

EMERGENCY DEPARTMENT VISITS FOR OVERDOSE BY OPIOID, UNSPECIFIED SUBSTANCE AND HEROIN AMONG VIRGINIA RESIDENTS

September 2016

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Please direct questions or comments to the Division of Surveillance and Investigation, Enhanced Surveillance Team: syndromic@vdh.virginia.gov



Background

The Virginia Department of Health (VDH) receives data on visits to 82 acute care hospital emergency departments (EDs) and 13 free-standing EDs in Virginia for purposes of public health surveillance. The purpose of this report is to characterize ED visit trends for acute unintentional overdose by opioids and heroin among Virginia residents.

Chief complaints and discharge diagnoses of ED visits are analyzed by VDH to identify and monitor issues of public health concern across Virginia. 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 that uses standardized values outlined by the International Classification of Diseases (ICD) 9th and 10th Revision code sets.

Methodology

ED visits that are identified as unintentional overdose by opioid or unspecified substance include those with medical and non-medical use of a prescription opioid or where the substance is not specified, given evidence that the majority of fatal overdoses are opioid-related. These visits must meet the following inclusion and exclusion criteria:

- Inclusion terms from Chief Complaint or Discharge Diagnosis: overdose, OD, sobredosis, opioid, opiate, opium, narcotic, Narcan, naloxone, E850.1, E850.2, 965.00, 965.02, 965.09, 977.9, T40.0X1, T40.0X4, T40.2X1, T40.2X4, T40.3X1, T40.3X4, T40.4X1, T40.4X4, T40.601, T40.604, T40.691, T40.694, T50.901, T50.904
- Exclusions terms from Chief Complaint or Discharge Diagnosis: suicide, alcohol overdose alone, withdrawal, detoxification, rehab, addiction, dependency, mental health or psychological evaluation, allergies, constipation, chronic pain, refill requests, and any specified non-opioid drug or medication

ED visits that are identified as unintentional overdose by heroin must meet the following inclusion and exclusion criteria:

- Inclusion terms from Chief Complaint or Discharge Diagnosis: heroin, herion, 965.01, E850.0, T40.1X1A, T40.1X4A
- Exclusions terms from Chief Complaint or Discharge Diagnosis: *suicide, withdrawal, detoxification, rehab, and addiction*

These criteria were revised in September 2016 in order to improve specificity in the identification of ED visits for unintentional drug overdose. Readers are strongly encouraged to review syndromic surveillance data limitations when interpreting this report.

ED visits for unintentional overdose by opioid or unspecified substance and heroin are presented by count or rate per 100,000 population. Rates are calculated using U.S. Census Bureau 2015 population estimates. To protect confidentiality and maintain accurate rate calculations, ED visit counts of 1 to 4 and rates with numerators of 1 to 4 are suppressed in this report. Counts of 0 are included.

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 such a zip code, the visit is assigned to the locality where the majority of the population resides. Places where the Virginia city and county populations have been combined to calculate a rate per 100,000 population due to zip codes spanning multiple localities can be found in <u>Appendix 1</u>.



Emergency Department Visits for Unintentional Overdose by Opioid or Unspecified Substance among Virginia Residents

Figure 1A. Count of ED Visits for Unintentional Overdose by Opioid or Unspecified Substance among Virginia Residents by Month, 2015 and 2016

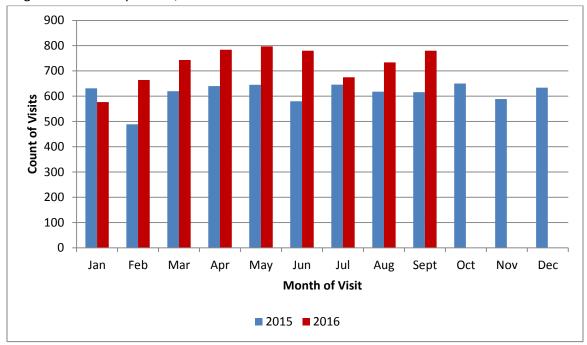


Figure 1B. Rate of ED Visits for Unintentional Overdose by Opioid or Unspecified Substance among Virginia Residents by Month and Health Region, Previous 12 Months

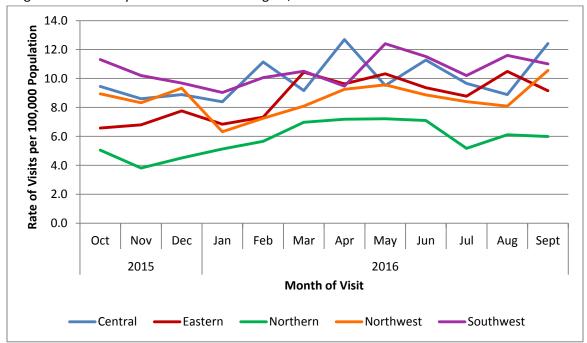




Figure 1C. Rate of ED Visits for Unintentional Overdose by Opioid or Unspecified Substance among Virginia Residents by Month and Sex, Previous 12 Months

