

INJURY UPDATE

A Report to Oklahoma Injury Surveillance Participants*

October 27, 2011

Unintentional Poisonings Related to Medications, Oklahoma, 2007-2009

Since 2002, unintentional poisoning has been second only to motor vehicle collision as the leading cause of injury death in the United States. Beginning in 2005, these two causes of death reversed for persons aged 35-54. Unintentional poisoning is now the leading cause of injury death in this age group, followed by motor vehicle collision.

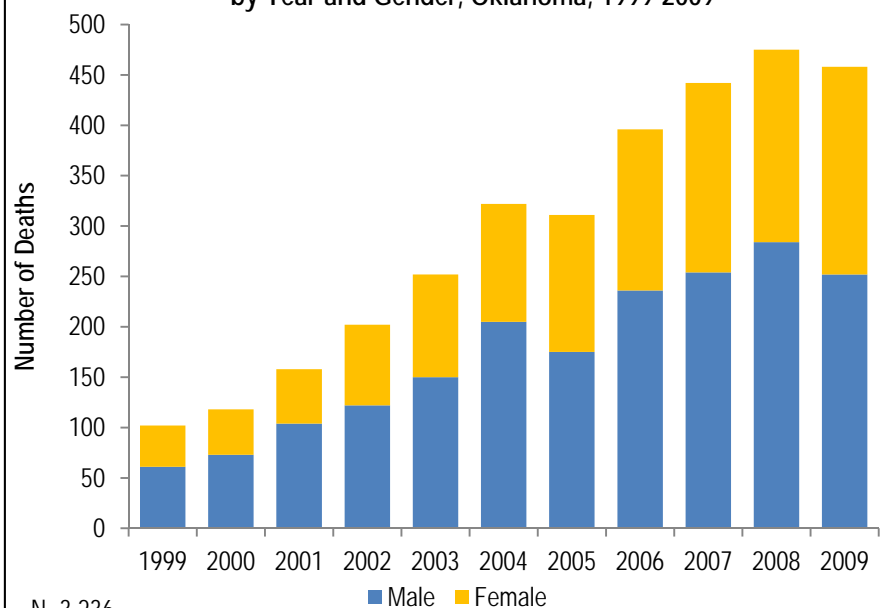
In 2007, almost 30,000 individuals died from unintentional poisoning or almost ten individuals per 100,000. Approximately 90% of unintentional poisoning deaths were due to prescription or illicit drugs. Opioid analgesics alone were the cause of death in nearly 40% of cases.

However, not every unintentional overdose from prescription drugs results in death. In 2008, nationally, the number of persons presenting to emergency departments for prescription or over-the-counter drug overdose equaled the number of persons presenting due to an illicit drug overdose. The three most common causes of prescription drug overdoses seen in emergency departments were oxycodone, hydrocodone, and methadone. An estimated 49 million people over age 11 have used prescription medications at some point in their lifetime for nonmedical reasons.

Over the past decade in Oklahoma, there has been a steady increase in the number of unintentional medication overdose fatalities (Figure 1; 1999-2006 described in Piercefield, E. et al. *Am J Prev Med.* 2010;39(4):357-363). To better understand this problem, a special study was conducted using data collected from the Office of the Chief Medical Examiner. Deaths that occurred between 2007 and 2009 were included if the decedent was an Oklahoma resident, the cause of death involved one or more prescription or over-the-counter medications, and the manner of death was unintentional.

