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## Identifying Opioid Overdose Deaths Using Vital Statistics Data

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In this issue of *AJPH*, Lowder et al. (p. 1682) report on their analysis of local vital statistics data and retrospective use of postmortem toxicology results to assess opioid overdose mortality in Marion County, Indiana. The authors found that information on the specific drugs involved in the death was not provided on the death certificate for more than half (58%) of the unintentional overdose deaths. They reviewed postmortem toxicology findings for deaths that did not have drug information available in the vital statistics data, and they used generic thresholds to infer whether the drugs that were detected were likely to have been involved in the death. Using this approach, they concluded that 86% of the drug overdose deaths in their county involved an opioid, more than double the proportion identified using vital statistics data alone (34%).

Although informative, retrospective review of postmortem toxicology results has several limitations. First, even though toxicology results provide information on the drugs found in the decedent's body at the time of death, as Lowder et al. note, using a generic threshold to identify drug involvement is not equivalent to the more definitive approach undertaken for death certification. In certifying a death, additional factors—such as the decedent's health history, including potential opioid tolerance, autopsy findings, and the circumstances of death—are used to establish the causal contribution of a drug to the death. Retrospective review delays the timeliness of information for public health action. Additionally, although the information gained from a retrospective review may be available locally, without changes to the vital statistics data, the additional information will not be available to others who rely on vital statistics to identify major health problems, inform policy and resource allocation decisions, and monitor progress.

### EFFORTS TO IMPROVE REPORTING

In recent years, multiple organizations at national, state, and local levels have made concerted efforts to improve the quality of information on death certificates by working to

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**Note.** The findings and conclusions in this editorial are those of the authors and do not necessarily represent the official position of the National Center for Health Statistics, Centers for Disease Control and Prevention.

reduce variation in death investigation practices and in how death certificates are completed. For example, in 2013, the National Association of Medical Examiners established recommendations and best practices for investigating and certifying opioid-involved deaths, including a specific recommendation to include the drugs that contributed to the death in the cause of death statements on death certificates.<sup>1</sup> Nationally, public health associations and federal agencies such as the Centers for Disease Control and Prevention and the Department of Justice are working with the medical examiner and coroner community to enhance support for medicolegal death investigation and to improve collaboration with public health workers and others working to reduce overdose deaths.<sup>2-5</sup>

The Council of State and Territorial Epidemiologists and the Association of State and Territorial Health Officers have developed recommendations to foster collaboration and to improve drug specificity and completeness in reporting on death certificates<sup>4,5</sup> As a supplement to previous death certification guidance,<sup>6</sup> the National Center for Health Statistics (NCHS) is preparing a reference guide on standard practices for completing the death certificate for drug overdose deaths. In addition, the National Center for Injury Prevention and Control funds 32 states and the District of Columbia to collect more comprehensive data on the circumstances and specific substances involved in opioid overdose deaths.<sup>7</sup> At state and local levels, public health agencies and drug task forces have worked to better understand the medicolegal death investigation system in their state and to strengthen their relationship with local medical examiners and coroners to address issues of common interest.

## IMPROVEMENTS IN DATA QUALITY AND TIMELINESS

These efforts have resulted in substantial improvements in the drug information provided on death certificates (Figure 1). Analysis of data from the National Vital Statistics System showed that the percentage of drug overdose deaths that included information on the specific drugs involved increased from 78% in 2013 to 88% in 2017. Improvements have varied by state. In Indiana, the state where this county-based study was conducted, the percentage of drug overdose deaths with information on the specific drugs involved increased from about 45% of the deaths in 2013 to about 80% in 2017.

In addition to improvements in data quality, substantial gains in the timeliness of vital statistics data have been made, largely the result of electronic death registration and enhanced collaboration between NCHS and state and local vital registrars. For example, the percentage of deaths (all cause) for which NCHS received death certificate information within 10 days of death increased from 7% in 2010 to more than 50% in 2017. Because of the time needed to obtain results from toxicology testing, the information on drug overdose deaths often takes longer to collect; however, improvements in timeliness for these deaths have been noted as well. With more timely data, NCHS is now able to provide quarterly provisional estimates and monthly provisional counts for deaths from drug overdose, both nationally and for some states, including numbers and rates for specific drugs (<https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm>). As the timeliness and specificity in the reporting of mortality data continue to improve, NCHS will be able to provide provisional estimates on drug-specific deaths for additional states.

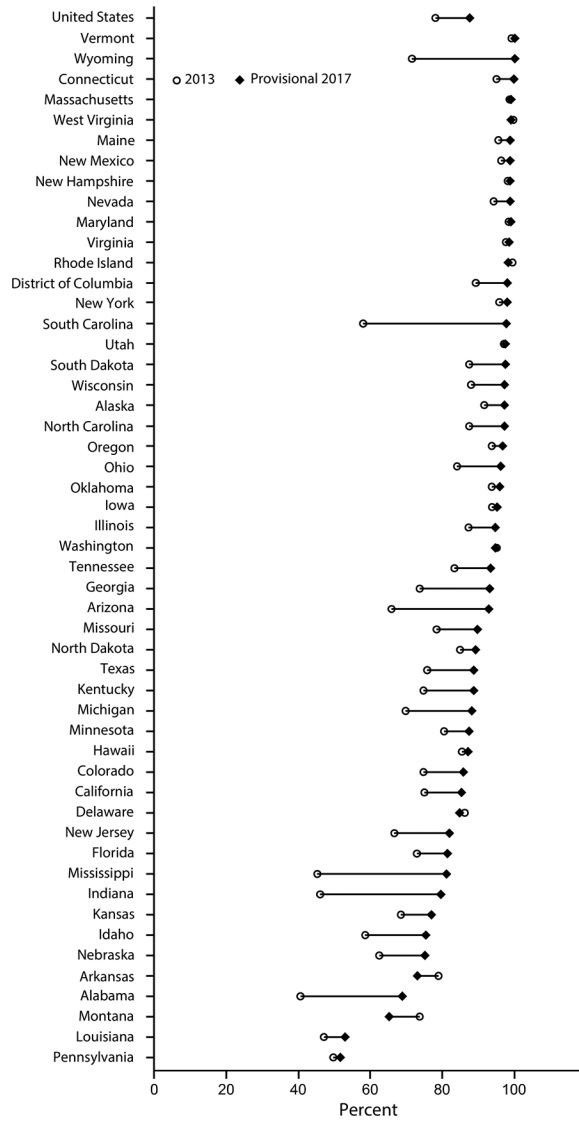
## IN CLOSING

Vital statistics mortality data play a critical role in monitoring the opioid epidemic. These data are the only nationwide source of information on specific causes of death, including drug overdoses, and are used routinely for public health surveillance. As the drug overdose crisis continues to evolve, with the emergence of overdoses from novel psychoactive substances such as fentanyl analogs and synthetic cannabinoids, tracking the specific drugs involved continues to be of the utmost importance. Although many states have made significant gains, further improvements in reporting drug information are needed to better reflect the true burden of drug overdose mortality in the United States and to allow greater comparability among states and local jurisdictions.

The study by Lowder et al. provides insight into the types of drugs involved in overdose deaths in Marion County and highlights the critical need for reporting the specific drugs involved on death certificates. We commend the authors for their work and for drawing attention to the importance of complete and accurate vital statistics data.

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**FIGURE 1.** —Percentage of Drug Overdose Deaths With Drug Specified, by State: United States, 2013 and Provisional 2017