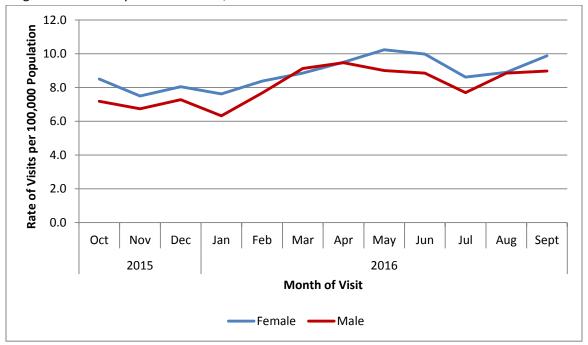


Figure 1D. Rate of ED Visits for Unintentional Overdose by Opioid or Unspecified Substance among Virginia Residents by Month and Age Group (Years), Previous 12 Months

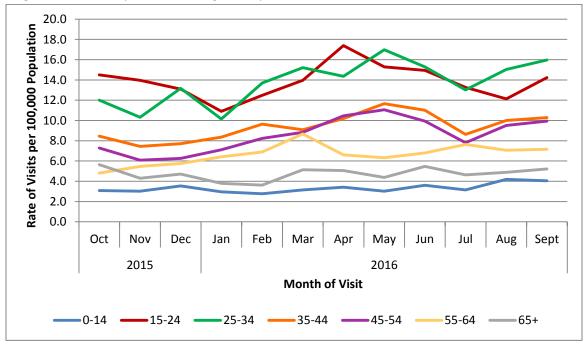




Table 1A. Count and Rate per 100,000 Population of ED Visits for Unintentional Overdose by Opioid or Unspecified Substance among Virginia Residents by Month and Health District, Previous 6 Months^{†*}

	2015	Apr	2016	May	2016	Jun 2	2016	Jul 2	2016	Aug	2016	Sept 2016	
Health District	Population Estimate	Count	Rate	Count	Rate								
Alexandria	159,571	6	3.8	12	7.5	9	5.6	8	5.0	13	8.1	*	*
Alleghany	179,604	11	6.1	17	9.5	20	11.1	21	11.7	16	8.9	21	11.7
Arlington	234,678	9	3.8	13	5.5	10	4.3	11	4.7	13	5.5	13	5.5
Central Shenandoah	297,621	13	4.4	10	3.4	19	6.4	19	6.4	9	3.0	13	4.4
Central Virginia	259,900	22	8.5	25	9.6	28	10.8	15	5.8	21	8.1	32	12.3
Chesapeake	238,283	23	9.7	21	8.8	30	12.6	25	10.5	25	10.5	29	12.2
Chesterfield	379,107	42	11.1	41	10.8	39	10.3	36	9.5	23	6.1	35	9.2
Chickahominy	154,089	19	12.3	13	8.4	19	12.3	5	3.2	15	9.7	13	8.4
Crater	157,517	15	9.5	10	6.3	10	6.3	*	*	14	8.9	16	10.2
Cumberland Plateau	110,381	14	12.7	8	7.2	14	12.7	5	4.5	16	14.5	11	10.0
Eastern Shore	45,692	6	13.1	*	*	*	*	*	*	*	*	*	*
Fairfax	1,166,706	97	8.3	87	7.5	99	8.5	69	5.9	69	5.9	82	7.0
Hampton	138,626	10	7.2	15	10.8	13	9.4	15	10.8	20	14.4	10	7.2
Henrico	320,717	56	17.5	32	10.0	39	12.2	43	13.4	37	11.5	45	14.0
Lenowisco	91,830	11	12.0	14	15.2	21	22.9	15	16.3	16	17.4	10	10.9
Lord Fairfax	229,120	15	6.5	22	9.6	25	10.9	17	7.4	20	8.7	31	13.5
Loudoun	374,451	21	5.6	29	7.7	23	6.1	25	6.7	24	6.4	15	4.0
Mount Rogers	191,012	16	8.4	22	11.5	12	6.3	15	7.9	17	8.9	17	8.9
New River	182,991	12	6.6	16	8.7	9	4.9	22	12.0	10	5.5	10	5.5
Norfolk	247,189	44	17.8	24	9.7	25	10.1	21	8.5	24	9.7	18	7.3
Peninsula	353,464	25	7.1	48	13.6	37	10.5	29	8.2	46	13.0	41	11.6
Piedmont	104,667	6	5.7	10	9.6	8	7.6	11	10.5	7	6.7	12	11.5
Pittsylvania-Danville	105,799	8	7.6	20	18.9	11	10.4	*	*	15	14.2	14	13.2
Portsmouth	96,874	13	13.4	21	21.7	16	16.5	16	16.5	28	28.9	12	12.4
Prince William	500,740	42	8.4	35	7.0	32	6.4	13	2.6	30	6.0	34	6.8
Rappahannock	350,535	30	8.6	39	11.1	26	7.4	31	8.8	34	9.7	46	13.1
Rappahannock-Rapidan	171,228	35	20.4	28	16.4	21	12.3	18	10.5	20	11.7	23	13.4
Richmond City	217,938	38	17.4	28	12.8	42	19.3	30	13.8	19	8.7	44	20.2
Roanoke	99,681	18	18.1	17	17.1	23	23.1	20	20.1	23	23.1	21	21.1
Southside	84,304	*	*	*	*	*	*	8	9.5	11	13.0	11	13.0
Thomas Jefferson	248,500	27	10.9	25	10.1	24	9.7	24	9.7	21	8.5	24	9.7
Three Rivers	141,609	16	11.3	26	18.4	15	10.6	14	9.9	13	9.2	12	8.5
Virginia Beach	453,500	29	6.4	24	5.3	29	6.4	28	6.2	30	6.6	29	6.4
West Piedmont	141,119	17	12.0	30	21.3	19	13.5	22	15.6	24	17.0	14	9.9
Western Tidewater	153,950	14	9.1	11	7.1	6	3.9	14	9.1	7	4.5	16	10.4
VIRGINIA TOTAL	8,382,993	784	9.4	797	9.5	780	9.3	675	8.1	733	8.7	780	9.3

