

Drug Overdose Emergency Department Visits among Kentucky Residents, 2008-2016



Kentucky Injury Prevention and Research Center

**Drug Overdose Emergency
Department Visits
among Kentucky Residents, 2008-2016**

September, 2017

Prepared by

David Akers MA, MS

Peter Rock, MPH

Svetla Slavova, PhD

Terry L. Bunn, PhD

Released by

Kentucky Injury Prevention and Research Center (KIPRC),
bona fide agent of the Kentucky Department for Public Health
333 Waller Avenue, Suite 242
Lexington, Kentucky 40504

For more information contact

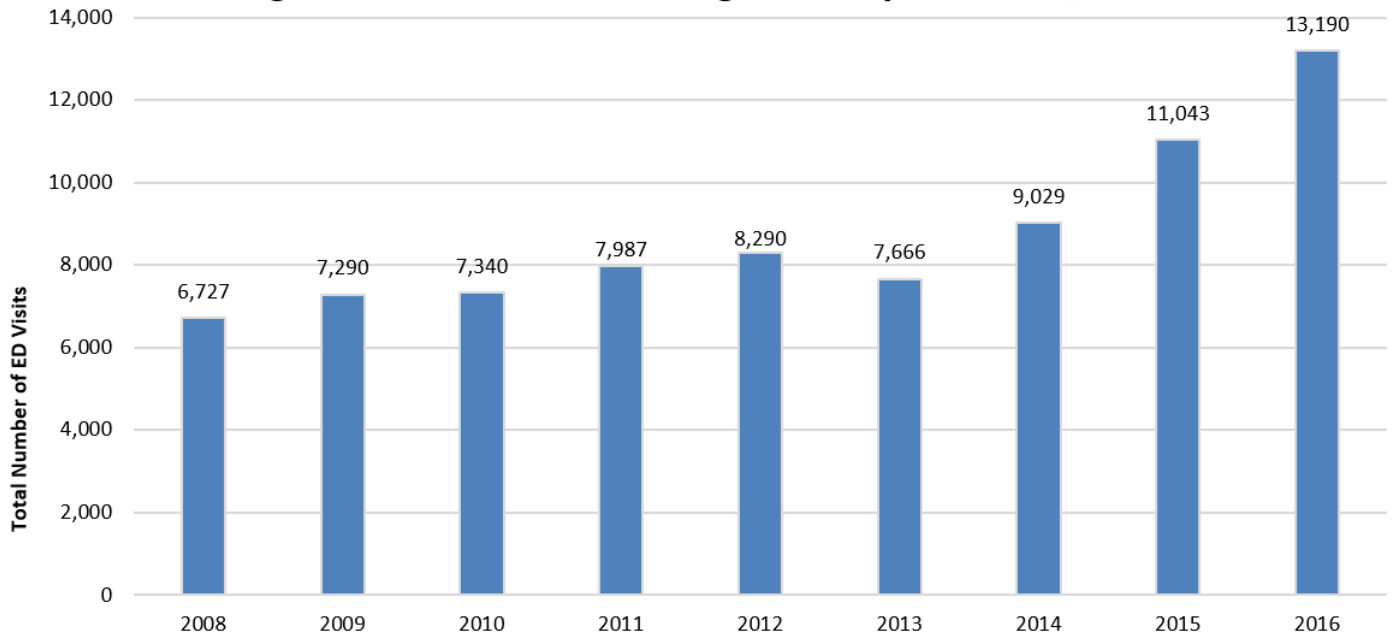
David Akers

E-mail: daak222@uky.edu

Executive Summary

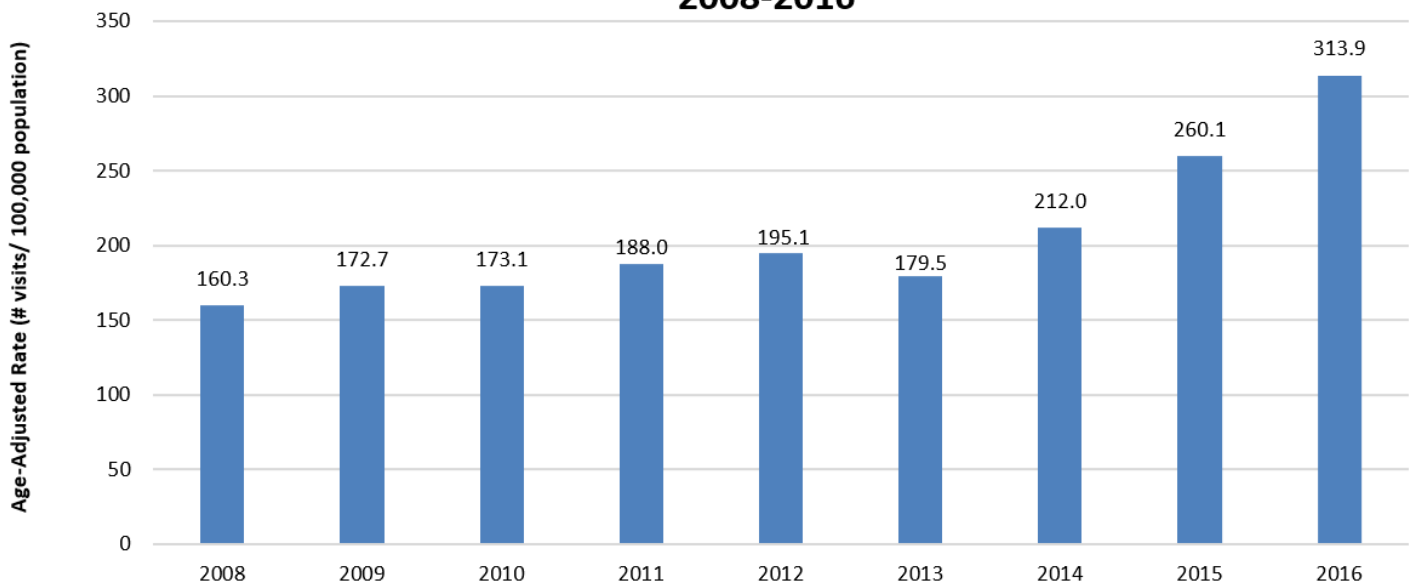
1. In 2016, there were 13,190 Kentucky resident emergency department (ED) visits for drug overdoses. This is an increase of 19.4% from the 11,043 drug overdose ED visits registered in 2015, following the drop from 2012.
Note: The number of drug overdose ED visits represents instances of care (ED visits) rather than distinct patients. The state outpatient ED visit discharge data do not contain personal identifiers like names, addresses, or social security numbers in order to protect patient privacy. Thus, our counts do not necessarily correspond to the number of people who overdosed in a given year: a patient who had two overdose episodes during a given year would have two distinct ED admission records. The counts of ED admissions describe the burden of the drug overdose epidemic on the health care facilities and the insurers and allow for better capacity planning.
2. The 2016 Kentucky resident age-adjusted drug overdose ED visit rate was 313.9 ED visits per 100,000 Kentucky residents, up from the 260.1/100,000 rate in 2015, and from 212.0/100,000 in 2014.
3. With a drug overdose ED visit rate of 327.8/100,000, males surpassed females (299.9/100,000) for the first time in 2016.
4. Of all age groups 15 years of age and older, adults aged 25-34 years old were at highest risk for overdose ED visits (649/100,000) in 2016, followed by 35-44 year olds (452/100,000), and 15-24 year olds (412/100,000).
5. In 2016, there were 10,314 ED visits for unintentional (accidental) drug overdoses and 2,301 ED visits for intentional (self harm) drug overdoses.
6. The total charges associated with the ED visits for Kentucky resident drug overdoses in 2016 were \$37.2 million dollars, a 19% increase from the \$31.2 million dollar total in 2015. The \$37.2 million total included \$19.8 million billed to Medicaid, \$7.2 million billed to Medicare, \$6.47 million billed to commercial insurance, and \$2.99 million were self-pay or charity.
7. In 2016, heroin was the most commonly abused drug leading to an ED visit. In 2016, there were 4,600 drug overdose ED visits involving heroin, 1,582 involving opioids other than heroin, and 986 involving benzodiazepines. When a drug overdose involved two or more drugs, the drugs were counted under each relevant drug category. From 2012-2014 heroin-related overdose ED visits were more frequent among the 25-34, 35-44, and 45-54 year old age categories. Opioids other than heroin were most often registered in drug overdose ED visits for Kentucky residents 55 years of age and older.
8. The highest rates of drug overdose ED visits involving prescription drugs were observed in the Kentucky counties in the Appalachian region. The highest rates of drug overdose ED visits involving heroin were observed in Jefferson County, Fayette County, and the northern Kentucky counties.
9. The highest number of ED visits for drug overdoses in 2016 were reported by the following facilities: University of Louisville (1,023), Sts. Mary And Elizabeth Hospital (708), St. Elizabeth Covington (620), St. Elizabeth Ft. Thomas (479), St. Elizabeth Florence (416), and University of Kentucky Hospital (415).

