



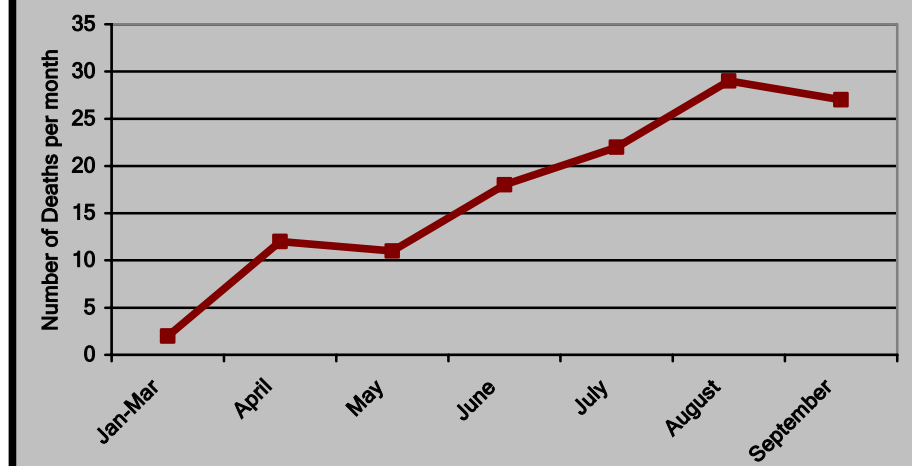
Overdose Deaths related to Non-Pharmaceutical Fentanyl on the Rise in New Jersey

December 2006

CHS BRIEF

Beginning in approximately April 2006, an increase in fatal and non-fatal drug overdoses was noticed by first responders and medical personnel. The overdoses were characterized by Central Nervous System (CNS) depression and shallow respiration, and have occurred most frequently in Camden and surrounding areas. Similar events were observed in Philadelphia, Chicago, and other locations. This increase in overdoses has been linked to fentanyl, a powerful synthetic opiate which is being mixed with street drugs, most commonly heroin. While fentanyl is used for anesthesia and pain relief in medical settings, the current overdoses are associated with non-pharmaceutical fentanyl, manufactured in illegal labs. In most, but not all, cases the fentanyl mixture is injected.

Figure 1. Confirmed overdose deaths related to non-pharmaceutical fentanyl, New Jersey, 2006



Center for Health Statistics

Office of the State Epidemiologist

Public Health Services Branch

New Jersey Department of Health and Senior Services

There have been at least 133 deaths related to the use of non-pharmaceutical fentanyl in New Jersey since mid-April of 2006. More suspected cases are under investigation. Most have occurred in Camden and Gloucester counties. The demographic characteristics of those dying from fentanyl-related overdoses are similar to those for heroin overdoses overall. Approximately 85 percent of decedents are male, nearly 80 percent are non-Hispanic white, and their median age is about 37 years. In about three fourths of cases, cocaine and/or heroin was detected in the toxicology, in addition to fentanyl. It is too soon to know the extent to which the use of non-pharmaceutical fentanyl will affect the trend in drug overdose deaths in New Jersey. but as a point of comparison, Camden County had 71 overdose deaths in all of 2005, and 105 recorded so far for 2006.

Table 1. Deaths from unintentional drug overdose with non-pharmaceutical fentanyl, New Jersey, April to September 2006

County	Deaths	April	May	June	July	August	September
Camden	67	6	7	11	12	15	16
Gloucester	27	2	4	4	5	7	5
Mercer	10	0	0	1	2	5	2
Salem	8	1	0	2	3	0	2
Burlington	4	2	0	0	0	2	0
Monmouth	3	1	0	0	0	0	2
Other	14	4	0	2	2	4	2
Total	133	16	11	20	24	33	29

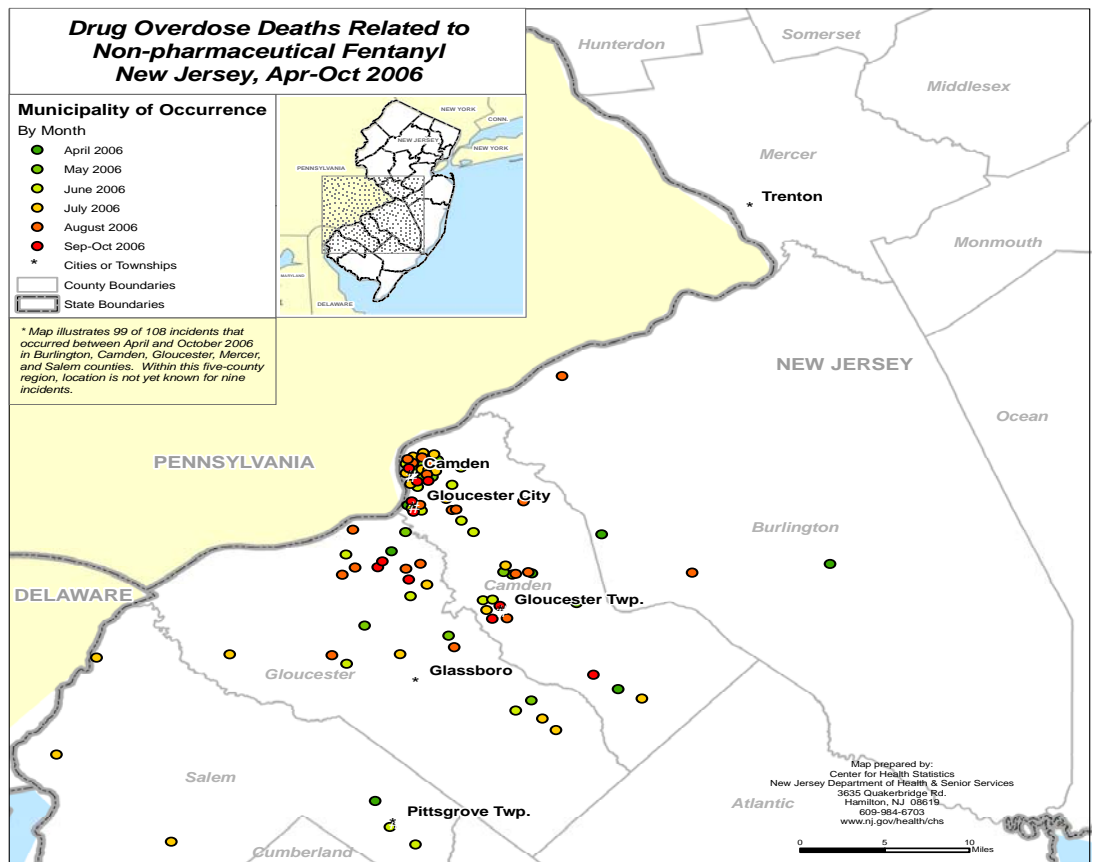
May exclude some deaths with toxicology still pending at time of report.; Counties not listed have no reported deaths for this period.