[†] Rate per 100,000 population based on 2015 U.S. Census estimates available at www.census.gov/popest/

^{*} Visit counts of 1 to 4 and rates with numerators of 1 to 4 are suppressed to maintain confidentiality and accurate rate calculations.



Table 1B. Count and Rate per 100,000 Population of ED Visits for Unintentional Overdose by Opioid or Unspecified Substance among Virginia Residents by Month and City/County Locality, Previous 6 Months^{†‡*}

	2015	Apr 2	2016	May	2016	Jun 2	2016	Jul 2	2016	Aug	2016	Sept	2016
Locality	Population Estimate	Count	Rate										
Accomack County	32,973	*	*	*	*	*	*	*	*	*	*	*	*
Albemarle County [‡]	152,300	14	9.2	14	9.2	13	8.5	17	11.2	9	5.9	17	11.2
Alleghany County [‡]	21,335	0	0	*	*	*	*	*	*	5	23.4	*	*
Amelia County	12,903	0	0	0	0	*	*	0	0	0	0	*	*
Amherst County	31,914	*	*	5	15.7	*	*	*	*	*	*	*	*
Appomattox County	15,414	*	*	0	0	*	*	0	0	*	*	*	*
Arlington County	229,164	9	3.9	13	5.7	10	4.4	11	4.8	13	5.7	13	5.7
Augusta County [‡]	120,221	*	*	*	*	*	*	*	*	*	*	*	*
Bath County	4,470	0	0	0	0	0	0	0	0	0	0	0	0
Bedford County	77,724	5	6.4	9	11.6	10	12.9	*	*	7	9.0	7	9.0
Bland County	6,561	0	0	0	0	0	0	0	0	0	0	0	0
Botetourt County	33,347	*	*	*	*	*	*	5	15.0	*	*	*	*
Brunswick County	16,698	*	*	0	0	0	0	*	*	*	*	*	*
Buchanan County	22,776	*	*	*	*	*	*	0	0	0	0	*	*
Buckingham County	17,032	*	*	0	0	*	*	*	*	0	0	*	*
Campbell County	55,086	*	*	*	*	*	*	*	*	*	*	5	9.1
Caroline County	29,984	5	16.7	*	*	*	*	*	*	5	16.7	8	26.7
Carroll County	29,724	*	*	*	*	*	*	*	*	*	*	*	*
Charles City County	7,040	*	*	*	*	*	*	0	0	*	*	0	0
Charlotte County	12,201	*	*	*	*	*	*	*	*	*	*	*	*
Chesterfield County [‡]	353,507	38	10.7	37	10.5	36	10.2	30	8.5	21	5.9	32	9.1
Clarke County	14,363	0	0	*	*	0	0	*	*	0	0	0	0
Craig County	5,211	0	0	*	*	*	*	0	0	0	0	*	*
Culpeper County	49,432	11	22.3	9	18.2	13	26.3	*	*	8	16.2	6	12.1
Cumberland County	9,719	*	*	0	0	*	*	0	0	*	*	*	*
Dickenson County	15,115	*	*	*	*	*	*	*	*	5	33.1	*	*
Dinwiddie County	27,852	*	*	0	0	*	*	0	0	0	0	0	0
Essex County	11,130	*	*	0	0	*	*	*	*	*	*	*	*
Fairfax County [‡]	1,180,139	97	8.2	87	7.4	99	8.4	69	5.8	69	5.8	82	6.9
Fauquier County	68,782	12	17.4	9	13.1	*	*	6	8.7	6	8.7	9	13.1
Floyd County	15,651	*	*	0	0	0	0	*	*	*	*	*	*
Fluvanna County	26,235	0	0	*	*	*	*	*	*	*	*	0	0
Franklin County	56,264	8	14.2	10	17.8	6	10.7	7	12.4	5	8.9	7	12.4
Frederick County [‡]	110,483	7	6.3	14	12.7	11	10.0	*	*	11	10.0	17	15.4
Giles County	16,708	0	0	*	*	*	*	*	*	*	*	0	0
Gloucester County	37,143	*	*	12	32.3	*	*	*	*	*	*	*	*
Goochland County	22,253	*	*	*	*	0	0	0	0	*	*	0	0