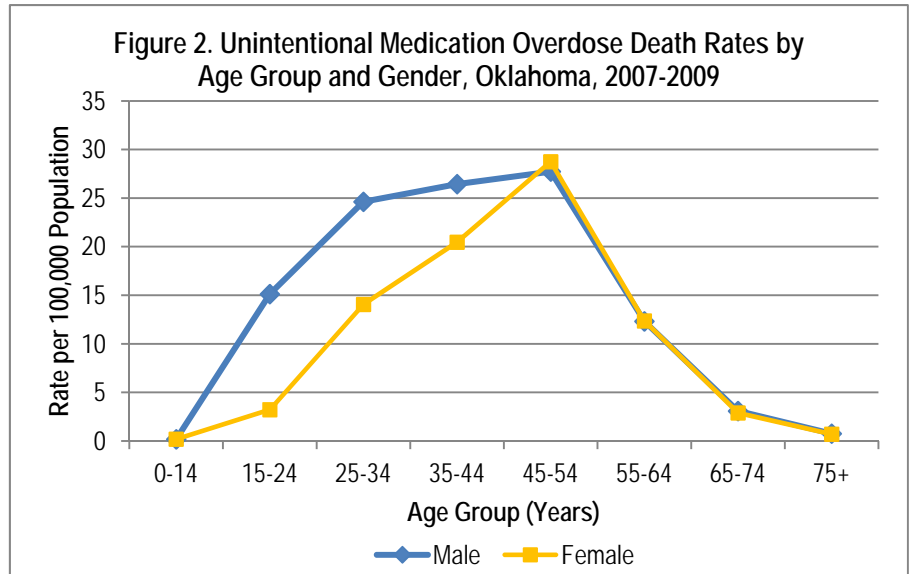
It was found that from 2007-2009, there were 1,375 unintentional fatal medication overdoses in Oklahoma, averaging 458 per year. During the three-year period, the number of deaths increased by 4%.

Figure 1. Unintentional Medication Overdose Deaths by Year and Gender, Oklahoma, 1999-2009



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Males accounted for the majority of deaths (57%). Men in the age groups 25-34, 35-44, and 45-54 had the highest fatality rates (24.6, 26.4, and 27.7 deaths per 100,000 population, respectively), except for women 45-54 years, who had a rate of 28.8 per 100,000 population (Figure 2). Women experienced an 8% increase over the three-year period in the mortality rate of medication-related unintentional poisoning; the rate among males decreased 12%.

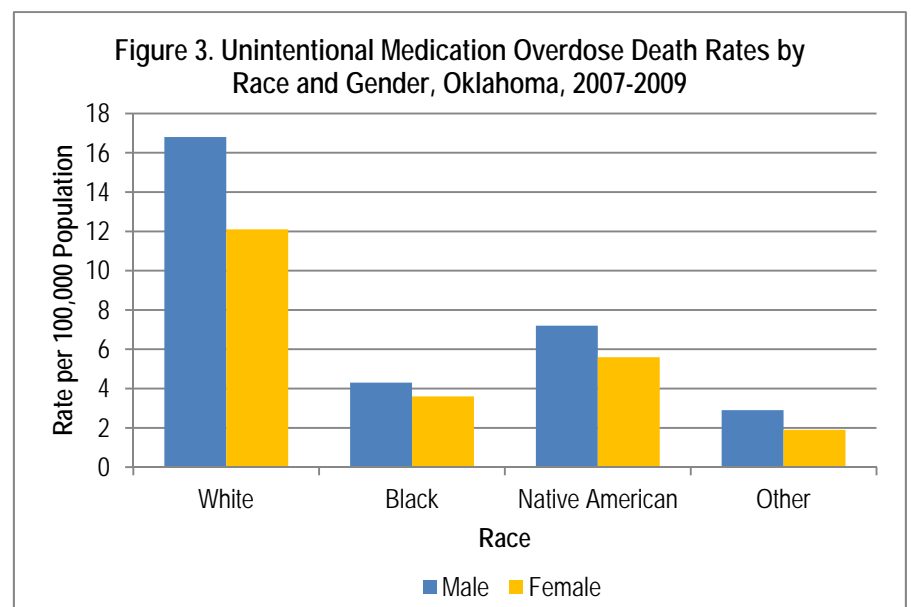


The median age of females who died was slightly higher than that of males, 46 years versus 39 years. The youngest person who died was less than 1 year of age and the oldest person was 94. Children younger than 15 years and persons aged 65 and older had the lowest rates of unintentional medication overdose deaths (0.18 and 1.9 deaths per 100,000 population, respectively). Rates increased most among men 55-64 and 65-74 years of age and women aged 45-54 years.

