Fentanyl-driven acceleration of racial, gender and geographical disparities in drug overdose deaths in the United States

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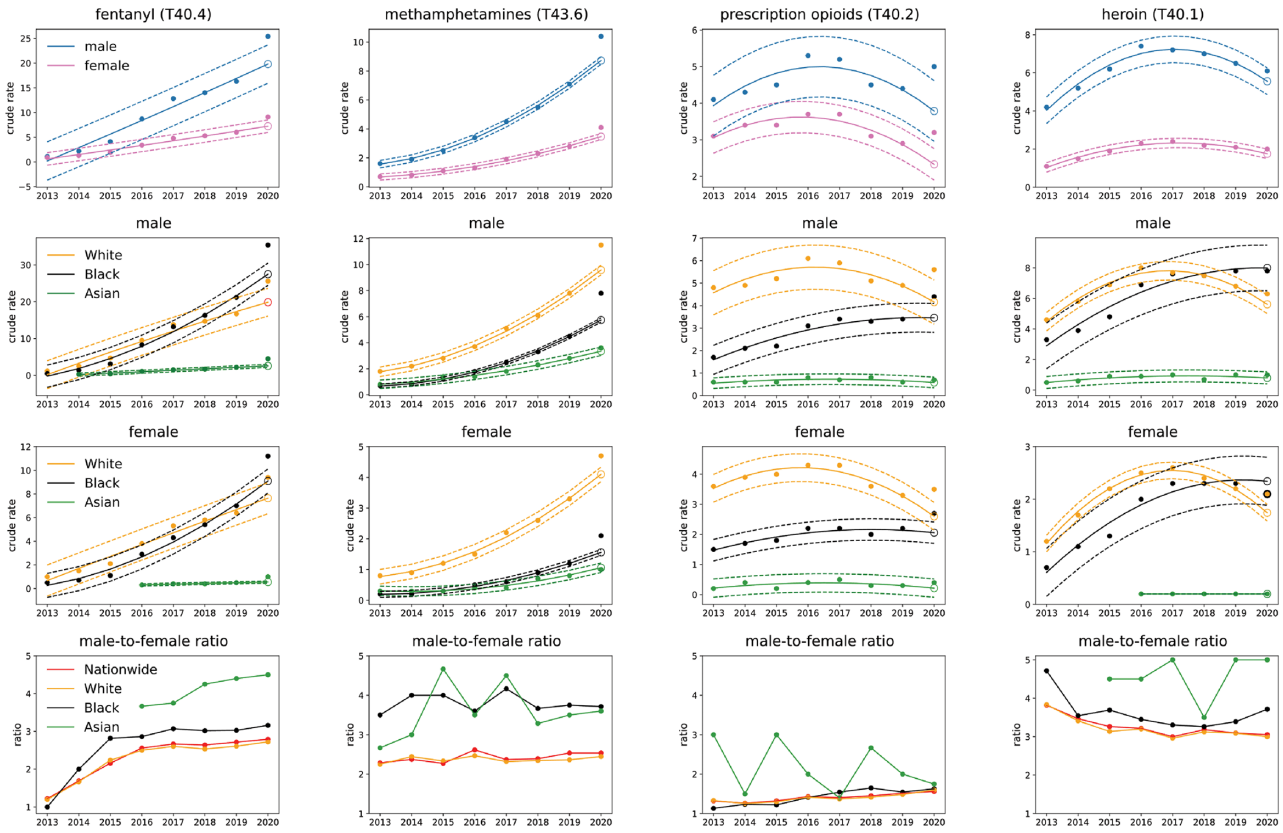
TL;DR: patterns of mortality from drug overdose in the United States by gender, race, geography, drug types

Abstract: We examine trends in drug overdose deaths by race, gender, and geography in the United States during the period 2013–2020. Race and gender specific crude rates were extracted from the final National Vital Statistics System multiple cause-of-death mortality files for several jurisdictions and used to calculate the male-to-female ratios of crude rates between 2013 and 2020. We established 2013–2019 temporal trends for four major drug types: psychostimulants with addiction potential (T43.6, such as methamphetamines); heroin (T40.1); natural and semi-synthetic opioids (T40.2, such as those contained in prescription pain-killers); synthetic opioids (T40.4, such as fentanyl and its derivatives) through a quadratic regression and determined whether changes in the pandemic year 2020 were statistically significant. We also identified which race, gender and states were most impacted by drug overdose deaths. Nationwide, the year 2020 saw statistically significant increases in overdose deaths from all drug categories except heroin, surpassing predictions based on 2013–2019 trends. Crude rates for Black individuals of both genders surpassed those for White individuals for fentanyl and psychostimulants in 2018, creating a gap that widened through 2020. In some regions, mortality among White persons decreased while overdose deaths for Black persons kept rising. The largest 2020 mortality statistic is for Black males in the District of Columbia, with a record 134 overdose deaths per 100,000 due to fentanyl, 9.4 times more than the fatality rate among White males. Male overdose crude rates in 2020 remain larger than those of females for all drug categories except in Idaho, Utah and Arkansas where crude rates of overdose deaths by natural and semisynthetic opioids for females exceeded those of males. Drug prevention, mitigation and no-harm strategies should include racial, geographical and gender-specific efforts, to better identify and serve at-risk groups.


fentanyl (T40.4)
methamphetamines (T43.6)
prescription opioids (T40.2)
heroin (T40.1)
male
female
White
Black
Asian
Nationwide
crude rate
ratio
male-to-female ratio
2013
2014
2015
2016
2017
2018
2019
2020