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Locality	2015 Population	Apr 2	2016	May	2016	Jun 2	2016	Jul 2	2016	Aug	2016	Sept	2016
Locality	Estimate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Grayson County [‡]	22,926	5	21.8	*	*	5	21.8	*	*	6	26.2	*	*
Greene County	19,162	*	*	*	*	*	*	*	*	*	*	*	*
Greensville County [‡]	17,381	*	*	*	*	*	*	0	0	*	*	*	*
Halifax County	35,125	*	*	0	0	0	0	*	*	5	14.2	*	*
Hanover County	103,227	11	10.7	5	4.8	17	16.5	5	4.8	9	8.7	11	10.7
Henrico County	325,155	56	17.2	32	9.8	39	12.0	43	13.2	37	11.4	45	13.8
Henry County [‡]	65,526	8	12.2	19	29.0	13	19.8	14	21.4	18	27.5	7	10.7
Highland County	2,214	0	0	0	0	0	0	0	0	0	0	0	0
Isle of Wight County	36,314	5	13.8	*	*	0	0	*	*	*	*	*	*
James City County	73,147	7	9.6	7	9.6	7	9.6	*	*	5	6.8	10	13.7
King and Queen County	7,158	0	0	*	*	0	0	*	*	*	*	0	0
King George County	25,515	*	*	*	*	*	*	*	*	*	*	*	*
King William County	16,269	*	*	*	*	0	0	*	*	*	*	*	*
Lancaster County	10,965	*	*	*	*	5	45.6	*	*	0	0	*	*
Lee County	24,742	0	0	*	*	*	*	*	*	*	*	*	*
Loudoun County	375,629	21	5.6	29	7.7	23	6.1	25	6.7	24	6.4	15	4.0
Louisa County	34,602	6	17.3	7	20.2	6	17.3	*	*	6	17.3	6	17.3
Lunenburg County	12,299	0	0	*	*	*	*	0	0	*	*	*	*
Madison County	13,134	*	*	*	*	0	0	0	0	0	0	*	*
Mathews County	8,862	*	*	*	*	*	*	*	*	*	*	*	*
Mecklenburg County	31,081	*	*	*	*	*	*	*	*	*	*	5	16.1
Middlesex County	10,606	*	*	*	*	0	0	0	0	*	*	0	0
Montgomery County [‡]	115,056	*	*	6	5.2	6	5.2	10	8.7	5	4.3	5	4.3
Nelson County	14,785	*	*	0	0	*	*	*	*	*	*	0	0
New Kent County	20,392	*	*	5	24.5	*	*	0	0	*	*	*	*
Northampton County	12,155	*	*	0	0	*	*	0	0	*	*	*	*
Northumberland County	12,232	*	*	0	0	*	*	0	0	0	0	*	*
Nottoway County	15,673	*	*	*	*	*	*	*	*	*	*	*	*
Orange County	35,385	9	25.4	8	22.6	*	*	10	28.3	6	17.0	*	*
Page County	23,726	*	*	*	*	*	*	*	*	*	*	*	*
Patrick County	18,045	*	*	*	*	0	0	*	*	*	*	0	0
Pittsylvania County [‡]	104,276	8	7.7	20	19.2	11	10.5	*	*	15	14.4	14	13.4
Powhatan County	28,031	*	*	*	*	*	*	6	21.4	*	*	*	*
Prince Edward County	22,952	0	0	*	*	*	*	5	21.8	*	*	*	*
Prince George County	92,717	12	12.9	*	*	6	6.5	*	*	10	10.8	12	12.9
Prince William County [‡]	509,211	42	8.2	35	6.9	32	6.3	13	2.6	30	5.9	34	6.7
Pulaski County	34,332	7	20.4	6	17.5	*	*	*	*	*	*	*	*
Rappahannock County	7,378	*	*	*	*	0	0	0	0	0	0	0	0
Richmond County	8,908	*	*	*	*	*	*	0	0	*	*	0	0
Roanoke County [‡]	219,738	28	12.7	28	12.7	34	15.5	33	15.0	33	15.0	34	15.5



