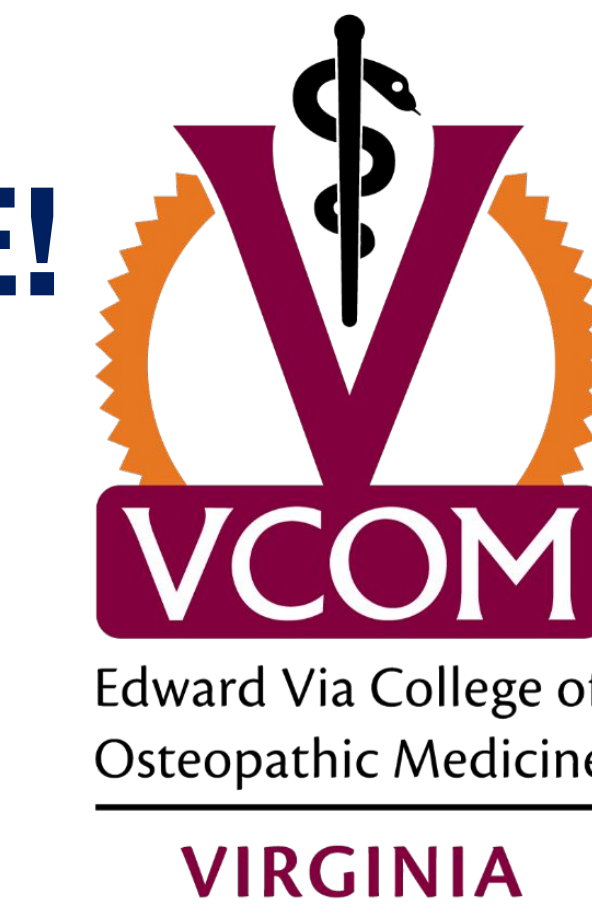


Evaluation of the Appreciable Impact on Opioid Overdose Related Morbidity and Mortality in Rural Virginia Following the Introduction of the Commonwealth's REVIVE! Course and Naloxone Dispensing Events in the New River Health District Between 2007 and 2021

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VCOM National Rural Medicine Conference 2023

References and E-copy of Poster



Introduction

The first intentionally recorded Fatal Opioid Overdose Total (FOOT) in rural Virginia reached 33 persons for 1997, while in 2021 the New River Health District (NRHD) alone totaled 35 persons, including the counties of Floyd, Giles, Montgomery, Pulaski, and the City of Radford¹⁻³. In recognition of the rising death total, the Commonwealth of Virginia implemented the REVIVE! course in 2015, the state's Opioid Overdose and Naloxone Education (OONE) program^{4,5}. In 2014, the FOOT totaled 20 persons and the Opioid Overdose Death Rate (OODR) or fatalities per 100,000 population reached 12% for the NRHD². In 2015, the FOOT in the NRHD fell to 10 persons with a 5.7% OODR, a marked drop the year REVIVE! was introduced throughout the Commonwealth^{2,5}. This report elucidates the impact of such programs locally; however, it is important to maintain an understanding of the issue that affects us nationally (Fig. 1.)

