
In the United States in 2007, unintentional poisonings were the second leading cause of injury death (after motor-vehicle crashes) (1); approximately 93% of all unintentional poisoning deaths were caused by drug poisoning, also known as drug overdose (2). From 1990 to 2001 in Florida, the nonsuicidal poisoning death rate increased 325% (3). To characterize recent trends in drug overdose death rates in Florida, CDC analyzed data from the Florida Medical Examiners Commission. This report summarizes the results of that analysis, which found that, from 2003 to 2009, the number of annual deaths in which medical examiner testing showed lethal concentrations of one or more drugs increased 61.0%, from 1,804 to 2,905, and the death rate increased 47.5%, from 10.6 to 15.7 per 100,000 population. During 2003–2009, death rates increased for all substances except cocaine and heroin. The death rate for prescription drugs increased 84.2%, from 7.3 to 13.4 per 100,000 population. The greatest increase was observed in the death rate from oxycodone (264.6%), followed by alprazolam (233.8%) and methadone (79.2%). By 2009, the number of deaths involving prescription drugs was four times the number involving illicit drugs. These findings indicate the need to strengthen interventions aimed at reducing overdose deaths from prescription drugs in Florida. Medical examiner records are a timely, population-based source for data regarding overdose deaths from specific drugs. The data in this report and subsequent analyses can be used to design and measure the effectiveness of interventions.

Florida has a system of regional state medical examiners whose jurisdiction includes all drug-related deaths. Drug overdose data were obtained for the period 2003–2009 from datasets of the Florida Medical Examiners Commission, which contain information on 34 types of drugs frequently abused, including ethanol (grain or beverage alcohol), prescription drugs, and illicit drugs (4). Drug-related deaths are divided into two categories: 1) drug-caused deaths, for which postmortem medical examiner toxicology testing determined that drugs were present in lethal amounts; and 2) drug-present deaths, for which drugs were found in nonlethal amounts. This analysis included only drug-caused deaths, referred to in this report as drug overdose deaths.

Using U.S. Census resident population estimates, annual drug overdose death rates per 100,000 population were calculated for all drugs, prescription drugs, illicit drugs (including specifically heroin and cocaine), opioid analgesics (including specifically methadone, hydrocodone, oxycodone, and morphine), benzodiazepines (including specifically alprazolam), and ethanol. To test for the statistical significance of changes in death rates from 2003 to 2009, z-tests were conducted in categories with annual counts >100, and examination of overlapping confidence intervals from gamma distributions was used with counts <100.

During 2003–2009, a total of 16,550 drug overdose deaths were recorded by Florida medical examiners. The annual number of deaths increased 61.0%, from 1,804 to 2,905, and the death rate increased 47.5%, from 10.6 to 15.7 per 100,000 population. In 2009, approximately eight drug overdose deaths occurred each day. During 2003–2009, 85.9% of drug overdose deaths were unintentional, 11.1% were suicides, 2.6% were of undetermined intent, and 0.4% were homicides or pending. Prescription medications were implicated in 76.1%
in 33.9% of deaths; in 10.0% of deaths, both prescription and illicit drugs were found in lethal concentrations.

In 85.5% of all drug overdose deaths, at least one of the seven specific drugs examined in this study was detected at a lethal concentration. Analysis of drug-specific death rates revealed different trends for different drugs during 2003–2009 (Table, Figure).

The death rate for prescription drugs increased 84.2%, from 7.3 to 13.4 per 100,000 population from 2003 to 2009. The greatest increase in death rate was observed for the prescription drug oxycodone (264.6%), followed by alprazolam (233.8%), methadone (79.2%), hydrocodone (34.9%), and morphine (26.2%). Conversely, the death rate for heroin decreased 62.2% from 2003 to 2009, and the death rate for cocaine increased until 2007 and then decreased 39.1% from 2007 to 2009 (Table).

In 2003, among the seven specific drugs examined, the highest death rate was for cocaine (3.2 per 100,000 population), followed by methadone (2.2), oxycodone (1.7), heroin (1.4), morphine and alprazolam (1.3), and hydrocodone (1.1). In 2009, the number of deaths involving prescription drugs was four times the number involving illicit drugs, and the highest death rate was for oxycodone (6.4 per 100,000 population), followed by alprazolam (4.4), methadone (3.9), cocaine (2.8), morphine (1.6), hydrocodone (1.4), and heroin (0.5) (Figure).

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