EMERGENCY DEPARTMENT VISITS FOR UNINTENTIONAL DRUG OVERDOSE AMONG VIRGINIA RESIDENTS

Quarter 1 (January - March) 2019

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**Background**

The Virginia Department of Health (VDH) Office of Epidemiology collects and analyzes health data from emergency departments (EDs) to conduct public health surveillance. This report summarizes ED visit trends for unintentional drug overdose among Virginia residents for all drugs, opioids, and heroin. Visits from 72 acute care hospital EDs and 15 free-standing EDs in Virginia are analyzed in this report.

VDH analyzes chief complaints and discharge diagnoses of ED visits to identify and monitor issues of public health concern. The chief complaint is a free-text field that captures the patient’s primary reason for seeking medical care as interpreted by the ED registration staff. The discharge diagnosis is a coded field using standardized values defined by the International Classification of Diseases (ICD) 9th and 10th Revision or SNOMED Clinical Terms (CT) code sets.

**Methodology**

ED visits are categorized into the following three unintentional drug overdose case definitions: 1) all drug overdose, 2) opioid or unspecified substance overdose, and 3) heroin overdose. VDH revises these case definitions based on guidance from the Centers for Disease Control and Prevention (CDC) and findings from ongoing data quality evaluations. Information on the current case definitions and case definition revisions, including historic definitions, can be found on the VDH website.


Overdose rates are presented as a rate per 10,000 ED visits in this report. The total number of ED visits that occurred among Virginia residents of a city/county locality are used as the denominator to calculate this rate. This metric provides a consistent rate calculation across time when data reporting by EDs change (increases or decreases) as compared to the rate per 100,000 population. To protect confidentiality and maintain accurate rate calculations, ED visit rates with numerators of 1 to 4 are suppressed in this report. Rates of 0 are included. Geography-specific ED visit counts and rates per 100,000 population are located within the Monthly and Annual Statistics Excel file on the VDH website.

The geographic location is assigned based on the patient’s residential zip code provided. A single zip code may span multiple city and county localities in Virginia. If a patient resides in a spanning zip code, the visit is assigned to the locality where the majority of the population resides. Virginia city and county populations combined to calculate an overdose rate per 10,000 ED visits because of zip codes spanning multiple localities can be found in Appendix 1.

Please direct questions or comments to the Division of Surveillance and Investigation, Enhanced Surveillance Team: syndromic@vdh.virginia.gov
**Highlights for Quarter 1 2019**

**Virginia:** The statewide overdose rate decreased in Q1 2019 compared to Q4 2018:
- All Drug Overdose (↓10%) – decreased from 49 to 44 overdoses per 10,000 ED visits
- Opioid or Unspecified Substance Overdose (↓13%) – decreased from 21 to 18 overdoses per 10,000 ED visits
- Heroin (↓23%) – decreased from 3.5 to 2.7 overdoses per 10,000 ED visits

**Health Region:** Three of the five regions had an increase in overdose rates when comparing Q1 2019 to Q4 2018 (Figures 1B, 2B, 3B).
- Central increased for Heroin (↑21%)
- Eastern increased for Opioid or Unspecified Substance (↑8%)
- Northern increased for Heroin (↑4%)

**Sex:** Males accounted for a significantly higher overdose rate compared to females for all types of drug overdose over the past 10 quarters (Figures 1D, 2D, 3D).

**Age Group:** Fifteen to 19 year olds remained the age group with the highest rate for All Drug and Opioid or Unspecified Substance overdose; whereas, 24 to 35 year olds remained the age group with the highest rate for Heroin overdose (Figures 1E, 2E, 3E). The overdose rate decreased (↓) or remained unchanged (=) for most age groups when comparing Q1 2019 to Q4 2018, except for the following:
- 0-14 year olds increased for Opioid or Unspecified Substance (↑16%)
- 15-19 year olds increased for Heroin (↑60%)
Emergency Department Visits for All Drug Overdose among Virginia Residents

**Figure 1A.** Rate of ED Visits for All Drug Overdose among Virginia Residents by Calendar Quarter, 2015 - 2019.

**Figure 1B.** Rate of ED Visits for All Drug Overdose among Virginia Residents by Calendar Quarter and Health Region, Most Recent 10 Quarters.
Figure 1C. Year-to-Date Rate (January-March) of ED Visits for All Drug Overdose among Virginia Residents by Year and Health Region, 2015-2019.

Figure 1D. Rate of ED Visits for All Drug Overdose among Virginia Residents by Calendar Quarter and Sex, Most Recent 10 Quarters.
Figure 1E. Rate of ED Visits for All Drug Overdose among Virginia Residents by Calendar Quarter and Age Group (Years), Most Recent 10 Quarters.
Emergency Department Visits for Opioid or Unspecified Substance Overdose among Virginia Residents

**Figure 2A.** Rate of ED Visits for Opioid or Unspecified Substance Overdose among Virginia Residents by Calendar Quarter, 2015 - 2019.

**Figure 2B.** Rate of ED Visits for Opioid or Unspecified Substance Overdose among Virginia Residents by Calendar Quarter and Health Region, Most Recent 10 Quarters.
Figure 2C. Year-to-Date Rate (January-March) of ED Visits for Opioid or Unspecified Substance Overdose among Virginia Residents by Year and Health Region, 2015 -2019.

Figure 2D. Rate of ED Visits for Opioid or Unspecified Substance Overdose among Virginia Residents by Calendar Quarter and Sex, Most Recent 10 Quarters.
Figure 2E. Rate of ED Visits for Opioid or Unspecified Substance Overdose among Virginia Residents by Calendar Quarter and Age Group (Years), Most Recent 10 Quarters.
Emergency Department Visits for Heroin Overdose among Virginia Residents

**Figure 3A.** Rate of ED Visits for Heroin Overdose among Virginia Residents by Calendar Quarter, 2015 - 2019.

**Figure 3B.** Rate of ED Visits for Heroin Overdose among Virginia Residents by Calendar Quarter and Health Region, Most Recent 10 Quarters.
Figure 3C. Year-to-Date Rate (January-March) of ED Visits for Heroin Overdose among Virginia Residents by Year and Health Region, 2015 - 2019.

Figure 3D. Rate of ED Visits for Heroin Overdose among Virginia Residents by Calendar Quarter and Sex, Most Recent 10 Quarters.
Figure 3E. Rate of ED Visits for Heroin Overdose among Virginia Residents by Calendar Quarter and Age Group (Years), Most Recent 10 Quarters.
Appendix 1
Virginia Localities Combined for Rate Calculations

- Alleghany County and Covington City
- Albemarle County and Charlottesville City
- Augusta County, Staunton City, and Waynesboro City
- Chesterfield County and Colonial Heights City
- Frederick County and Winchester City
- Fairfax County, Fairfax City, and Falls Church City
- Grayson County and Galax City
- Greensville County and Emporia City
- Henry County and Martinsville City
- Montgomery County and Radford City
- Pittsylvania County and Danville City
- Prince George County, Hopewell City, and Petersburg City
- Prince William County, Manassas City, and Manassas Park City
- Roanoke County, Roanoke City, and Salem City
- Rockingham County and Harrisonburg City
- Rockbridge County, Buena Vista City, and Lexington City
- Southampton County and Franklin City
- Washington County and Bristol City
- Wise County and Norton City