Whites had a rate of unintentional medication-related poisoning death over two times higher than Native Americans and over 3.5 times higher than blacks (14.4, 6.3, and 4.0 deaths per 100,000 population, respectively). Whites aged 45-54 years had the highest rate overall (31.8 deaths per 100,000). Rates by race and gender are illustrated in Figure 3; males had rates 20-40% higher than females across all racial categories.

Over the three-year period, opioid prescription analgesics contributed to 68% of deaths and anti-anxiety medications contributed to 31%. The five individual substances found most frequently in these unintentional poisoning deaths included methadone (25%), alprazolam (25%), oxycodone (24%), hydrocodone (23%), and morphine (14%).

In 18% of the deaths, other substances were involved in addition to the medication(s). These substances included alcohol (10%), methamphetamine (3%), illicit drugs (3%), or a combination of alcohol, methamphetamine, and/or illicit drugs (2%). Among all decedents, 29% had two medications contributing to their death; 22% had three or more medications contributing. Nearly one in five decedents was definitely or likely drinking alcohol prior to their death. Alcohol use varied by gender (men were 1.6 times more likely to have alcohol present), but not by race.



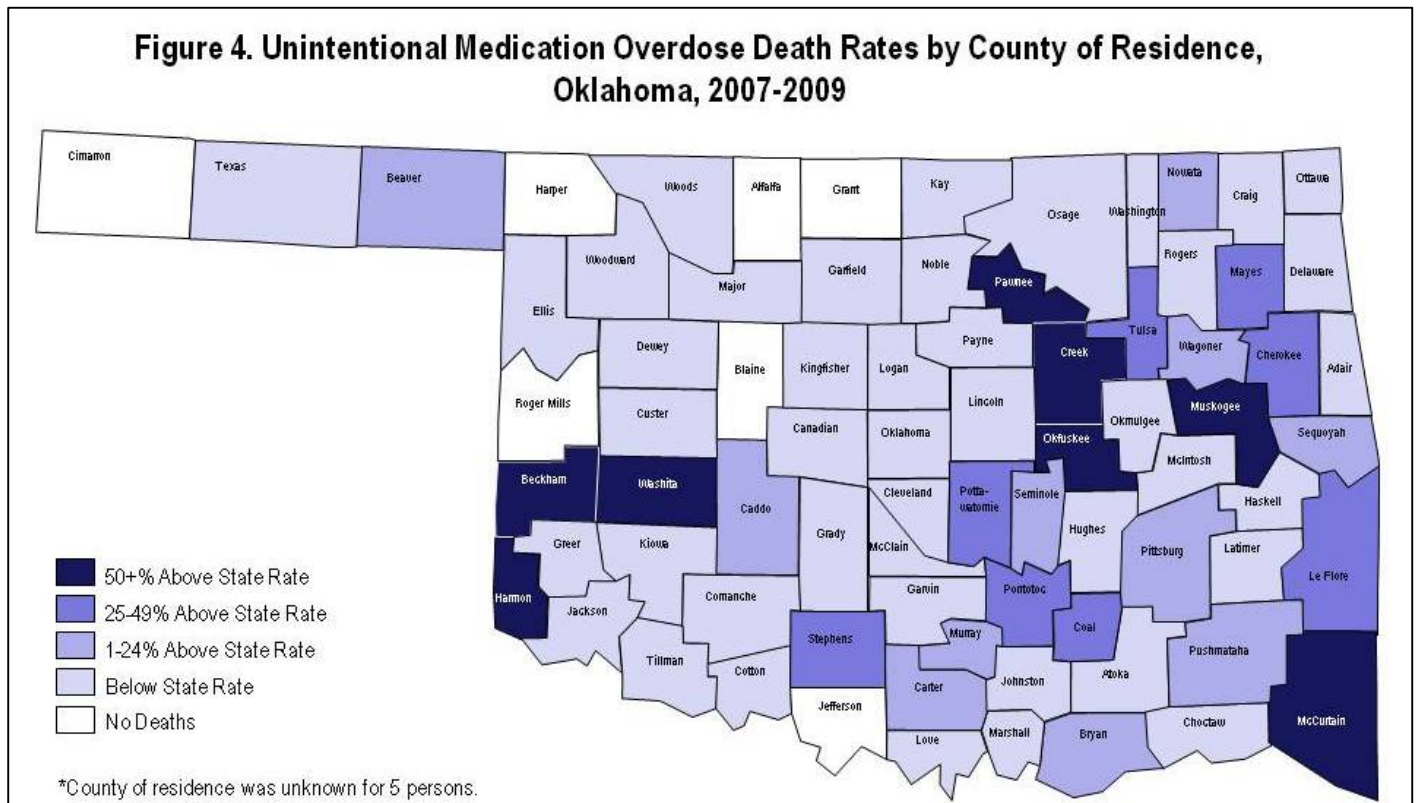
The state rate of unintentional medication overdose deaths was 12.6 per 100,000 population (Figure 4). More than half of the counties were below the state rate and seven had no deaths. Pawnee County had the highest rate of unintentional medication-related poisoning fatalities (28.4 deaths per 100,000 population), followed by Okfuskee and McCurtain Counties (24.1 and 23.9 deaths per 100,000 population, respectively).