	2015	Apr 2	2016	May	2016	Jun 2	2016	016 Jul 2016			Aug 2016		2016
Locality	Population	-		•								•	
	Estimate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Rockbridge County [‡]	36,234	*	*	*	*	*	*	*	*	*	*	*	*
Rockingham County [‡]	131,131	9	6.9	7	5.3	14	10.7	12	9.2	5	3.8	8	6.1
Russell County	27,891	5	17.9	*	*	6	21.5	*	*	5	17.9	*	*
Scott County	22,126	*	*	0	0	0	0	0	0	0	0	0	0
Shenandoah County	43,190	5	11.6	*	*	5	11.6	*	*	*	*	8	18.5
Smyth County	31,470	5	15.9	9	28.6	*	*	7	22.2	7	22.2	8	25.4
Southampton County [‡]	26,599	*	*	*	*	*	*	*	*	*	*	*	*
Spotsylvania County	130,475	14	10.7	17	13.0	5	3.8	12	9.2	12	9.2	16	12.3
Stafford County	142,003	7	4.9	12	8.5	11	7.7	11	7.7	11	7.7	15	10.6
Surry County	6,709	0	0	*	*	0	0	0	0	*	*	*	*
Sussex County	11,715	0	0	*	*	*	*	*	*	*	*	*	*
Tazewell County	42,899	*	*	*	*	*	*	*	*	6	14.0	*	*
Warren County	39,083	*	*	*	*	8	20.5	6	15.4	5	12.8	5	12.8
Washington County [‡]	71,732	5	7.0	6	8.4	*	*	*	*	*	*	*	*
Westmoreland County	17,629	*	*	*	*	*	*	0	0	*	*	*	*
Wise County [‡]	43,657	10	22.9	11	25.2	19	43.5	14	32.1	14	32.1	7	16.0
Wythe County	29,119	0	0	*	*	*	*	0	0	0	0	0	0
York County	67,837	*	*	*	*	8	11.8	8	11.8	6	8.8	6	8.8
Alexandria City	153,511	6	3.9	12	7.8	9	5.9	8	5.2	13	8.5	*	*
Bristol City [‡]	71,732	5	7.0	6	8.4	*	*	*	*	*	*	*	*
Buena Vista City [‡]	36,234	*	*	*	*	*	*	*	*	*	*	*	*
Charlottesville City [‡]	152,300	14	9.2	14	9.2	13	8.5	17	11.2	9	5.9	17	11.2
Chesapeake City	235,429	23	9.8	21	8.9	30	12.7	25	10.6	25	10.6	29	12.3
Colonial Heights City [‡]	353,507	38	10.7	37	10.5	36	10.2	30	8.5	21	5.9	32	9.1
Covington City [‡]	21,335	0	0	*	*	*	*	*	*	5	23.4	*	*
Danville City [‡]	104,276	8	7.7	20	19.2	11	10.5	*	*	15	14.4	14	13.4
Emporia City [‡]	17,381	*	*	*	*	*	*	0	0	*	*	*	*
Fairfax City [‡]	1,180,139	97	8.2	87	7.4	99	8.4	69	5.8	69	5.8	82	6.9
Falls Church City [‡]	1,180,139	97	8.2	87	7.4	99	8.4	69	5.8	69	5.8	82	6.9
Franklin City [‡]	26,599	*	*	*	*	*	*	*	*	*	*	*	*
Fredericksburg City	28,118	*	*	*	*	*	*	*	*	*	*	*	*
Galax City [‡]	22,926	5	21.8	*	*	5	21.8	*	*	6	26.2	*	*
Hampton City	136,454	10	7.3	15	11.0	13	9.5	15	11.0	20	14.7	10	7.3
Harrisonburg City [‡]	131,131	9	6.9	7	5.3	14	10.7	12	9.2	5	3.8	8	6.1
Hopewell City [‡]	92,717	12	12.9	*	*	6	6.5	*	*	10	10.8	12	12.9
Lexington City [‡]	36,234	*	*	*	*	*	*	*	*	*	*	*	*
Lynchburg City	79,812	12	15.0	9	11.3	12	15.0	8	10.0	7	8.8	14	17.5
Manassas City [‡]	509,211	42	8.2	35	6.9	32	6.3	13	2.6	30	5.9	34	6.7
Manassas Park City [‡]	509,211	42	8.2	35	6.9	32	6.3	13	2.6	30	5.9	34	6.7
Martinsville City [‡]	65,526	8	12.2	19	29.0	13	19.8	14	21.4	18	27.5	7	10.7



