

Notes from the Field

Fentanyl Drug Submissions — United States, 2010–2017

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In 2017, the United States recorded 70,237 drug overdose deaths; among these, 47,600 (67.8%) involved an opioid, and 28,466 (40.5%) involved a synthetic opioid other than methadone (e.g., fentanyl and tramadol) (1). During 2013–2017, sustained growth in the availability of illicitly manufactured fentanyl (IMF) drove large increases in overdose deaths involving a synthetic opioid other than methadone (1). Specifically, the number of drug products obtained by law enforcement that were submitted for laboratory testing and tested positive for fentanyl (fentanyl submissions) increased rapidly, especially in the Midwest and Northeast U.S. Census regions.* Fentanyl, a synthetic opioid that is 50–100 times more potent than morphine, is legally available by prescription for pain treatment[†]; IMF is sold unadulterated (e.g., as a powder, pressed into counterfeit pills) or mixed with or sold as heroin or cocaine (2).^{§,¶}

Preliminary data** from laboratories participating in the Drug Enforcement Administration's National Forensic Laboratory Information System^{††} were analyzed to compare

the numbers and rates^{§§} of U.S. fentanyl submissions^{¶¶} between consecutive half year periods (January–June and July–December) during 2010–2017. After increasing an average of 87% (range = 10%–317%) during each consecutive half year period beginning in the first half of 2013, the number of fentanyl submissions between the first and second halves of 2017 declined 2% (from 29,344 to 28,826) (Figure). The rate declined from 9.03 per 100,000 residents during the first half of 2017 to 8.83 during the second half, suggesting that the rate of increase in the number of fentanyl submissions might be stabilizing for the first time in 4 years.

Ohio, Pennsylvania, and Massachusetts, the three states with the largest numbers of fentanyl submissions during January–June, 2017 (accounting for 48% of all fentanyl submissions) experienced an average 13% decline during July–December, 2017. Submissions declined 9% in Ohio (from 6,208 to 5,631), 16% in Pennsylvania (from 4,421 to 3,730), and 15% in Massachusetts (from 3,511 to 2,974). In contrast, the number of fentanyl submissions increased 8% in the South*** (from 5,883 to 6,341) and 36% in the West (from 547 to 743) during the same period. The largest increases occurred in South Carolina (216 to 428; 98% increase), Florida (674 to 850; 26%), and Virginia (942 to 1,097; 16%) in the South, and in California (269 to 386; 43%) and Arizona (137 to 226; 65%) in the West.

Preliminary stabilization in fentanyl submissions (a proxy for IMF availability because the majority of fentanyl submissions

* <https://www.nflis.deadiversion.usdoj.gov/DesktopModules/ReportDownloads/Reports/NFLISFentanylBrief2017.pdf>.

† <https://www.cdc.gov/drugoverdose/opioids/fentanyl.html>.

§ <https://emergency.cdc.gov/han/han00413.asp>.

¶ <https://www.dea.gov/documents/2018/10/02/2018-national-drug-threat-assessment-ndta>.

** Reported numbers of drug submissions are preliminary because of delays in testing drug products. Effects of these delays are greatest in the most recent periods. As such, numbers of fentanyl submissions in 2017, and especially in the second half of 2017, might increase slightly when the Drug Enforcement Administration releases updated 2017 data from the National Forensic Laboratory Information System.

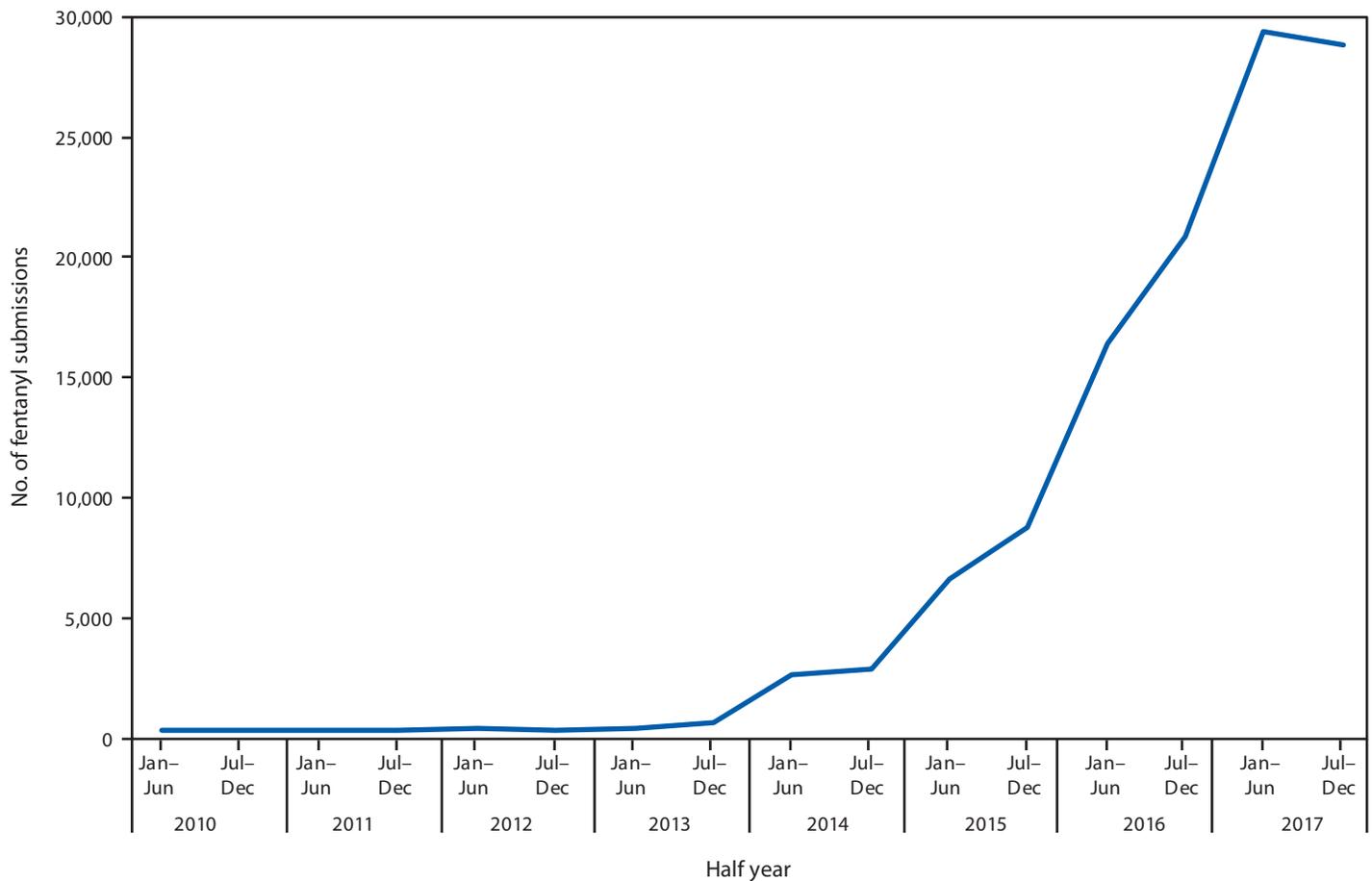
†† The National Forensic Laboratory Information System currently collects data from laboratories that perform analyses of approximately 98% of the U.S. drug caseload and includes 50 state systems and 101 local or municipal laboratory systems. State and local enforcement and prosecution policies vary and might affect the extent to which drug products are submitted for analysis. Also, laboratory policies for analyzing drug evidence vary. For instance, many laboratories do not analyze drug evidence if the criminal case involving the drug evidence was dismissed from court or if the drug evidence was not linked to a defendant. <https://www.nflis.deadiversion.usdoj.gov/DesktopModules/ReportDownloads/Reports/NFLIS-Drug-AR2017.pdf>.