Drug Overdose ED Visits among Kentucky Residents, 2008-2016



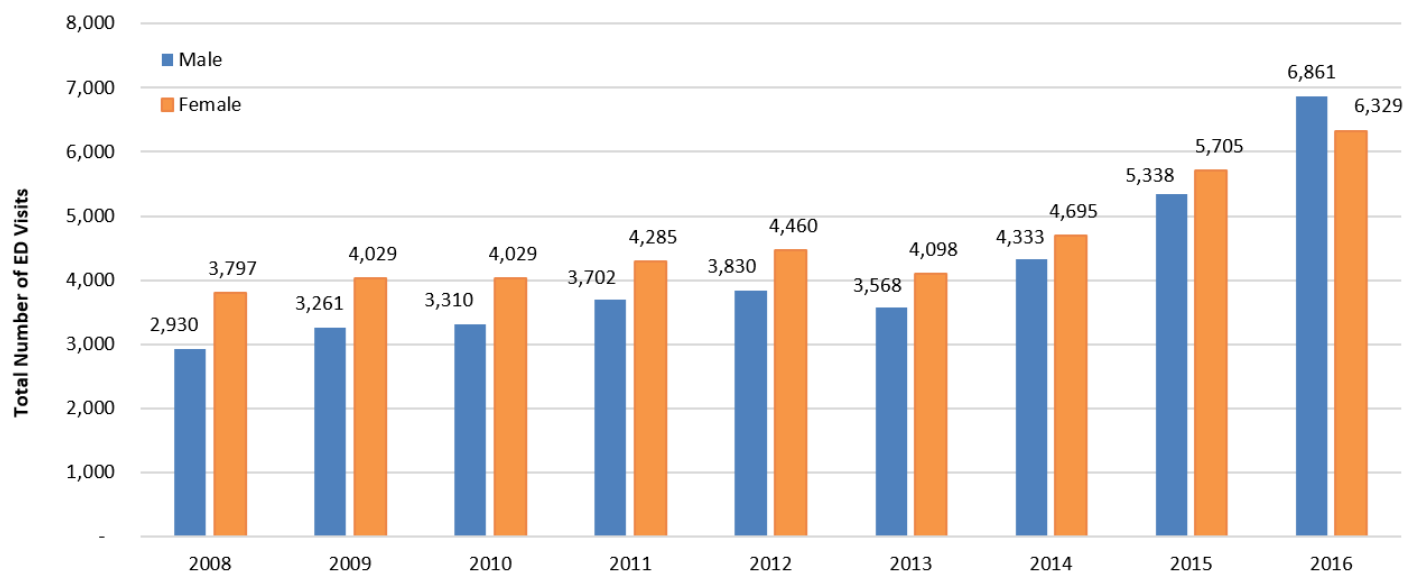
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Age-Adjusted Drug Overdose ED Visit Rates among Kentucky Residents, 2008-2016



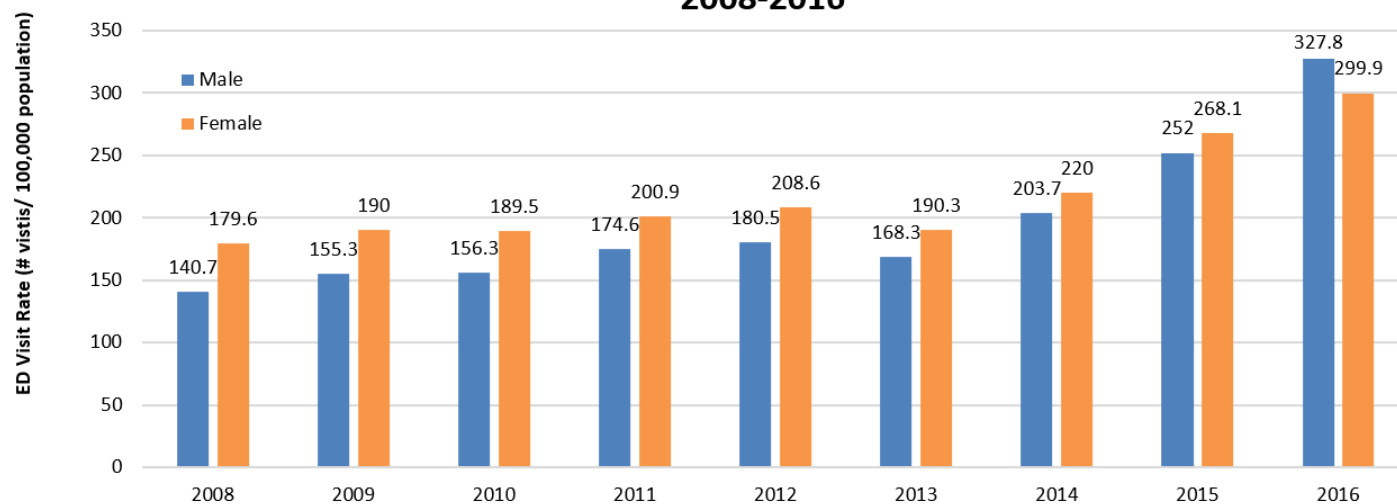
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Drug Overdose ED Visits by Gender among Kentucky Residents, 2008-2016



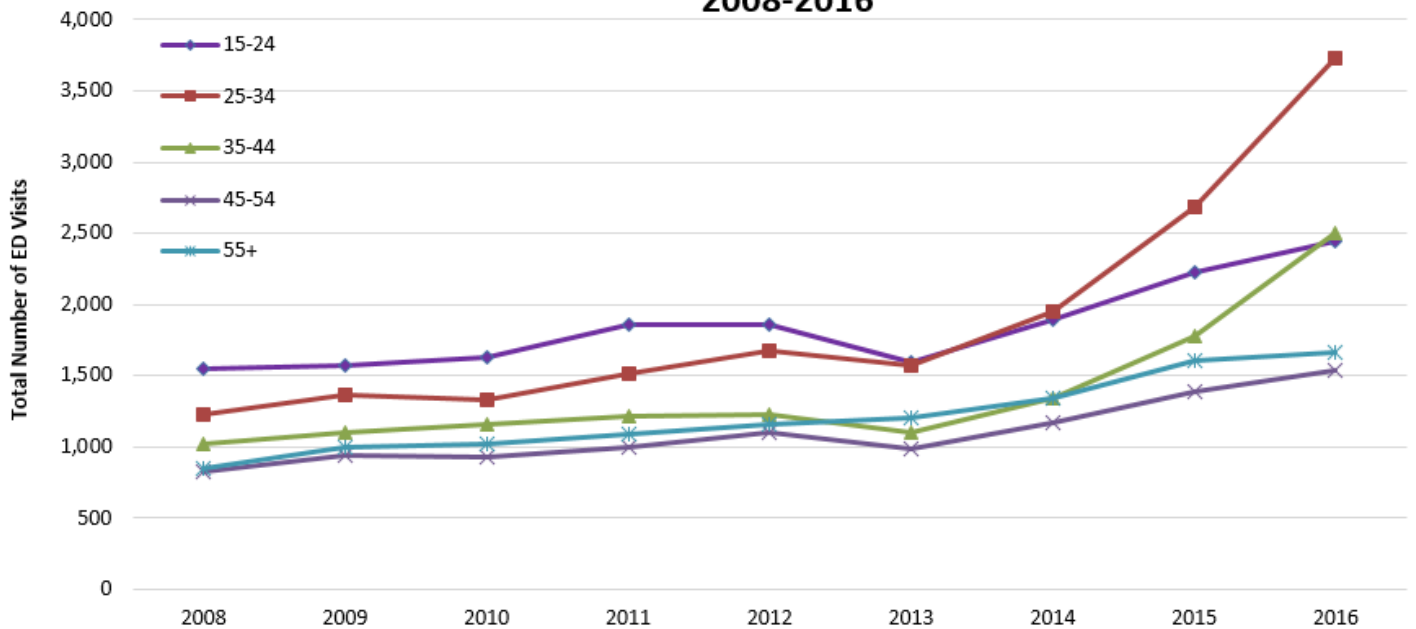
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Drug Overdose ED Visit Rates by Gender among Kentucky Residents, 2008-2016