Locality	2015	2015 Apr 2016 Population		May	May 2016		2016	Jul 2	016	Aug 2016		Sept 2016	
Locality	Estimate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Newport News City	182,385	14	7.7	35	19.2	20	11.0	13	7.1	30	16.4	22	12.1
Norfolk City	246,393	44	17.9	24	9.7	25	10.1	21	8.5	24	9.7	18	7.3
Norton City [‡]	43,657	10	22.9	11	25.2	19	43.5	14	32.1	14	32.1	7	16.0
Petersburg City [‡]	92,717	12	12.9	*	*	6	6.5	*	*	10	10.8	12	12.9
Poquoson City	12,059	0	0	*	*	*	*	*	*	5	41.5	*	*
Portsmouth City	96,201	13	13.5	21	21.8	16	16.6	16	16.6	28	29.1	12	12.5
Radford City [‡]	115,056	*	*	6	5.2	6	5.2	10	8.7	5	4.3	5	4.3
Richmond City	220,289	38	17.3	28	12.7	42	19.1	30	13.6	19	8.6	44	20.0
Roanoke City [‡]	219,738	28	12.7	28	12.7	34	15.5	33	15.0	33	15.0	34	15.5
Salem City [‡]	219,738	28	12.7	28	12.7	34	15.5	33	15.0	33	15.0	34	15.5
Staunton City [‡]	120,221	*	*	*	*	*	*	*	*	*	*	*	*
Suffolk City	88,161	7	7.9	5	5.7	*	*	10	11.3	5	5.7	10	11.3
Virginia Beach City	452,745	29	6.4	24	5.3	29	6.4	28	6.2	30	6.6	29	6.4
Waynesboro City [‡]	120,221	*	*	*	*	*	*	*	*	*	*	*	*
Williamsburg City	15,052	0	0	0	0	0	0	0	0	0	0	0	0
Winchester City [‡]	110,483	7	6.3	14	12.7	11	10.0	*	*	11	10.0	17	15.4
VIRGINIA TOTAL	8,382,993	784	9.4	797	9.5	780	9.3	675	8.1	733	8.7	780	9.3

[†] Rate per 100,000 population based on 2015 U.S. Census estimates available at www.census.gov/popest/

[‡] The rate per 100,000 population for each locality within a combined group is based on the aggregated total population of the combined group. Refer to <u>Appendix 1</u> for the list of localities that are combined.

^{*} Visit counts of 1 to 4 and rates with numerators of 1 to 4 are suppressed to maintain confidentiality and accurate rate calculations.



Table 1C. Count and Rate per 100,000 Population of ED Visits for Unintentional Overdose by Opioid or Unspecified Substance among Virginia Residents by Month and Virginia State Police Division, Previous 6 Months^{†*§}

VSP Division	2015	Apr	2016	May	2016	Jun	2016	Jul 2	016	Aug	2016	Sept	2016
VSP DIVISION	Population Estimate	Count	Rate										
Division 1	1,403,431	192	13.7	148	10.5	174	12.4	137	9.8	125	8.9	177	12.6
Division 2	836,683	82	9.8	89	10.6	80	9.6	74	8.8	71	8.5	97	11.6
Division 3	655,338	45	6.9	42	6.4	46	7.0	48	7.3	47	7.2	63	9.6
Division 4	441,778	48	10.9	54	12.2	50	11.3	43	9.7	53	12.0	41	9.3
Division 5	1,823,018	175	9.6	187	10.3	165	9.1	159	8.7	196	10.8	168	9.2
Division 6	775,091	67	8.6	101	13.0	92	11.9	88	11.4	92	11.9	88	11.4
Division 7	2,447,654	175	7.1	176	7.2	173	7.1	126	5.1	149	6.1	146	6.0
VIRGINIA TOTAL	8,382,993	784	9.4	797	9.5	780	9.3	675	8.1	733	8.7	780	9.3

[†] Rate per 100,000 population based on 2015 U.S. Census estimates available at www.census.gov/popest/

^{*} Visit counts of 1 to 4 and rates with numerators of 1 to 4 are suppressed to maintain confidentiality and accurate rate calculations.