§§ Rates were calculated using the estimated monthly U.S. resident population on April 1, 2017 (325,132,603 persons for January–June, 2017) and on October 1, 2017 (326,392,644 persons for July–December, 2017) obtained from the U.S. Census fact finder website on January 11, 2019. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=PEP_2017_PEPMONTHN&prodType=table.

¶¶ Among fentanyl submissions, prescription fentanyl versus illicitly manufactured fentanyl cannot be distinguished in data from the National Forensic Laboratory Information System.

*** U.S. Census regions include the following states: Midwest (Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin); Northeast (Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont); South (Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia); and West (Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, New Mexico, Nevada, Oregon, Utah, Washington, and Wyoming).

FIGURE. Number of fentanyl submissions identified by participating federal, state, and local laboratories, by half year — National Forensic Laboratory Information System, United States, 2010–2017*[†]



* Trend does not control for changes in the National Forensic Laboratory Information System participation rate (percentage of the national drug caseload represented by laboratories that have joined the system), which varied from 88% in 2010 to 98% in 2017 (midyear estimate).

[†] Drug Enforcement Administration, Diversion Control Division (2018). Drug Enforcement Administration National Forensic Laboratory Information System. For CDC *Morbidity and Mortality Weekly Report: Numbers of Fentanyl Drug Submissions in the United States — 2010–2017* (Data set). Retrieved from <https://www.nflis.deadiversion.usdoj.gov/>. Data for the period January–June, 2010 to July–December, 2014 retrieved on July 3, 2017; data for the period January–June, 2015 to July–December, 2017 retrieved on June 16, 2018.

are IMF)^{†††} observed nationwide in 2017 appears to be driven by reduced numbers in certain states with high numbers of submissions (e.g., Ohio, Pennsylvania, and Massachusetts). These states were among the first to report sharp increases in the number of fentanyl submissions and overdose deaths during 2013–2014 (3). A previous report found that changes in fentanyl submissions and overdose deaths were positively correlated (3); consistent with this, the preliminary decline in fentanyl submissions coincided with a slowing of the increase in the number of overdose deaths involving synthetic opioids other than methadone in late 2017.^{§§§} The number of overdose deaths involving synthetic opioids other than methadone increased 4% (from 13,986 to 14,480) between the first and

second halves of 2017 compared with an average increase of 34% (range = 7%–69%) during consecutive half year periods beginning in the first half of 2013.^{¶¶¶}

Although these findings are encouraging, they should be interpreted with caution. The reported trend is based on a narrow temporal sample and might not persist, and although numbers of fentanyl submissions might have peaked in early states with high submissions, increases have been reported in other states in the South and West. Even if the observed trend in fentanyl submissions is sustained, increased availability of other emerging synthetic opioids (e.g., fentanyl analogs) might continue to drive up the number of opioid overdose deaths (4,5). Targeting persons at high risk for illicit opioid overdose,

^{†††} <https://www.dea.gov/sites/default/files/2018-07/PRB-DIB-003-18.pdf>.

^{§§§} <https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm>.

^{¶¶¶} <https://wonder.cdc.gov>.

including broadly distributing naloxone and expanding efforts to provide linkage to care, are effective and important public health strategies that might mitigate the U.S. opioid overdose epidemic (3).

Acknowledgments

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All authors have completed and submitted the ICMJE form for disclosure of potential conflicts of interest. No potential conflicts of interest were disclosed.

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