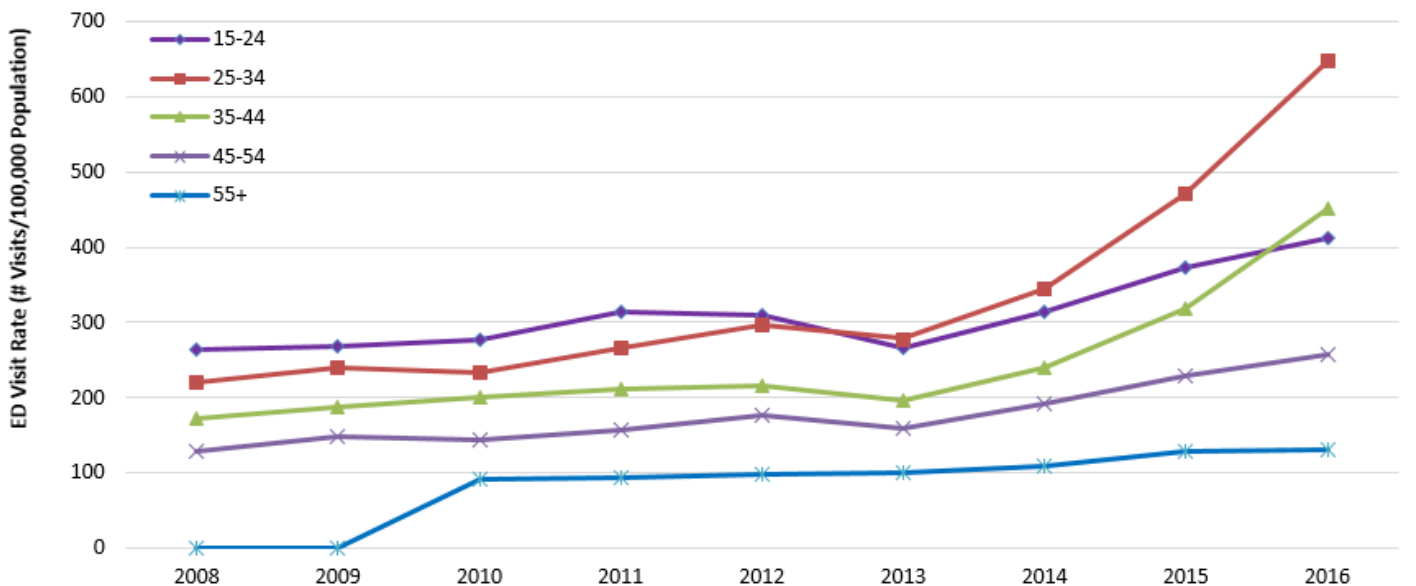
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Drug Overdose ED Visits by Age Group among Kentucky Residents, 2008-2016



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Drug Overdose ED Visit Rates by Age Group among Kentucky Residents, 2008-2016



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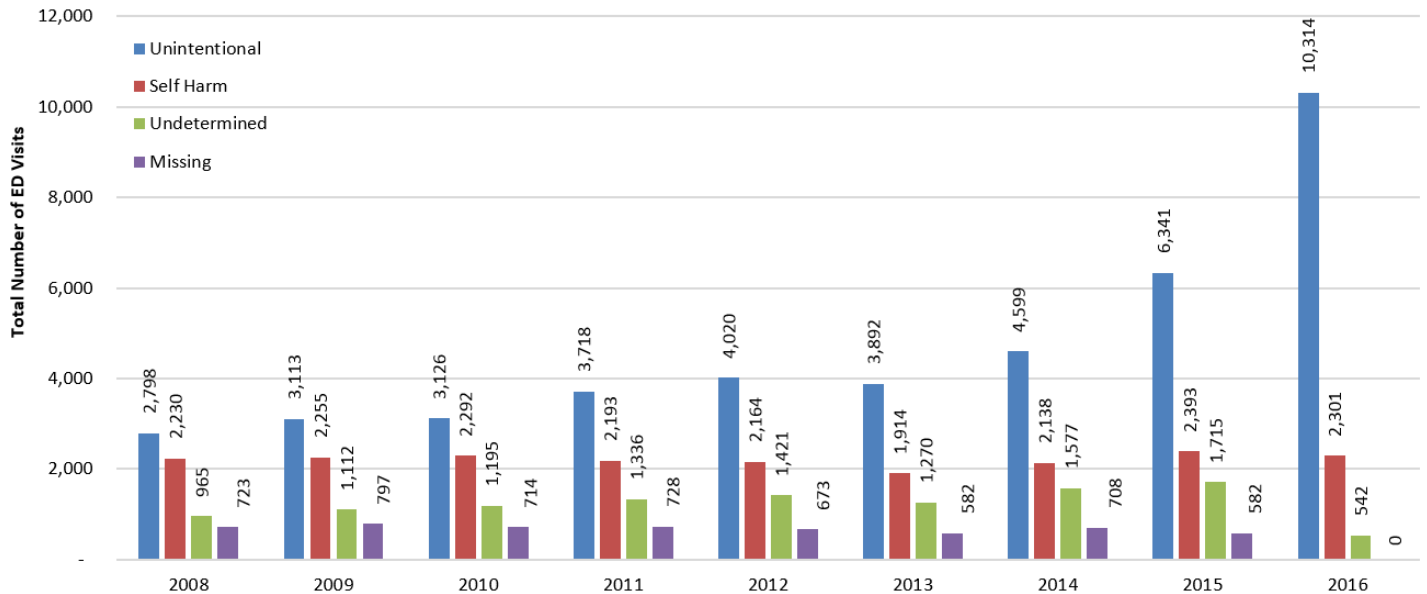
Drug Overdose ED Visits by Age Group among Kentucky Residents, 2008-2016

Year	Age Groups							
	<1	1-4	5-14	15-24	25-34	35-44	45-54	55+
2008	72	819	364	1,549	1,230	1,021	823	849
2009	66	870	389	1,567	1,359	1,100	945	994
2010	70	880	333	1,628	1,328	1,159	925	1,017
2011	76	886	353	1,858	1,517	1,212	996	1,089
2012	60	781	429	1,855	1,677	1,229	1,105	1,154
2013	59	725	413	1,599	1,572	1,103	991	1,204
2014	52	797	475	1,891	1,953	1,347	1,173	1,341
2015	62	784	521	2,229	2,684	1,775	1,384	1,604
2016	55	770	481	2,446	3,732	2,502	1,541	1,663
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Drug Overdose ED Visit Rates by Age Group among Kentucky Residents, 2008-2016 (Rate per 100,000 Kentucky Residents)

