



### H167 The Evolution of the Opioid Crisis in Cuyahoga County, Ohio, From 2012 to 2016

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**Learning Overview:** The goal of this presentation is to characterize fentanyl overdose victims of 2016 and compare them with heroin-associated fatalities of 2012.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by emphasizing the role of the medical examiner in addressing multiple aspects of the opioid crisis by serving as a public health data source and a bridge between different stakeholders (law enforcement, public health officials, medical community, etc.) to combat the opioid epidemic.

Fentanyl and its analogs have emerged since 2014 as the leading driver of opioid mortality in the United States. This is in contrast to the scenario that was seen immediately prior when heroin came to prominence after the initial wave of overdose deaths associated with prescription Opioid Pain Relievers (OPR). It has been assumed that the drug abuse population has remained the same throughout, but there is little evidence characterizing the fentanyl overdose victims. The objective of this study is to look at the deaths associated with fentanyl in 2016 and compare the characteristics of 2016 fentanyl (with or without heroin) overdose deaths with heroin-associated fatalities in 2012 in Cuyahoga County, OH. This study also looks at the three-year prescription data of cases of 2016 fentanyl overdose deaths in Cuyahoga County for prescription of OPR and evidence of “doctor shopping” and compares it with the prescription data of 2013 heroin-associated fatalities. The retrospective prescription data of 2013 was more complete than that of 2012 as full medical examiner access to the prescription drug monitoring program was initially delayed until then.

Socio-demographic characteristics of cases of fentanyl overdose deaths in 2016 were compared with those of heroin fatalities in 2012. Data were abstracted from Cuyahoga County Medical Examiner case files. The prescription data of 2016 fentanyl mortalities were retrieved from the records of the Ohio Automated Rx Reporting System (OARRS), the prescription drug monitoring program for the state of Ohio. Doctor shopping was defined as five or more prescribers of a controlled substance (e.g., OPR) in a 12-month period.

The number of fatalities in Cuyahoga County increased from 160 heroin-related deaths in 2012 to 417 fentanyl-related deaths in 2016. However, no significant differences in socio-demographic characteristics were seen among cases of 2016 fentanyl and 2012 heroin overdose deaths. In both the cohorts, the overdose victims were predominantly 35 to 64 years of age (60%–64%), White (84%) males living in an urban setting (44%–45%). Analysis of OARRS data of 2016 fentanyl overdose deaths showed 70% of the cases having records on file in OARRS, which was similar to the 2013 OARRS records of heroin fatalities. However, doctor shopping showed a decline from 36% in 2013 to approximately 22% in 2016.

This study reports a substantial increase in fentanyl-related deaths in 2016 compared to heroin deaths in 2012. Baseline demographics between both cohorts are similar. OPR drugs remain a current factor in the drug crisis. This study emphasizes the role of the medical examiner in providing data for opioid-associated mortality, support, and collaboration with public health partners.

#### **Fentanyl, Heroin, Mortality**