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Trends in U.S. Drug Overdose Deaths in non-Hispanic blacks, Hispanics, and non-Hispanic whites: 2000–2015

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Background

Drug overdose death rates increased by 5.5% per year from 1999–2015 in the United States (1). These dramatic increases have largely been attributed to opioid-related deaths in non-Hispanic whites (NHWs) (2), with natural and semisynthetic opioids (primarily prescription opioids), and heroin each contributing to one-quarter of these deaths (1). Recently, increases in drug overdose death rates were also reported for non-Hispanic blacks (NHBs) and Hispanics (1), although these increases have received less attention, and it is also unclear whether they are due to opioids.

Objectives

To inform prevention efforts, we conducted age- and sex-specific analyses of US drug overdose mortality trends for NHBs and Hispanics compared to NHWs during 2000–2015, and examined the contributing drugs in each group.

Methods and Findings

We used complete US death certificate data for 2000–2015 from the National Center for Health Statistics, Centers for Disease Control and Prevention (3). Unintentional drug overdose deaths were classified using ICD-10 codes X40–44. We assessed the most frequently involved drug categories using multiple-cause-of-death codes: heroin (T40.1); natural/semisynthetic opioids (e.g., morphine, oxycodone, hydrocodone; T40.2); methadone (T40.3), synthetic opioids excluding methadone (e.g., fentanyl; T40.4); cocaine (T40.5); benzodiazepines (T42.4); and psychostimulants with abuse potential (e.g., methamphetamine, T43.6) (4). Age-specific and age-standardized overdose death rates for

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Reproducible Research Statement

Protocol: not available

Statistical Code: Data analyzed through the CDC Wonder Multiple Cause of Death web interface: <https://wonder.cdc.gov/controller/datarequest/D77>.

Data: All data are publicly available through the Centers for Disease Control and Prevention's CDC Wonder website: <https://wonder.cdc.gov/controller/datarequest/D77>.

2000–2003 and 2012–2015, and age-standardized drug category-specific death rates for 2000–2003, 2004–2007, 2008–2011 and 2012–2015 were estimated by race/ethnicity and sex. Age-standardization was carried out with direct standardization to the 2000 U.S. population in 5-year age groups. Drug-specific analyses were restricted to 20–64-year-olds, the age-group that includes most overdose deaths. Drug categories are not mutually exclusive - multiple drugs can be indicated on death certificates.

Between 2000–2003 and 2012–2015, total overdose death rates increased among NHB (age-standardized rate: 6.1 to 9.0/100,000), Hispanic (4.2 to 6.0/100,000), and NHW (5.6 to 15.5/100,000) individuals. While increases were generally apparent for all age-groups in NHW and Hispanics, the increases were most pronounced for older NHB men (≥ 50) and NHB women (≥ 45) (Figure 1).

Unlike NHW, where opioids were the most common contributor, cocaine was the largest contributor to overdose deaths for NHB men and women over all time periods (Figure 2). During 2012–2015, cocaine-related overdose deaths were nearly as common in NHB men as deaths due to natural/semisynthetic opioids in NHW men (7.6 vs 7.9/100,000), and somewhat more common in NHB women as deaths due to heroin in NHW women (3.1 vs 2.7/100,000). Across groups, cocaine-related deaths peaked during 2004–2007, declined during 2008–2011 and then increased during 2012–2015. The largest recent increases in drug overdoses deaths for NHBs and Hispanics were due to heroin, though increases were also observed for natural/semisynthetic opioids, benzodiazepines, synthetic opioids and psychostimulants, while methadone-related deaths decreased in 2012–2015. The fractions of overdose deaths that were not attributed to a specific drug (i.e., code T50.9 and no other code in T36-T50.8) in 2000–03 and 2012–15 varied by race/ethnicity (NHBs: 14% and 16%, Hispanics: 14% and 16%, NHWs: 25% and 21%). Patterns were consistent when drug-related suicides, homicides and deaths of undetermined intent were additionally included (data not shown).

Discussion

We showed that drug overdose deaths are a major public health problem among NHBs as well as NHWs, and a rarer, but increasing, problem for Hispanics. Increasing death rates due to the opioid epidemic among NHWs have been widely reported, and important public health measures have been initiated, particularly in heavily-impacted areas (5). Our findings show that cocaine-related overdose deaths in NHBs are on a par with heroin and prescription opioid-related deaths in NHW women and men, and that cocaine is also a consistent and important contributor to deaths in Hispanics and NHWs. This is an important, long-term public health problem that is often overlooked. As about 20% of the death certificates classified as unintentional overdose are missing a contributing drug, our results are likely to be underestimated. Additional research is needed to understand the reasons for the disparate age patterns; particularly the increasing rates of overdose among older NHB men and women, as well as potential geographic differences.

Although strategies to combat the U.S. prescription opioid and heroin epidemics remain critical for all race/ethnic groups, additional efforts focused on the prevention of cocaine-related deaths, which disproportionately impact the older NHB population, are also needed.

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Figure 1:

Age-specific drug overdose death rates by race/ethnicity and sex, 2000–03 and 2012–15.

Open circles represent age-groups/calendar periods where <10 drug overdose deaths occurred.

Figure 2:
Age-standardized drug type-specific overdose death rates by race/ethnicity and sex among 20–64-year-olds during 2000–03, 2004–07, 2008–11 and 2012–15.