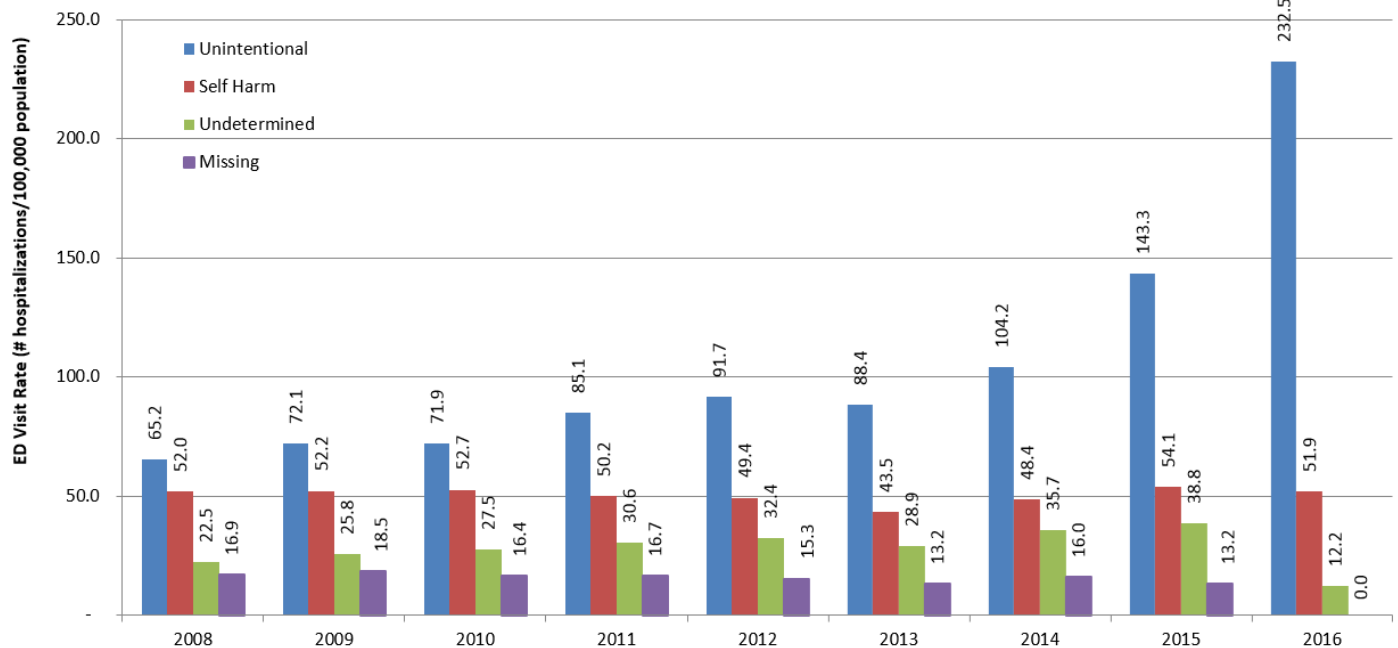
Year	Age Groups							
	<1	1-4	5-14	15-24	25-34	35-44	45-54	55+
2008	123.9	366.7	64.6	264.8	220.1	171.9	129.0	79.4
2009	117.7	385.3	68.9	267.4	240.8	188.5	147.3	90.8
2010	127.0	387.5	58.9	276.0	234.1	201.4	143.9	90.5
2011	137.7	393.9	62.0	313.2	266.9	212.5	156.2	94.7
2012	109.0	350.7	75.2	310.8	296.1	216.8	175.8	98.0
2013	105.8	329.0	72.4	265.9	278.1	195.4	160.1	100.0
2014	94.4	360.7	83.8	314.5	344.8	240.2	192.2	108.9
2015	112.2	356.0	92.5	372.4	471.6	317.9	229.6	127.6
2016	100.3	348.5	85.7	412.0	648.7	452.4	258.2	129.8
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Drug Overdose ED Visits by Intent among Kentucky Residents, 2008-2016



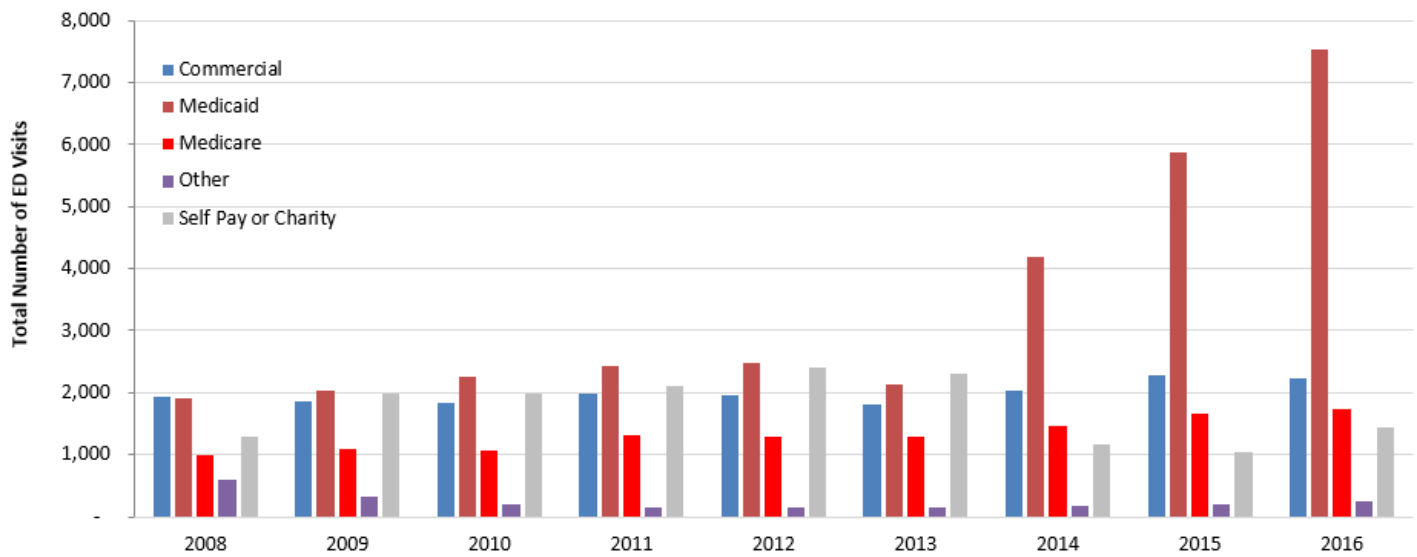
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Drug Overdose ED Visit Rates by Intent among Kentucky Residents, 2008-2016



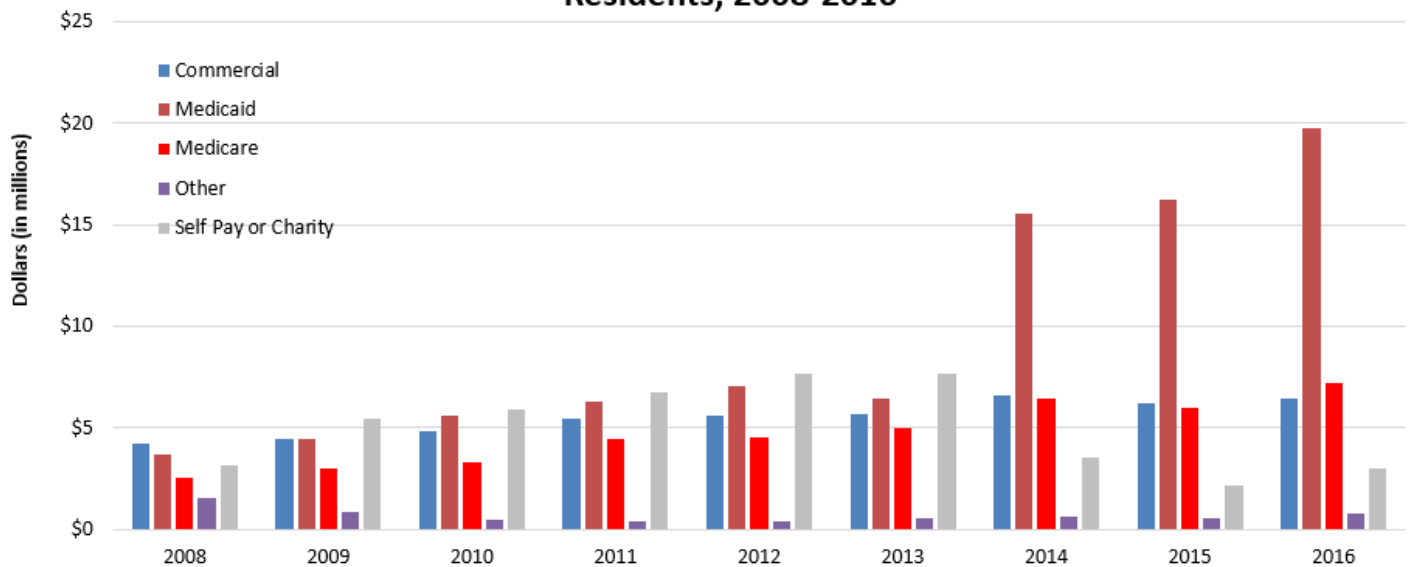
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Drug Overdose ED Visits by Expected Payer among Kentucky Residents, 2008-2016



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Total Drug Overdose ED Visit Charges by Expected Payer among Kentucky Residents, 2008-2016