The majority of unintentional medication overdoses occurred in a residence (94%). Of those, 89% were the decedent’s own home.

CASE BRIEFS

- A young man with a history of seizures advised his family he was not feeling well and took several Lortab (hydrocodone). Shortly after taking the medication, he began having seizure-type activity and severe vomiting. The family called 911; emergency medical responders arrived to find the man dead.
- A middle aged man with a history of complex medical needs and chronic back pain was found unresponsive by his wife after she returned home from church. There was no documented history of medication overdoses.
- A young man was found unresponsive by his wife. He had a history of prescription pain medication abuse after sustaining a spinal cord injury in a motor vehicle collision. At the time of his death, he had no prescriptions for pain medications and was buying them from street dealers.
- A middle aged woman was last known to be alive when she spoke to a friend on the phone. At that time she mentioned she had been to the doctor’s office for a Demoral shot. She was found deceased by a neighbor the next day. Two Fentanyl patches were found near the injection site.

Figure 4. Unintentional Medication Overdose Death Rates by County of Residence, Oklahoma, 2007-2009



PREVENTION

For health care providers:

- Complete **additional training** on identifying prescription drug abuse and addiction in patients.
- Ask about prescription drug use/abuse when taking **patient history**.
- Check patients' prescription history using the **Oklahoma Prescription Monitoring Program** on the Oklahoma Bureau of Narcotics and Dangerous Drugs' website:
http://www.ok.gov/obnndd/Prescription_Monitoring_Program/index.html.
- Discuss all prescription and over-the-counter medications taken by patients and assess **potential interactions**.
- Fully **discuss the potential for prescription drug misuse and abuse** with patients when prescribing medications.
- Regularly **call or obtain records** from other treating physicians before prescribing controlled drugs on a long-term basis.

For everyone:

- **Never drink** alcohol while taking medication.
- **Never share** or sell your prescription drugs.
- **Dispose** of unused, unneeded, or expired prescription drugs.
- Keep pain medications in a **safe place** that can only be reached by people who take or give them.
- Keep medicines in their **original bottles** or containers.
- Read and **follow all directions** and heed the warnings on the labels of all medications used.
- **Monitor** the use of medicines prescribed for children and teenagers.
- **Consult** your health care provider before taking new medications.
- Put the poison control number, **1-800-222-1222**, on or near every home telephone and save it on your cell phone. The line is open 24 hours a day, 7 days a week.

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