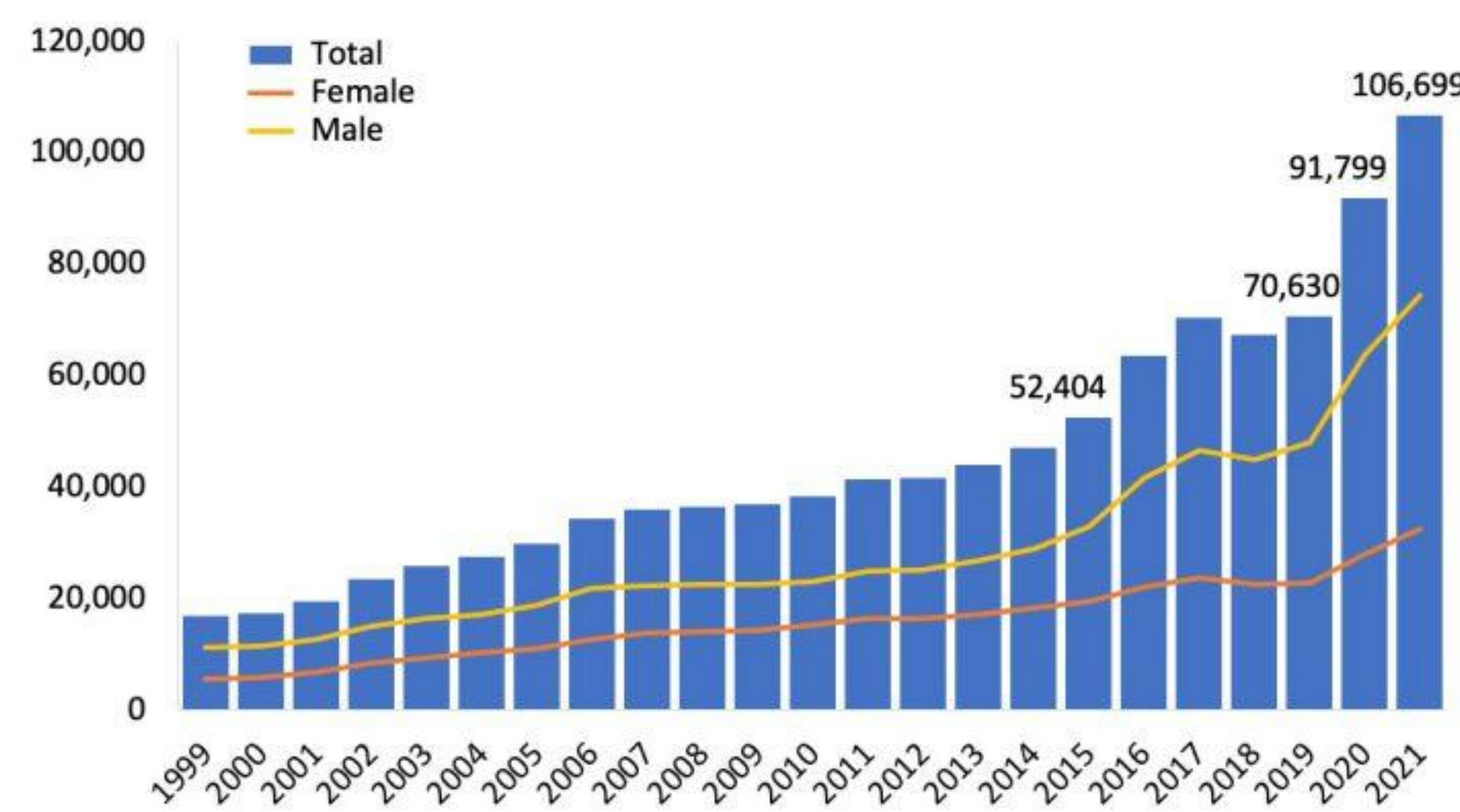


Figure 1. National Drug-Involved Overdose Deaths, Number Among All Ages, by Gender, 1999-2021.⁶

Hypothesis

If opioid overdose-related death data from 2007 to 2021 is analyzed in the context of the Commonwealth of Virginia's REVIVE! course, then a significant improvement in mortality totals and rates should be appreciated in the NRHD following the implementation of training and the distribution of naloxone.

Methods

- Publicly available opioid overdose data from the Virginia Department of Health (VDH) was analyzed with reference to the implementation of REVIVE! in Virginia.
- FOOT is calculated by summation of year-specific death totals for each county in the NRHD.
- OODR is calculated by summation and averaging of the fatalities per 100,000 population rate reported by each county in the NRHD.
- Statistical analysis was based around the assessment of mean values and rates reported per 100,000 population.

Results

Following the integration of REVIVE! in 2015, there was a noted negative difference of 6.8 percentage points in the OODR in comparison to 2014, a significant decrease compared to the previous maximums, a lower-bound negative 4.5 percentage point change from 2010-2009 and an upper bound positive 2.1 between 2009-2008. Figure 2 demonstrates the OODR for each year, 2007 to 2021, with the first substantial drop in 2015 attributed to the statewide implementation of REVIVE! and the heightened awareness of the issue. The team appreciated fluctuating results following 2015, namely the lowest OODR within this data range in 2018 and the highest in 2021.