[§] Virginia State Police Divisions available at http://www.vsp.state.va.us/Office Locations.shtm



Emergency Department Visits for Unintentional Overdose by Heroin among Virginia Residents

Figure 2A. Count of ED Visits for Unintentional Overdose by Heroin among Virginia Residents by Month, 2015 and 2016

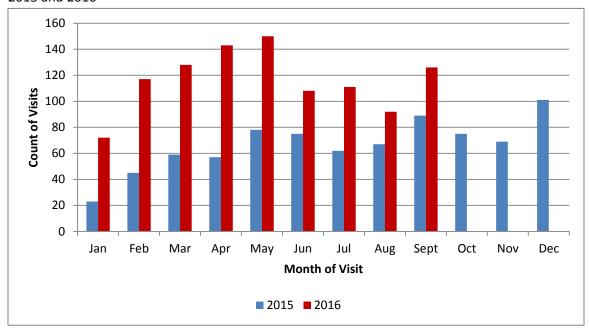


Figure 2B. Rate of ED Visits for Unintentional Overdose by Heroin among Virginia Residents by Month and Health Region, Previous 12 Months

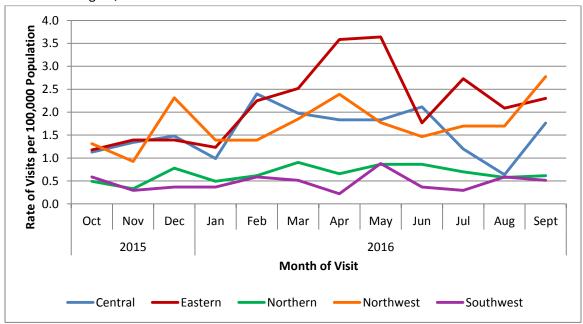




Figure 2C. Rate of ED Visits for Unintentional Overdose by Heroin among Virginia Residents by Month and Sex, Previous 12 Months

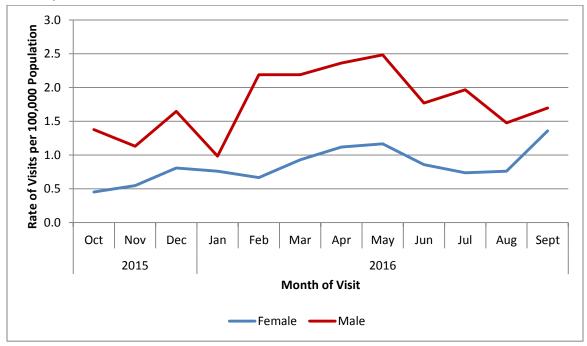


Figure 2D. Rate of ED Visits for Unintentional Overdose by Heroin among Virginia Residents by Month and Age Group (Years), Previous 12 Months

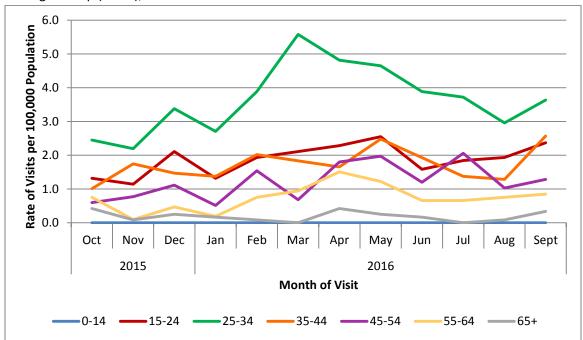




Table 2A. Count and Rate per 100,000 Population of ED Visits for Unintentional Overdose by Heroin among Virginia Residents by Month and Health District, Previous 6 Months^{†*}