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Drug Overdose ED Visits by Expected Payer among Kentucky Residents, 2008-2016

Year	Expected Payer				
	Commercial	Medicaid	Medicare	Other	Self Pay or Charity
2008	1,933	1,896	1,001	606	1,291
2009	1,849	2,039	1,093	325	1,984
2010	1,826	2,261	1,065	208	1,980
2011	1,990	2,439	1,303	153	2,102
2012	1,966	2,475	1,283	151	2,415
2013	1,802	2,119	1,299	153	2,293
2014	2,026	4,190	1,471	183	1,159
2015	2,286	5,866	1,657	197	1,037
2016	2,242	7,529	1,732	241	1,446

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Drug Overdose ED Visit Total Charges (in Millions) by Expected Payer among Kentucky Residents, 2008-2016

Year	Expected Payer					
	Commercial	Medicaid	Medicare	Other	Self Pay or Charity	Total
2008	\$4.22	\$3.65	\$2.55	\$1.57	\$3.16	\$15.16
2009	\$4.48	\$4.46	\$2.98	\$0.83	\$5.43	\$18.17
2010	\$4.81	\$5.59	\$3.27	\$0.47	\$5.90	\$20.03
2011	\$5.48	\$6.30	\$4.43	\$0.39	\$6.74	\$23.34
2012	\$5.64	\$7.09	\$4.52	\$0.37	\$7.68	\$25.30
2013	\$5.68	\$6.42	\$4.98	\$0.53	\$7.63	\$25.24
2014	\$6.63	\$15.51	\$6.42	\$0.64	\$3.57	\$32.78
2015	\$6.25	\$16.24	\$6.02	\$0.56	\$2.17	\$31.23
2016	\$6.47	\$19.76	\$7.19	\$0.74	\$2.99	\$37.16

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**Drug Overdose ED Visits by Drug Type, Gender, and Year among
Kentucky Residents, 2010-2016**

		Male					Female				
		2012	2013	2014	2015	2016	2012	2013	2014	2015	2016
Drug Type (not mutually exclusive, see below)	Heroin	566	691	1,046	1,756	2,899	299	423	592	1,002	1,701
	Opioids other than Heroin	508	374	443	593	868	482	402	452	544	714
	Benzodiazepines	527	348	415	433	417	686	512	590	572	569
	Cocaine	63	77	81	88	65	53	43	59	82	54
Drug Combinations	Heroin & Another Opioid	12	9	17	22	23	13	7	6	12	8
	Heroin & Benzodiazepines	20	18	39	31	29	9	12	25	16	30
	Heroin & Cocaine	6	11	10	14	17	*	8	6	10	9
	Opioids other than Heroin & Benzodiazepines	132	54	83	86	79	125	98	104	91	105
	Opioids other than Heroin & Cocaine	13	6	10	7	6	8	6	12	*	12
	Benzodiazepines & Cocaine	5	15	14	5	11	10	8	11	9	12

* indicates a count less than 5 suppressed in accordance with the state data release policy.

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**Drug Overdose ED Visits by Drug Type and Quarter among Kentucky Residents,
2015Q1-2016Q4**

	2015Q4	2016Q1	2016Q2	2016Q3	2016Q4
All Drug overdose	2,937	2,881	3,327	3,734	3,248
Heroin	847	888	1,124	1,428	1,160
Methadone	15	14	17	15	22
Synthetic Opioids	39	42	39	49	33
Benzodiazepines	215	247	271	240	228
Cocaine	33	25	31	30	33

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Drug Overdose ED Visits by Drug Type and Age Group among Kentucky Residents, 2014-2016 Combined

	Drug Type (not mutually exclusive, see below)	Age Group				
		15-24	25-34	35-44	45-54	55+
Drug Type (not mutually exclusive, see below)	Heroin	1,738	4,003	1,920	1,003	330
	Pharmaceutical Opioids	430	871	741	649	804
	Benzodiazepines	499	709	621	564	482
	Cocaine	57	132	103	58	35
Drug Combinations (not mutually exclusive, see below)	Heroin & Pharmaceutical Opioids	15	36	22	13	*
	Heroin & Benzodiazepines	40	85	32	12	*
	Heroin & Cocaine	9	25	19	12	*
	Pharmaceutical Opioids & Benzodiazepines	63	134	123	106	121
	Pharmaceutical Opioids & Cocaine	*	22	14	9	*
	Benzodiazepines & Cocaine	7	25	16	10	*

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Drug Overdose ED Visits among Kentucky Residents, 2014-2016 Combined

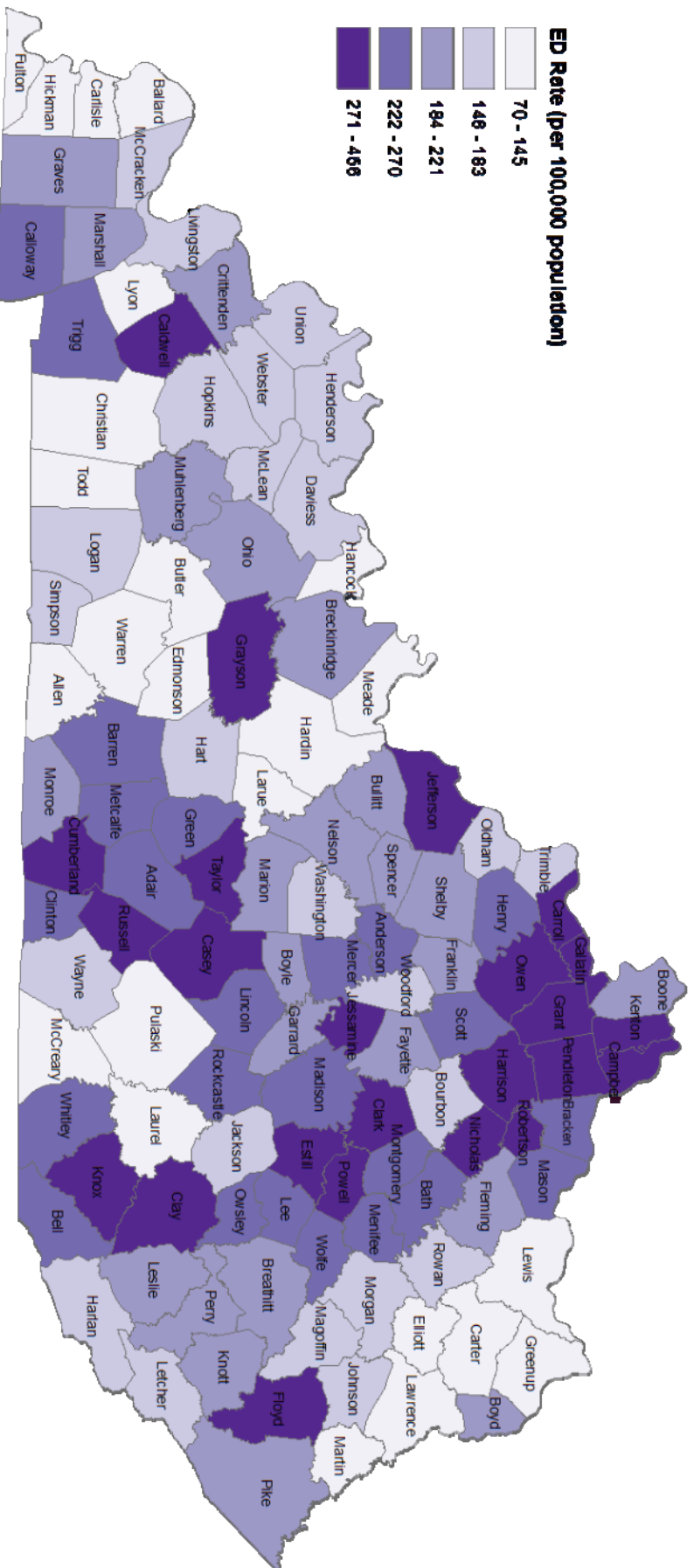
Age Group	Intent	Number of Drug Overdose ED Visits					Total
		by Payer Source					
		Commercial	Medicaid	Medicare	Self-Pay or Charity	Other	
15-24	Self-Harm	876	1,251	12	177	72	2,388
	Unintentional	919	1,703	18	485	44	3,169
25-34	Self-Harm	215	810	76	170	37	1,308
	Unintentional	731	3,498	192	1,066	99	5,586
35-44	Self-Harm	247	684	127	106	16	1,180
	Unintentional	530	2,137	344	461	54	3,526
45-54	Self-Harm	197	382	183	41	14	817
	Unintentional	393	1,266	647	193	55	2,554
55+	Self-Harm	115	119	219	15	14	482
	Unintentional	464	602	2,191	85	65	3,407

