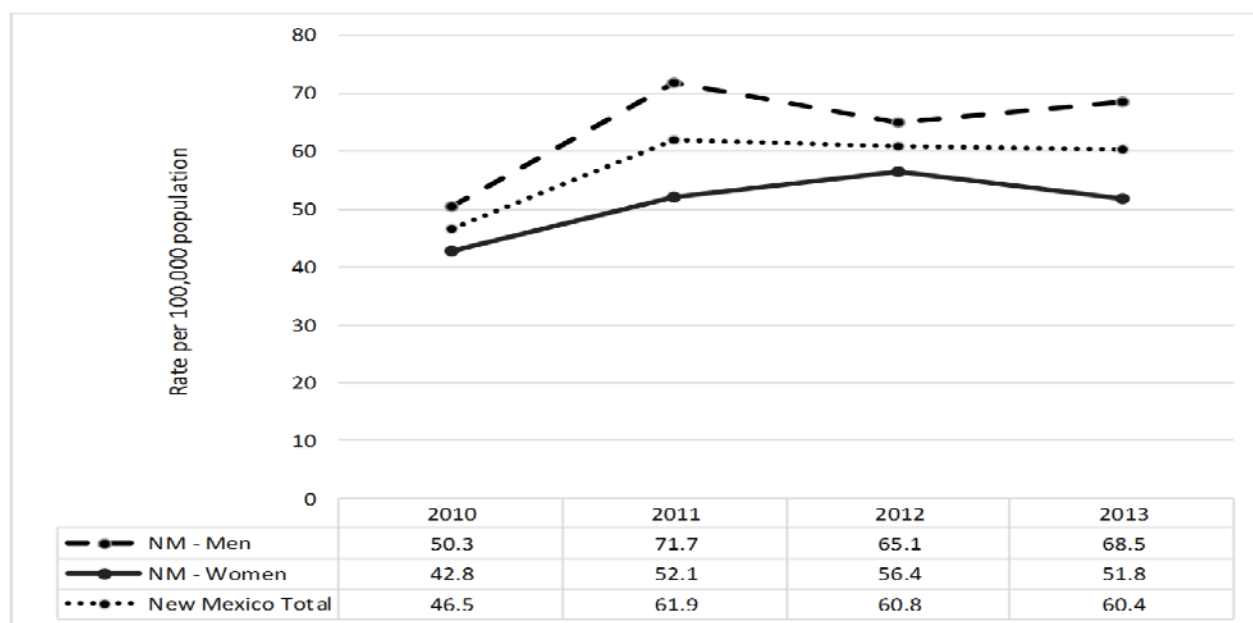
In NM, the rate of ED visits due to opioid overdose increased almost 30% between 2010 and 2013 (Figure 1). The rate increased approximately 36% for men between 2010 (50.3 visits per 100,000 population) and 2013 (68.5 visits per 100,000 population). For women, the increase was approximately 21% (2010: 42.8 visits per 100,000 population; 2013: 51.8 visits per 100,000 population.) By age group (Figure 2), the rate was highest among men aged 25-34 (146.5 visits per

100,000 population). Among women, those aged 35-44 (80.5 visits per 100,000 population) had the highest rate.

In 2013, there were a total of 2,506 ED visits due to drug overdose (Table), for a rate of 122.8 visits per 100,000 population. The rate of opioid overdose-related ED visits was 60.4 visits per 100,000 population and the rate of heroin overdose-related ED visits was 26.9 visits per 100,000 population. Among men, heroin overdose-related ED visits represented almost 54% of all opioid overdose-related ED visits and prescription opioid overdose-related ED visits represented 48%. However, among women, heroin overdose-related ED visits represented 30% of all opioid overdose-related ED visits whereas prescription opioid overdose-related ED visits comprised 70%. The rate of prescription opioid overdose-related ED visits (34.1 visits per 100,000 population) was almost 27% higher than that for heroin overdose, representing 57% of all opioid overdose-related ED visits and 27% of total drug overdose-related ED visits.

Both men and women between the ages of 15-54 had high rates of opioid overdose-related ED visits (Figure 2). However, men between the ages of 15-34 had higher rates compared to females, with the highest rate among men between the ages of 25-34 (146.5 visits per 100,000 population) being 48% higher than women in

Figure 1. Rate of Opioid Overdose-related ED Visits by Sex, New Mexico, 2010-2013*



*Age-adjusted to standard US 2000 population

the same age group (70.9 visits per 100,000 population). Yet, although rates among men decrease after 24 years of age, the rates for women between the ages of 15-54 remain high, at ≥ 70 visits per 100,000 population, with the highest rate among women ages 35-44 (80.5 visits per 100,000 population).