	2015	Apr	2016	May	2016	Jun 2	2016	Jul 2	2016	Aug	2016	Sept 2016	
Health District	Population Estimate	Count	Rate	Count	Rate								
Alexandria	159,571	*	*	0	0	*	*	*	*	*	*	0	0
Alleghany	179,604	*	*	5	2.8	*	*	0	0	5	2.8	*	*
Arlington	234,678	*	*	0	0	*	*	0	0	0	0	*	*
Central Shenandoah	297,621	*	*	0	0	0	0	*	*	*	*	*	*
Central Virginia	259,900	*	*	*	*	0	0	0	0	0	0	*	*
Chesapeake	238,283	16	6.7	9	3.8	5	2.1	6	2.5	8	3.4	5	2.1
Chesterfield	379,107	*	*	*	*	9	2.4	*	*	0	0	*	*
Chickahominy	154,089	*	*	*	*	*	*	*	*	0	0	5	3.2
Crater	157,517	0	0	*	*	0	0	*	*	*	*	0	0
Cumberland Plateau	110,381	0	0	0	0	0	0	0	0	0	0	0	0
Eastern Shore	45,692	*	*	0	0	0	0	0	0	0	0	0	0
Fairfax	1,166,706	9	0.8	11	0.9	10	0.9	10	0.9	8	0.7	8	0.7
Hampton	138,626	5	3.6	9	6.5	*	*	6	4.3	*	*	*	*
Henrico	320,717	15	4.7	8	2.5	*	*	6	1.9	*	*	6	1.9
Lenowisco	91,830	0	0	0	0	0	0	0	0	0	0	0	0
Lord Fairfax	229,120	*	*	8	3.5	*	*	6	2.6	5	2.2	6	2.6
Loudoun	374,451	*	*	*	*	0	0	*	*	0	0	*	*
Mount Rogers	191,012	0	0	0	0	0	0	0	0	0	0	0	0
New River	182,991	0	0	0	0	0	0	0	0	0	0	*	*
Norfolk	247,189	20	8.1	16	6.5	7	2.8	7	2.8	12	4.9	12	4.9
Peninsula	353,464	6	1.7	7	2.0	*	*	7	2.0	*	*	7	2.0
Piedmont	104,667	0	0	0	0	*	*	0	0	0	0	0	0
Pittsylvania-Danville	105,799	0	0	0	0	0	0	0	0	0	0	0	0
Portsmouth	96,874	5	5.2	10	10.3	7	7.2	7	7.2	6	6.2	6	6.2
Prince William	500,740	*	*	7	1.4	8	1.6	*	*	5	1.0	*	*
Rappahannock	350,535	7	2.0	*	*	5	1.4	*	*	11	3.1	10	2.9
Rappahannock-Rapidan	171,228	14	8.2	5	2.9	5	2.9	7	4.1	*	*	11	6.4
Richmond City	217,938	8	3.7	11	5.0	12	5.5	6	2.8	*	*	9	4.1
Roanoke	99,681	0	0	6	6.0	*	*	*	*	*	*	*	*
Southside	84,304	0	0	0	0	0	0	0	0	0	0	*	*
Thomas Jefferson	248,500	6	2.4	6	2.4	5	2.0	*	*	*	*	8	3.2
Three Rivers	141,609	*	*	0	0	*	*	*	*	0	0	0	0
Virginia Beach	453,500	10	2.2	14	3.1	6	1.3	9	2.0	*	*	9	2.0
West Piedmont	141,119	*	*	0	0	0	0	*	*	*	*	0	0
Western Tidewater	153,950	*	*	*	*	*	*	5	3.2	5	3.2	*	*
VIRGINIA TOTAL	8,382,993	143	1.7	150	1.8	108	1.3	111	1.3	92	1.1	126	1.5

[†] Rate per 100,000 population based on 2015 U.S. Census estimates available at www.census.gov/popest/

^{*} Visit counts of 1 to 4 and rates with numerators of 1 to 4 are suppressed to maintain confidentiality and accurate rate calculations.



Table 2B. Count and Rate per 100,000 Population of ED Visits for Unintentional Overdose by Heroin among Virginia Residents by Month and Virginia State Police Division, Previous 6 Months^{†*§}

VSP Division	2015	Apr	2016	May	2016	Jun 2	2016	Jul 2	2016	Aug	2016	Sept	2016
VSP Division	Population Estimate	Count	Rate										
Division 1	1,403,431	32	2.3	29	2.1	30	2.1	20	1.4	11	0.8	25	1.8
Division 2	836,683	24	2.9	16	1.9	14	1.7	17	2.0	20	2.4	25	3.0
Division 3	655,338	*	*	*	*	5	0.8	*	*	0	0	10	1.5
Division 4	441,778	0	0	0	0	0	0	0	0	0	0	0	0
Division 5	1,823,018	66	3.6	69	3.8	33	1.8	50	2.7	39	2.1	43	2.4
Division 6	775,091	*	*	11	1.4	5	0.6	5	0.6	8	1.0	8	1.0
Division 7	2,447,654	16	0.7	21	0.9	21	0.9	17	0.7	14	0.6	15	0.6
VIRGINIA TOTAL	8,382,993	143	1.7	150	1.8	108	1.3	111	1.3	92	1.1	126	1.5

[†] Rate per 100,000 population based on 2015 U.S. Census estimates available at www.census.gov/popest/

^{*} Visit counts of 1 to 4 and rates with numerators of 1 to 4 are suppressed to maintain confidentiality and accurate rate calculations.

[§] Virginia State Police Divisions available at http://www.vsp.state.va.us/Office Locations.shtm



Appendix 1

Virginia Localities that were Combined for the Purposes of Calculating Rate per 100,000 Population

- 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