



Epi Data Brief

New York City Department of Health and Mental Hygiene

September 2012, No. 18

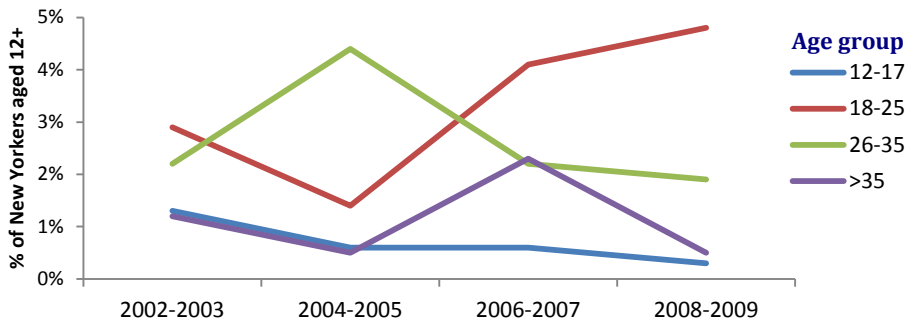
Benzodiazepines in New York City: Misuse, Morbidity and Mortality

- Benzodiazepines are central nervous system depressants used primarily to treat anxiety and sleep disorder, such as Xanax®, Valium® and Ativan®.
- In 2010, benzodiazepines were involved in 44% of unintentional drug poisoning deaths in NYC.⁴

Non-medical use of benzodiazepines in New York City¹

- In 2008-2009, non-medical benzodiazepine use – use without a prescription or with a prescription in a manner other than prescribed – was reported by 90,000 (1.4%) New Yorkers aged 12 and older in the past year.
- New Yorkers aged 18 to 25 reported the highest non-medical use of benzodiazepines in the past year (4.8%).

Non-medical use of benzodiazepines in the past year by age group



Source: NSDUH, analysis by SAMHSA, 2002-2009

Benzodiazepine misuse among adolescents²

- In 2008, 2% of adolescents in grades seven through 12 in New York City public and private schools reported misusing a benzodiazepine at least once during their lifetime.
- Benzodiazepine misuse in the past year was most common among adolescents living in Staten Island (1.2%) – nearly double that of the other boroughs.

Emergency department visits for benzodiazepine misuse/abuse³

- The rate of benzodiazepine-related emergency department (ED) visits increased by 111% between 2004 and 2010, rising from 38 to 78 visits per 100,000 New Yorkers for a total of 6,555 visits in 2010. Nationally there was a larger increase – 139% between 2004 and 2010.
- The rate of benzodiazepine-related ED visits increased among every age group; the increase was largest (156%) for New Yorkers aged 25 to 29.
- Benzodiazepine-related ED visits in 2010 were most common among adults aged 35 to 44 (141/100,000).

Data Sources

¹**NSDUH:** The National Survey on Drug Use and Health (NSDUH) conducted annually by the Substance Abuse and Mental Health Services Administration [SAMHSA] includes a representative sample of NYC residents aged 12 years and older. Two-year averages are presented.

²**YDS:** The Youth Development Survey (YDS) conducted by the NYS Office of Alcohol Substance Abuse Services assesses risk (including substance use) and protective factors for academic success among public and private school students in grades seven through 12. Data from 2008 are presented.

³**DAWN:** The Drug Abuse Warning Network (DAWN), managed by SAMHSA, is a database of drug-related visits to hospital emergency departments (EDs), including 61 NYC EDs. Data were weighted to produce citywide estimates of drug-related ED visits for 2004 to 2010.

⁴**OVS/OCME:** Mortality data were collected through an in-depth review of data and charts from the Health Department's Bureau of Vital Statistics and the Office of the Chief Medical Examiner for 2005-2010. Rates are age adjusted to the 2000 U.S. Standard Population, except those for specific age groups.