Discussion

Inclusion of ED data allows a better representation of the burden substance abuse imposes on NM. For this study, the use of multiple diagnosis fields on the EDD allows a more complete capture of the opioid overdose-related ED visits.

The data presented are worrisome since the most affected age group corresponds to the working age population, re-emphasizing the toll substance abuse imposes on society. Furthermore, the age groups among women correspond to their reproductive ages, which may explain the increasing trends in rates of neonatal abstinence syndrome that have been observed nationally.³ The high burden of substance abuse on the individuals involved, their families and friends, and society in general, calls for provision of effective and easily available treatment and prevention services. Identification of overdoses by specific drugs involved could be helpful in the tailoring of interventions and initiatives aimed at curtailing substance use disorders in high risk populations.

Recommendations

1. Use of ED data can enhance surveillance of opioid overuse as well as provide more timely information on changes in community-specific overdose profiles than death data can provide.
2. Encourage prescribers to register with and use tools such as the Prescription Monitoring Program to ensure that their patients are receiving appropriate prescriptions.
3. Educate prescribers and patients on high risk prescriptions, such as long-term or high-dose prescriptions of opioids, overlapping prescriptions from different prescribers, and concurrent prescriptions of opioids and benzodiazepines.
4. Provide harm reduction services and overdose education to heroin users.
5. Increase access to naloxone for all opioid users.

Acknowledgements

The author would like to acknowledge Laura Tomedi, Alcohol Epidemiologist; Jim Davis, Drug Epidemiologist; and Rose Galbraith, GIS Specialist, for editing.

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Table. Number and Rate of Total Drug Overdose, Opioid Overdose, Prescription Opioid Overdose, and Heroin Overdose-related ED Visits by Sex, New Mexico, 2013

Category	Men		Women		Total	
	Number*	Rate	Number*	Rate	Number*	Rate
Total Drug Overdose	1,225	120.3	1,281	124.4	2,506	122.8
Opioid Overdose	695	68.5	534	51.8	1,229	60.4
Prescription Opioid Overdose	333	32.3	375	35.6	708	34.1
Heroin Overdose	372	37.3	160	16.4	532	26.9

*The numbers represent ED visits. One person could have visited the ED multiple times.

**Age-adjusted to standard US 2000 population

The New Mexico Epidemiology Report

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The New Mexico Epidemiology Report
(ISSN No. 87504642) is published monthly

by the
Epidemiology and Response Division
New Mexico Department of Health
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P.O. Box 26110, Santa Fe, NM 87502