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Annual Rate of Drug Overdose ED Visits among Kentucky Residents, 2012-2016

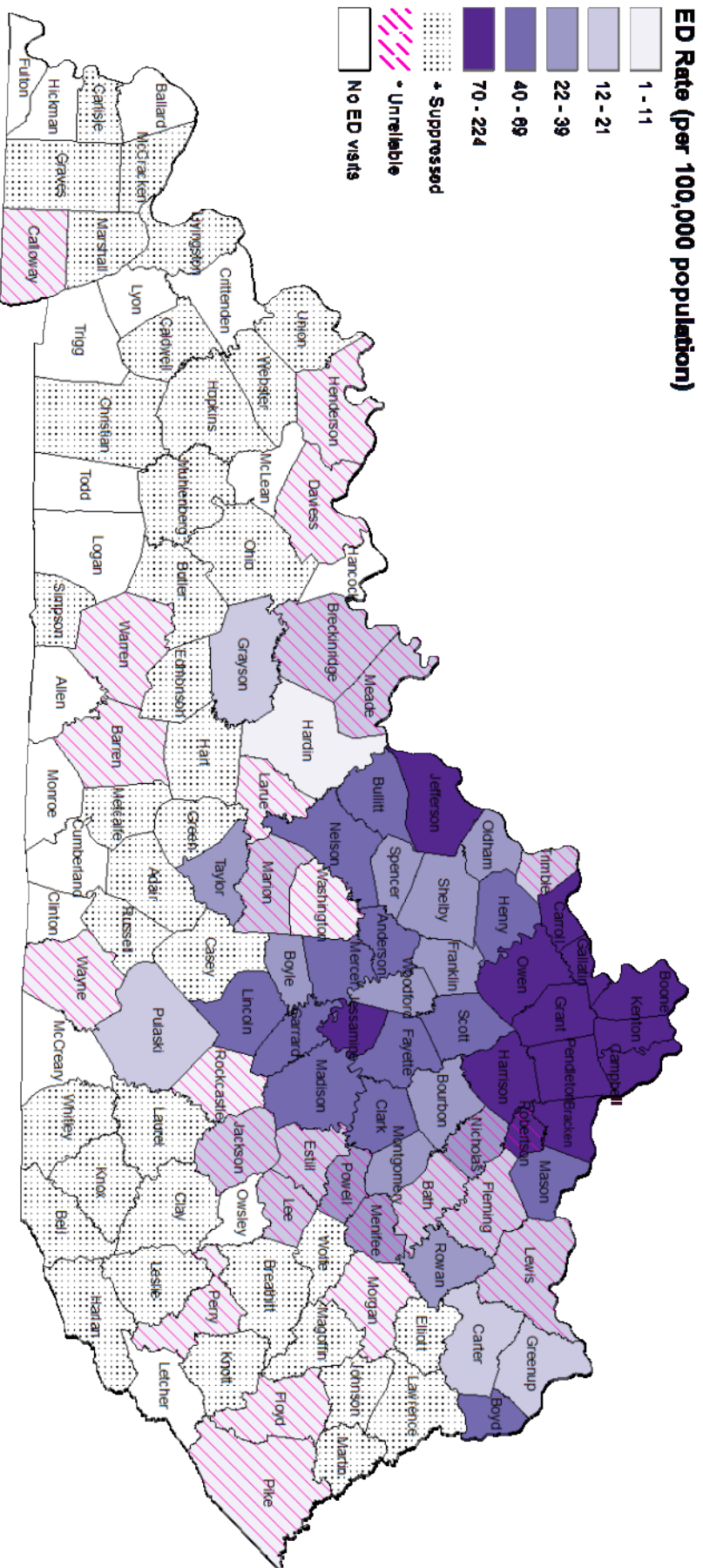


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Kentucky Public Health
Vitalstat, Yearbook, Profile

Annual Rate of Drug Overdose ED Visits involving Heroin among Kentucky Residents, 2012-2016



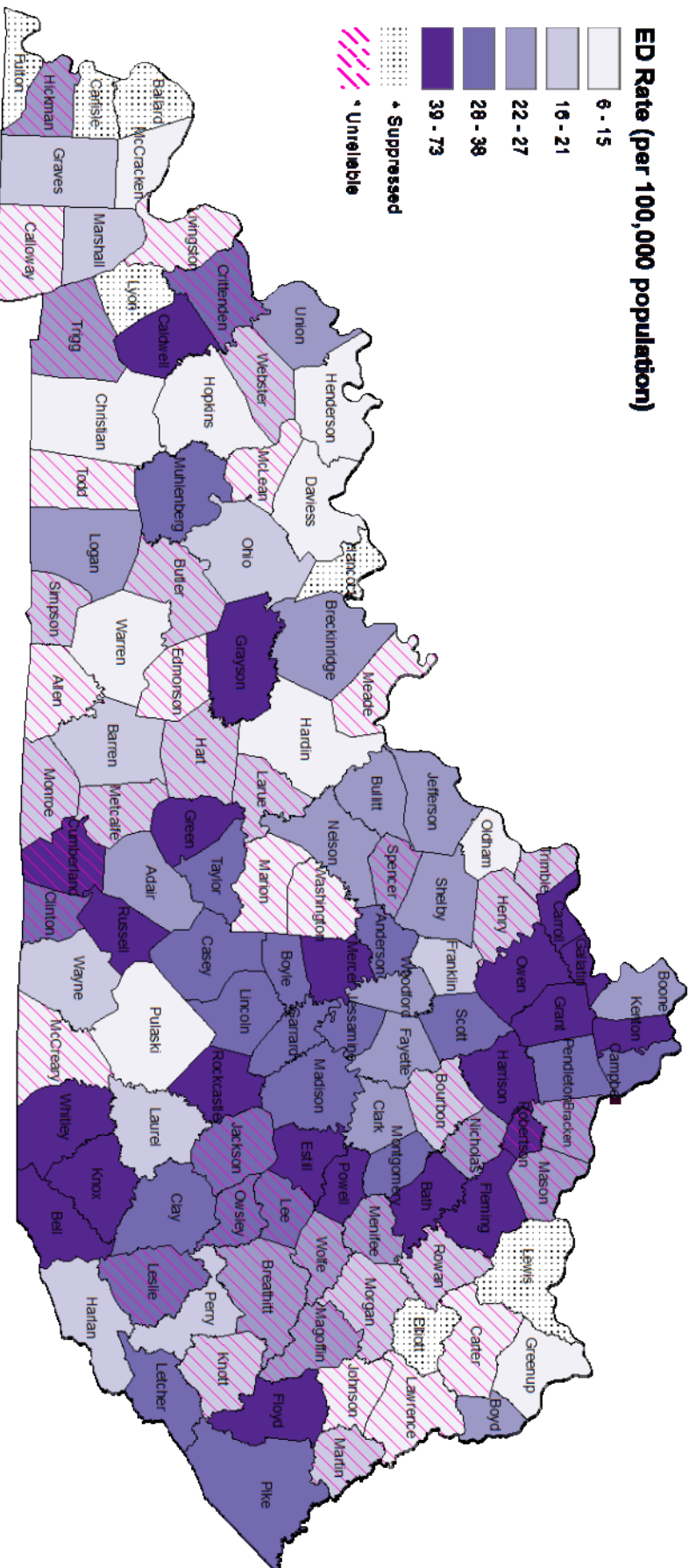
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+ Rates based on counts less than 5 were suppressed according to the state data release policy.

