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E59 Fentanyl Analogue Despropionylfentanyl Deaths Invade Virginia

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After attending this presentation, attendees will understand the spread of a new fentanyl analogue, despropionylfentanyl, throughout Virginia. Demographics of those impacted are also discussed.

This presentation will impact the forensic science community by: (1) showing how quickly new drugs and new analogues of drugs are spread; and, (2) discussing the impact the new analogue has within the state of Virginia.

In 2014, there were a total of 47,055 drug overdose deaths in the United States, a 6.5% increase compared to 2013. Comparatively, the rates of fatal opioid overdose increased by 14.0% from 2013 to 2014. The number of fentanyl-related deaths in the United States is also growing. According to law enforcement reports, this also coincides with increased availability of illicitly manufactured fentanyl.¹ Fentanyl is a very potent synthetic opioid. It can be used as a way to manage chronic and acute pain of those suffering from cancer and is often used for patients undergoing heart surgery. Fentanyl is a schedule II substance under the Controlled Substance Act.²

The potency of fentanyl is about 50 times that of pure heroin and about 100 times that of morphine. The popularity of fentanyl as a recreational drug has dramatically increased and because of its potency, when used improperly or mixed with heroin or other drugs, the chance of death due to overdose is very high.³

This increase in deaths has been reported in many areas of the United States, including New Hampshire, New Jersey, Rhode Island, Pennsylvania, the St. Louis metro area, and New York.⁴ In Virginia data, deaths due to fentanyl overdose abruptly began to increase dramatically in 2013. Between the years of 2007 and 2012, the yearly deaths from fentanyl ranged from 48-68. In 2013, the number nearly doubled to 102 and it steadily began to grow: 134 deaths in 2014, 224 deaths in 2015, and 136 deaths in the first quarter of 2016. The projected number of deaths from fentanyl in 2016 is 375.

In addition to fentanyl, many fentanyl analogues are beginning to appear from many jurisdictions around Virginia, most recently including acetyl fentanyl and furanyl fentanyl. Beginning February 2016, Virginia noticed a rise in deaths due to despropionylfentanyl, a seemingly new fentanyl analogue. From February to May 31, deaths were attributed to despropionylfentanyl. At the time of this writing, the event locations were mostly in the northern region of Virginia, spreading down to the eastern region. In this study, the event location will be used, not the death location, to track the spread of despropionylfentanyl.

The northern Virginia cases appear to be clustered around the District of Columbia area and in the border counties/cities with Maryland. Loudon County and Fairfax County, both of which border Maryland and the District of Columbia metro area, experienced the most despropionylfentanyl deaths in the northern region to date. In the eastern region of Virginia, Norfolk and Virginia Beach encountered the majority of cases.

The central and western regions of Virginia have not undergone any cases related to despropionylfentanyl yet. Usually illicit drugs spread throughout Virginia following interstate highways and would come into the central and western regions of Virginia. The currently observed pattern suggests that this drug is entering Virginia from two points: the District of Columbia metro area to northern Virginia and the southeast coast of Virginia to Norfolk and Virginia Beach. From these two points, Virginia may expect a further spread of deaths due to despropionylfentanyl.

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Comparatively, the demographics of cases between the two regions represented are very similar: males and Whites are dying more frequently than their respective counterparts; however, people of all ages are dying of despropionylfentanyl.

The most common drugs being detected in the postmortem toxicology are: fentanyl, Benzolecgonine (BE), morphine, ethanol, cocaine, and methamphetamines. The only other fentanyl analogue being detected is furanylfentanyl. Currently, Virginia has no method to quantify the concentration of either analog and therefore both are reported as “present.” The Virginia Office of the Chief Medical Examiner plans to continue tracking the spread of despropionylfentanyl across the state.

Reference(s):

1. *Increases in Drug and Opioid Overdose Deaths—United States, 2000–2014* from the CDC Morbidity and Mortality Weekly Report, January 1, 2016.
2. *Fentanyl*. Drug Enforcement Administration-Office of Diversion Control. March 2015.
3. *Fentanyl Overdose Data* from the Centers for Disease Control and Prevention Injury Center. www.cdc.gov/drugoverdose/data/fentanyl.html.
4. *DEA Issues Nationwide Alert on Fentanyl as Threat to Health and Public Safety*. www.dea.gov/divisions/hq/2015/hq031815.shtml. March 18, 2015.

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