24-Hour Emergency Number:
(505) 827-0006
www.health.state.nm.us

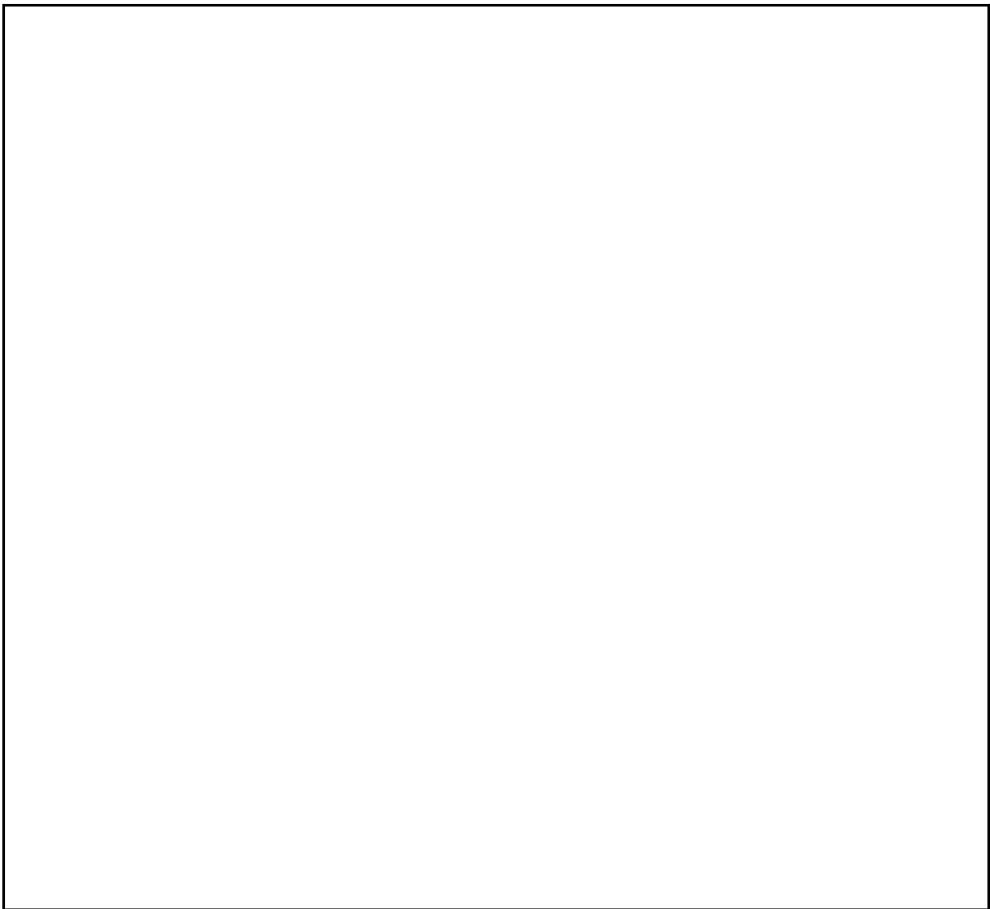
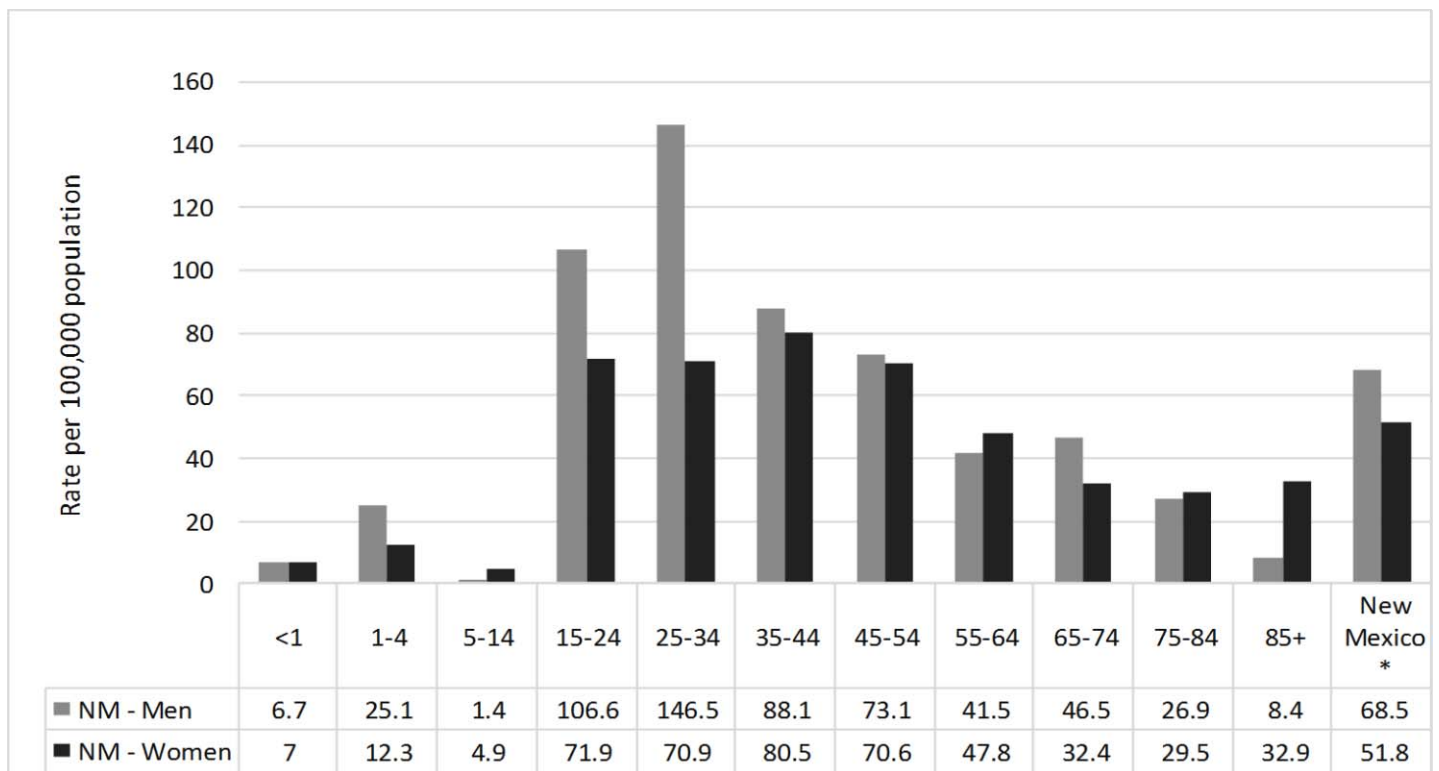


Figure 2. Rate of Opioid Overdose-related ED Visits by Age and Sex, New Mexico 2013



*New Mexico rate was age-adjusted to the standard US 2000 population. Age-specific rates are crude rates.