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Annual Rate of Drug Overdose ED Visits involving Opioids other than Heroin among Kentucky Residents, 2012-2016



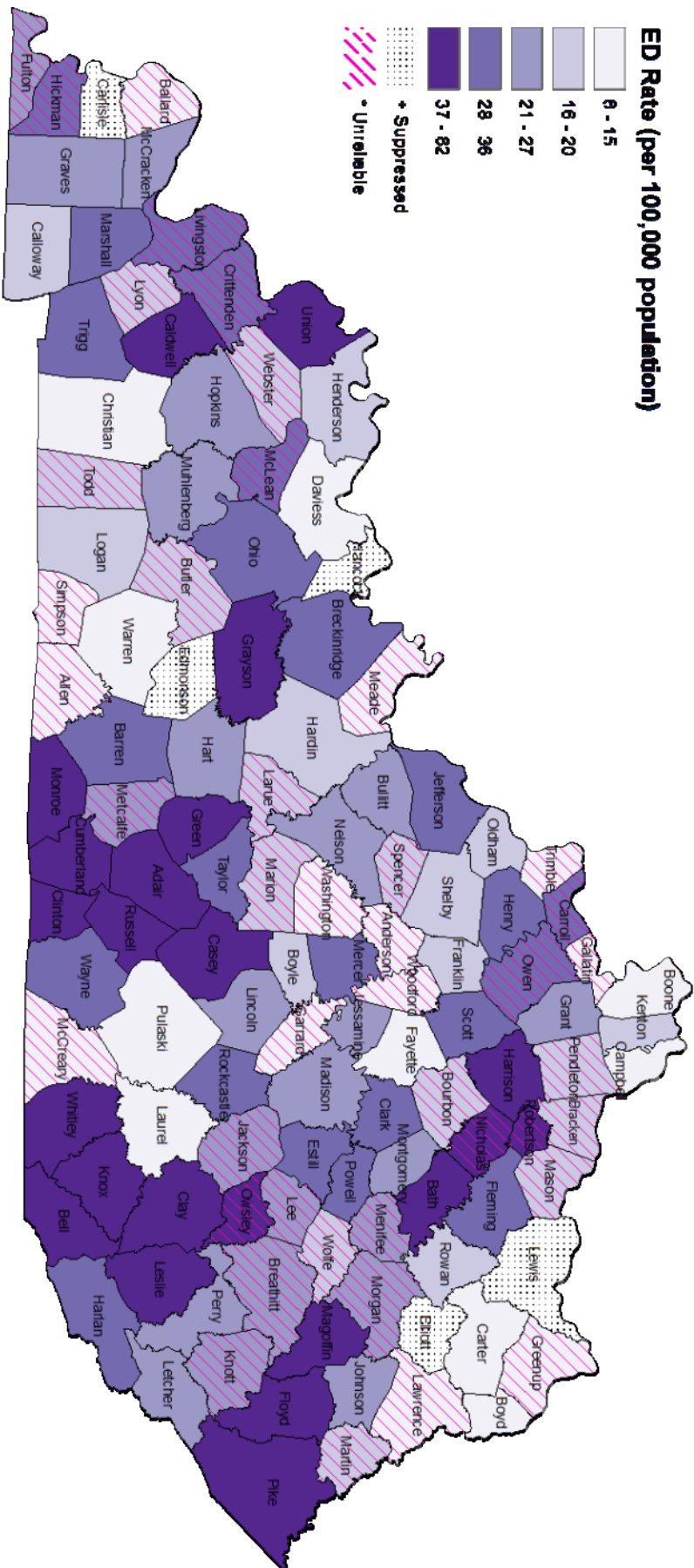
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Annual Rate of Drug Overdose ED Visits involving Benzodiazepines among Kentucky Residents, 2012-2016



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Number of Drug Overdose ED Visits and Annual Rates per 100,000 Residents, by County, 2012-2016

County	All Drugs		Heroin		Pharmaceutical Opioids		Benzodiazepines	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Adair	233	243.27	<5	*	22	22.97	39	40.72
Allen	138	135.15	0	0.00	14	13.71+	13	12.73+
Anderson	244	223.17	63	57.62	33	30.18	16	14.63+
Ballard	43	104.68	0	0.00	<5	*	6	14.61+
Barren	497	229.63	5	2.31+	44	20.33	64	29.57
Bath	139	229.50	11	18.16+	27	44.58	22	36.32
Bell	361	260.88	<5	*	69	49.86	69	49.86
Boone	1311	208.67	616	98.05	132	21.01	69	10.98
Bourbon	173	172.96	26	25.99	18	18.00+	16	16.00+
Boyd	494	202.81	106	43.52	63	25.86	30	12.32
Boyle	295	198.99	50	33.73	47	31.70	27	18.21
Bracken	101	240.35	38	90.43	9	21.42+	7	16.66+
Breathitt	129	191.45	<5	*	16	23.75+	17	25.23+
Breckinridge	217	217.00	11	11.00+	24	24.00	31	31.00
Bullitt	810	208.42	269	69.22	90	23.16	77	19.81
Butler	72	112.26	<5	*	12	18.71+	11	17.15+
Caldwell	198	310.38	<5	*	26	40.76	26	40.76
Calloway	424	221.40	5	2.61+	16	8.35+	29	15.14
Campbell	1487	325.18	889	194.41	156	34.11	56	12.25
Carlisle	30	121.12	<5	*	<5	*	<5	*
Carroll	248	460.30	84	155.91	28	51.97	18	33.41+
Carter	159	116.52	24	17.59	17	12.46+	20	14.66
Casey	368	462.08	<5	*	24	30.14	30	37.67
Christian	430	116.32	<5	*	29	7.84	38	10.28
Clark	512	286.78	105	58.81	42	23.53	50	28.01
Clay	296	279.78	<5	*	38	35.92	51	48.20
Clinton	114	224.14	0	0.00	16	31.46+	21	41.29
Crittenden	98	212.79	0	0.00	15	32.57+	16	34.74+
Cumberland	128	377.59	0	0.00	13	38.35+	23	67.85
Daviess	854	173.01	11	2.23+	53	10.74	60	12.16
Edmonson	43	71.16	<5	*	7	11.58+	<5	*
Elliott	47	122.70	<5	*	<5	*	<5	*
Estill	200	277.65	15	20.82+	30	41.65	22	30.54
Fayette	2966	190.42	870	55.85	342	21.96	233	14.96
Fleming	137	188.40	11	15.13+	29	39.88	23	31.63

Number of Drug Overdose ED Visits and Annual Rates per 100,000 Residents, by County, 2012-2016

County	All Drugs		Heroin		Pharmaceutical Opioids		Benzodiazepines	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Floyd	564	295.72	5	2.62+	92	48.24	74	38.80
Franklin	501	200.47	89	35.61	45	18.01	39	15.61
Fulton	36	113.87	0	0.00	<5	*	8	25.30+
Gallatin	124	290.30	43	100.67	30	70.23	5	11.71+
Garrard	167	195.89	39	45.75	30	35.19	12	14.08+
Grant	576	466.31	277	224.25	63	51.00	28	22.67
Graves	362	193.69	<5	*	33	17.66	45	24.08
Grayson	381	292.04	21	16.10	51	39.09	56	42.93
Green	146	262.52	<5	*	22	39.56	29	52.14
Greenup	205	113.09	26	14.34	27	14.89	14	7.72+
Hancock	39	89.49	0	0.00	<5	*	<5	*
Hardin	777	144.46	58	10.78	73	13.57	85	15.80
Harlan	228	162.68	<5	*	28	19.98	41	29.25
Harrison	373	400.46	110	118.10	55	59.05	56	60.12
Hart	165	178.28	<5	*	15	16.21+	21	22.69
Henderson	395	170.40	6	2.59+	31	13.37	45	19.41
Henry	200	257.61	43	55.39	15	19.32+	28	36.06
Hickman	28	119.37	0	0.00	5	21.32+	8	34.11+
Hopkins	374	161.35	<5	*	32	13.81	46	19.85
Jackson	119	178.18	13	19.47+	19	28.45+	14	20.96+
Jefferson	10961	288.55	3634	95.67	1002	26.38	1186	31.22
Jessamine	741	290.51	233	91.35	88	34.50	58	22.74
Johnson	175	150.34	<5	*	16	13.75+	31	26.63
Kenton	3057	374.19	1787	218.74	340	41.62	125	15.30
Knott	147	185.09	<5	*	13	16.37+	18	22.66+
Knox	439	276.63	<5	*	60	37.81	64	40.33
Larue	87	123.17	5	7.08+	13	18.40+	13	18.40+
Laurel	434	144.79	<5	*	50	16.68	40	13.34
Lawrence	86	108.38	<5	*	5	6.30+	6	7.56+
Lee	86	249.42	6	17.40+	11	31.90+	9	26.10+
Leslie	120	220.82	<5	*	15	27.60+	26	47.84
Letcher	205	175.35	0	0.00	32	27.37	28	23.95
Lewis	51	74.75	8	11.73+	<5	*	<5	*
Lincoln	329	269.41	52	42.58	40	32.76	28	22.93