Source: Office of Injury Surveillance and Prevention, Center for Health Statistics, NJDHSS

Fentanyl is an extremely powerful synthetic opioid that, like heroin and other opiates, produces analgesia and sedation. This drug is a Schedule II narcotic under the Controlled Substance Act, and is used in medical settings intravenously as an anesthetic, and dispensed pharmaceutically for the management of chronic pain. Fentanyl is believed to be at least 40 times more potent than heroin or other prescription opioids. There is a very narrow “window” for a therapeutic dose of fentanyl, making the potential for overdose relatively high. Death from fentanyl-related overdose results from respiratory arrest, often accompanied by coma. Fatal overdose can occur

very rapidly, and some decedents have been found with partially filled syringes in their arms. Treatment for fentanyl overdose requires use of the opioid antagonist naloxone at doses higher than what is required for an overdose of heroin only. Patients with fentanyl overdose who have not ingested heroin will test negative for opiates, and additional testing by mass spectroscopy is required to detect fentanyl. Emergency personnel are advised to treat patients with symptoms suggestive of narcotic overdose who test negative for opiates with higher doses of naloxone.

Figure 2. Map of unintentional drug overdose deaths due to non-pharmaceutical fentanyl in Central and Southern New Jersey, 2006



NOTE: Case definition includes all unintentional drug overdose deaths with a positive toxicology for fentanyl where there is no evidence suggesting use of pharmaceutical fentanyl.

Prescription fentanyl is often dispensed pharmaceutically in the form of a transdermal patch. There have been cases of overdose deaths associated with chewing, crushing, heating and inhaling, and otherwise misusing prescription fentanyl. There were at least twenty four such deaths in New Jersey in 2005. However, the recent outbreak of fentanyl-related overdose is associated with non-pharmaceutical fentanyl, produced by

unknown laboratories in powder form and then mixed with heroin, cocaine, or simply with a cutting agent such as quinine or sugar. There have been periodic outbreaks of overdose from illicitly produced fentanyl over the past several decades. A few clusters of deaths from IV fentanyl-related overdoses were reported in the 1980s and 1990s, including the “China White” outbreak in California.

Chicago reportedly had a number of fentanyl-related overdose deaths in January and February 2006. Such overdoses began to occur again in greater numbers starting in mid-April, when cases were also reported in Detroit, St. Louis, Philadelphia, Harrisburg, Maryland, Delaware, and New Jersey. Packets of heroin mixed with fentanyl have been confiscated by the DEA in various locations. Between April and mid-August, there were approximately 175 fentanyl-related overdoses reported in Chicago, about 150 in Detroit, and nearly 100 in Philadelphia.

In response to this most recent outbreak, the New Jersey Department of Health and Senior Services (NJDHSS) conducted surveillance by requesting that emergency departments and medical examiners report suspected and confirmed cases of fentanyl-related overdose. NJDHSS, the NJ Poison Information and Education System, and representatives from other affected jurisdictions worked with the CDC and other federal agencies to create a case definition and submit data on confirmed cases. There has been some anecdotal evidence that publicity about fentanyl has resulted in increased demand among heroin users looking for a more potent high. Restricting supply is prioritized as a method of prevention, and in the meanwhile medical personnel are advised to be vigilant for potential fentanyl toxicity among those presenting with symptoms suggestive of narcotic overdose, and to treat aggressively with increased doses of naloxone. For updated information on confirmed fentanyl-related overdose deaths please visit: <http://www.state.nj.us/health/chs/oisp/index.shtml>

Fentanyl-Related Death Case Definition

A fentanyl-related death was defined as one where:

- ❖ fentanyl caused or contributed to the death;
- ❖ there was no evidence of involvement of prescription fentanyl products (i.e. Duragesic patch); and
- ❖ toxicology testing has confirmed fentanyl in the body or in unused drugs or in a specimen from a person with whom the victim shared drugs.



Jon S. Corzine
Governor

The Center for Health Statistics (CHS) analyzes and disseminates New Jersey health data and information. For more information contact CHS at: (609) 984-6703 or visit us at www.state.nj.us/health/chs