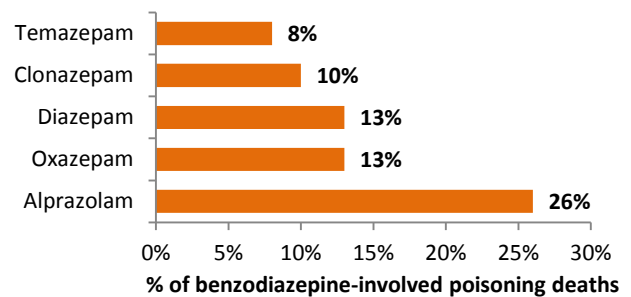
Authored by:
Denise Paone, Daniella
Bradley O'Brien



Unintentional drug poisoning deaths involving benzodiazepines ⁴

- Benzodiazepine-involved poisoning deaths increased 18% from a rate of 3 per 100,000 New Yorkers in 2005 to 3.5/100,000, or 226 deaths, in 2010.
- Other drugs, including heroin (51%), cocaine (46%), and opioid analgesics (33%), are often found in combination with benzodiazepines.
- Alprazolam (Xanax[®]) was the most common type of benzodiazepine, present in 26% of those deaths.
- Oxazepam (Serax[®]) and Diazepam (Valium[®]) were the second and third most common benzodiazepines present in fatal cases.
- Use of multiple benzodiazepines was common in cases of overdose death. Nearly six in 10 (58%) benzodiazepine-involved deaths involved two or more types of the drug, and one third (33%) had three or more drugs present at time of death.
- The rate of benzodiazepine-involved poisoning deaths was highest among white New Yorkers (6.6/100,000) – nearly double the rate for Hispanics (3.5/100,000) and more than four times the rate for blacks (1.3/100,000).

Distribution of benzodiazepine types in unintentional poisoning deaths*



*Benzodiazepines are not mutually exclusive.

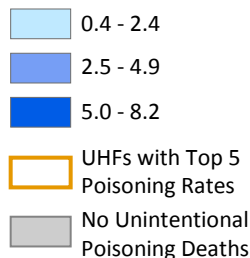
Source: Office of Vital Statistics & Office of the Chief Medical Examiner, 2010.

Note: Overdose deaths from benzodiazepines alone are rare. However, used in combination with other central nervous system depressants such as heroin or opioid analgesics, benzodiazepines increase risk of fatal overdose because both types of drugs slow breathing rates.

Benzodiazepine-involved poisoning death rates vary across New York City⁴

Unintentional benzodiazepine-involved poisoning deaths by NYC neighborhood of residence, 2010

Rate Range
(per 100,000 population)



Source: Office of Vital Statistics & Office of the Chief Medical Examiner, 2010

- Staten Island had the highest rate of (6.6/100,000), more than double the rates of Manhattan (2.4/100,000) and Queens (2.1/100,000).
- The neighborhoods with the highest rates of unintentional benzodiazepine-involved poisoning deaths were in Staten Island, followed by Lower Manhattan and Canarsie-Flatlands in Brooklyn.
- The mortality rate for benzodiazepine-involved poisonings was steady between 2005 and 2010 for NYC residents living in both low- and high-income neighborhoods.
- The rate doubled for residents of medium-income neighborhoods (from 2.1 in 2005 to 4.2 in 2010 per 100,000 New Yorkers).*

* The United Hospital Fund (UHF) classifies NYC into 42 neighborhoods, comprised of contiguous zip codes. Neighborhood income was defined by the percent of households below 200% of the federal poverty level (Census 2000) and separated into three groups: low (43%-70%), medium (30%-43%) and high (13%-30%).

MORE New York City Health Data and Publications

- For complete tables of data presented in this Brief, visit www.nyc.gov/html/doh/downloads/pdf/epi/datatable18.pdf
- For more information on drug use, check out the following Health Department resources: [Drugs in NYC Epi Data Brief](#); [Opioid Analgesic Epi Data Brief](#); [Help to Stop Using](#); [Vital Signs: Illicit Drug Use in New York City](#)
- Visit EpiQuery – the Health Department’s online, interactive health data system at www.nyc.gov/health/EpiQuery

My Community’s Health: Data and Statistics at www.nyc.gov/health/mycommunityhealth