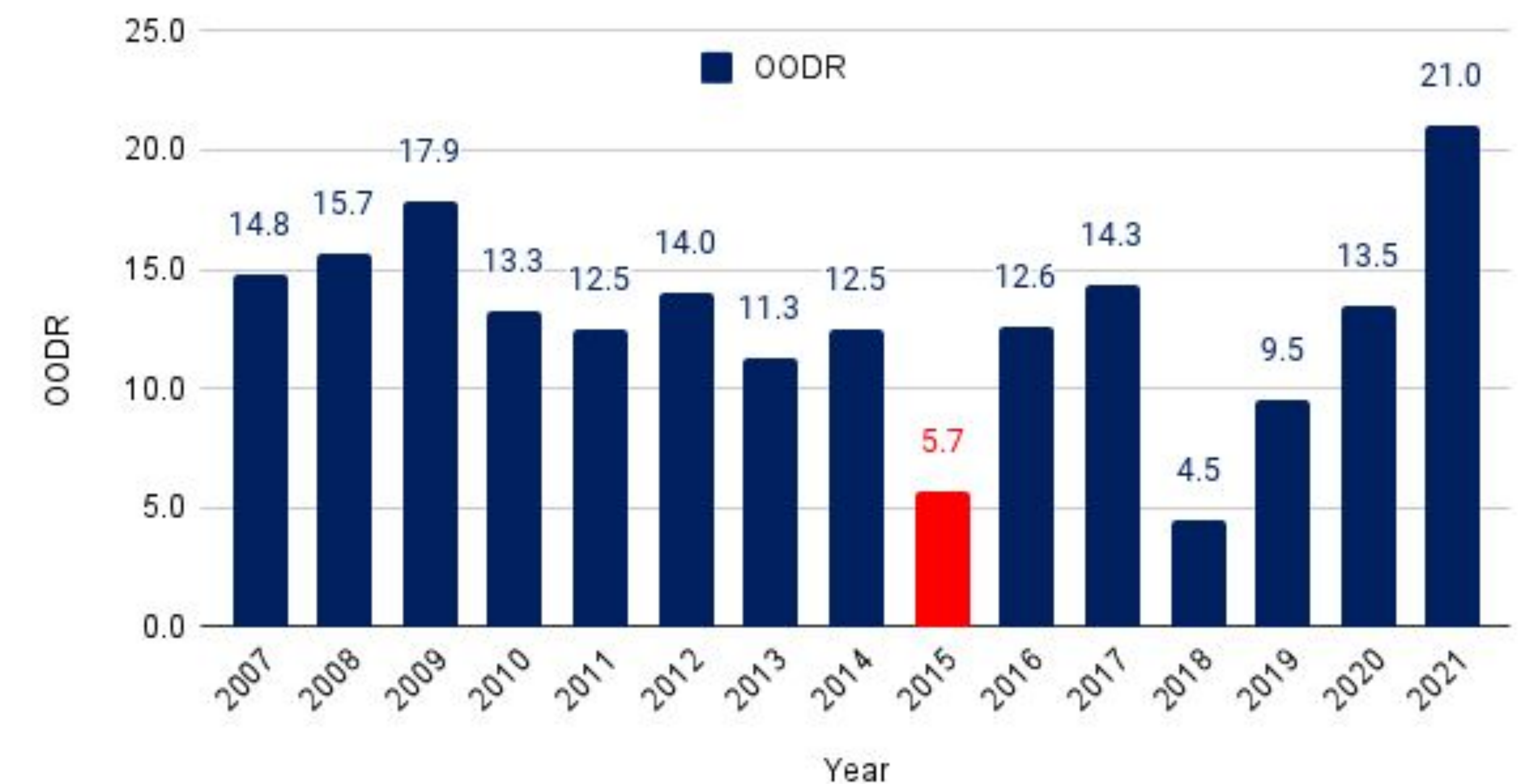


Figure 2. Opioid Overdose Death Rate vs. Year.

Conclusions

An appreciable decrease in the OODR and FOOT was noted between 2014 and 2015 at the start of the Commonwealth of Virginia's REVIVE! course. Looking past 2015, into 2021, we appreciated larger increases in the OODR and FOOT that are juxtaposed by significant reductions in the measured statistics. Future implementations of the data will aim to elucidate the impact of the REVIVE! course on the variances of this data. Additionally, further review may be expanded to other health districts in the Commonwealth of Virginia.