Number of Drug Overdose ED Visits and Annual Rates per 100,000 Residents, by County, 2012-2016

County	All Drugs		Heroin		Pharmaceutical Opioids		Benzodiazepines	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Livingston	72	153.96	<5	*	7	14.97+	15	32.08+
Logan	232	173.41	0	0.00	36	26.91	23	17.19
Lyon	55	132.13	0	0.00	<5	*	7	16.82+
McCracken	517	158.36	<5	*	45	13.78	74	22.67
McCreary	78	87.40	0	0.00	10	11.20+	12	13.45+
McLean	85	179.09	0	0.00	5	10.53+	16	33.71+
Madison	1033	236.59	236	54.05	124	28.40	99	22.67
Magoffin	108	167.62	<5	*	15	23.28+	25	38.80
Marion	183	187.73	11	11.28+	12	12.31+	18	18.46+
Marshall	311	199.28	<5	*	28	17.94	47	30.12
Martin	86	137.84	<5	*	12	19.23+	12	19.23+
Mason	199	231.01	41	47.59	18	20.90+	14	16.25+
Meade	101	70.26	17	11.83+	12	8.35+	9	6.26+
Menifee	76	239.57	8	25.22+	8	25.22+	8	25.22+
Mercer	289	269.95	44	41.10	51	47.64	29	27.09
Metcalf	113	226.38	<5	*	10	20.03+	13	26.04+
Monroe	112	209.51	0	0.00	10	18.71+	24	44.90
Montgomery	342	249.72	53	38.70	43	31.40	31	22.64
Morgan	117	174.91	6	8.97+	13	19.43+	17	25.41+
Muhlenberg	341	218.48	<5	*	43	27.55	42	26.91
Nelson	487	217.05	91	40.56	52	23.18	51	22.73
Nicholas	100	283.22	12	33.99+	8	22.66+	13	36.82+
Ohio	242	200.40	<5	*	24	19.87	35	28.98
Oldham	469	146.85	77	24.11	43	13.46	51	15.97
Owen	153	286.70	61	114.31	22	41.23	15	28.11+
Owsley	60	263.62	0	0.00	8	35.15+	10	43.94+
Pendleton	240	330.83	121	166.79	26	35.84	12	16.54+
Perry	268	192.68	5	3.59+	29	20.85	30	21.57
Pike	626	199.39	7	2.23+	118	37.59	114	36.31
Powell	187	301.93	19	30.68+	30	48.44	21	33.91
Pulaski	393	123.25	35	10.98	47	14.74	44	13.80
Robertson	39	356.07	12	109.56+	8	73.04+	9	82.17+
Rockcastle	196	232.04	8	9.47+	34	40.25	28	33.15
Rowan	216	177.77	36	29.63	19	15.64+	20	16.46
Russell	290	327.98	<5	*	47	53.16	69	78.04

Number of Drug Overdose ED Visits and Annual Rates per 100,000 Residents, by County, 2012-2016

County	All Drugs		Heroin		Pharmaceutical Opioids		Benzodiazepines	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Scott	599	233.31	119	46.35	93	36.22	84	32.72
Shelby	458	203.71	87	38.70	48	21.35	37	16.46
Simpson	158	176.97	<5	*	14	15.68+	12	13.44+
Spencer	173	194.40	35	39.33	19	21.35+	15	16.86+
Taylor	348	274.94	27	21.33	46	36.34	43	33.97
Todd	74	118.74	0	0.00	9	14.44+	11	17.65+
Trigg	168	235.52	0	0.00	17	23.83+	20	28.04
Trimble	67	153.13	9	20.57+	8	18.28+	5	11.43+
Union	138	183.20	<5	*	20	26.55	28	37.17
Warren	764	126.21	6	0.99+	61	10.08	71	11.73
Washington	99	164.76	6	9.99+	9	14.98+	7	11.65+
Wayne	187	181.93	7	6.81+	20	19.46	28	27.24
Webster	110	165.02	<5	*	12	18.00+	13	19.50+
Whitley	465	259.47	<5	*	79	44.08	82	45.76
Wolfe	97	268.65	<5	*	9	24.93+	7	19.39+
Woodford	223	174.28	46	35.95	29	22.66	17	13.29+

* Rates based on counts <5 were suppressed according to the state data release policy.

+ Rates based on counts less than 20 are unreliable, and should be interpreted with caution.

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Discharge Status for Drug Overdose ED Visits by Year among Kentucky Residents, 2012-2016

Discharge Status	Year					
	2012	2013	2014	2015	2016	Total
Routine discharge (home/self care)	6,368	5,876	6,816	8,413	10,058	37,531
Inpatient-other short-term hospital	594	583	765	856	781	3,579
Skilled nursing facility (SNF)	22	25	34	31	31	143
Intermediate care facility (ICF)	7	14	13	21	10	65
Designated cancer center or children's hospital	154	134	180	166	126	760
Home health	12	15	20	29	24	100
Left/discontinued care against medical advice	230	243	315	554	938	2,280
Expired/did not recover	22	15	25	45	58	165
Discharge/transfer to court/law enforcement	128	133	173	210	209	853
Still patient	23	15	13	11	17	79
Discharge/transfer to a rehab facility or a hospital unit	11	14	12	13	16	66
Discharge/transfer to a psychiatric hospital or a psychiatric unit of a hospital	558	457	467	489	613	2,584
Discharge/transfer to critical access hospital (CAH)	7	11	18	26	30	92
Discharge/transfer to another type of healthcare institution not otherwise defined	78	73	76	82	142	451
Other	76	58	102	97	137	372
Total	8,290	7,666	9,029	11,043	13,190	49,218

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**Drug Overdose ED Visits by Hospital among Kentucky
Residents, 2012-2016**

Hospital	2012	2013	2014	2015	2016
Baptist Health Corbin	101	90	97	129	126
Baptist Health La Grange	60	50	46	53	66
Baptist Health Lexington	65	79	83	130	136
Baptist Health Louisville	253	303	311	277	264
Baptist Health Madisonville	81	57	94	116	93
Baptist Health Paducah	66	64	50	61	80
Baptist Health Richmond	105	101	130	201	221
Barbourville ARH Hospital	77	40	101	72	76
Bluegrass Community Hospital	20	*	20	35	37
Bourbon Community Hospital	20	28	41	37	40
Breckinridge Memorial Hospital	37	31	54	30	30
Caldwell Medical Center	59	46	49	39	40
Carroll County Memorial Hospital	55	37	65	65	66
Casey County Hospital	70	74	68	90	69
Clark Regional Medical Center	88	59	123	121	149
Crittenden Health System	17	13	23	16	19
Cumberland County Hospital	27	14	42	26	19
Ephraim McDowell Fort Logan Hospital	43	34	40	59	85
Ephraim McDowell Regional Medical Center	64	72	88	124	140
Flaget Memorial Hospital	50	37	81	111	136
Fleming County Hospital	24	15	19	21	22
Frankfort Regional Medical Center	104	73	108	131	212
Georgetown Community Hospital	64	91	105	147	151
Hardin Memorial Health	179	139	144	187	217
Harlan ARH Hospital	39	40	43	37	43
Harrison Memorial Hospital	55	58	89	123	121
Hazard ARH Regional Medical Center	67	60	60	75	78
Highlands Regional Medical Center	83	50	77	45	49
Jackson Purchase Medical Center	65	85	64	74	51
Jane Todd Crawford Memorial Hospital	26	30	19	31	29
Jennie Stuart Medical Center Inc.	118	87	91	108	96
Jewish Hospital Medical Center East	32	31	35	38	29
Jewish Hospital Medical Center Northeast	14	9	*	0	0
Jewish Hospital Medical Center South	101	76	100	117	155

**Drug Overdose ED Visits by Hospital among Kentucky
Residents, 2012-2016**

Hospital	2012	2013	2014	2015	2016
Jewish Hospital Medical Center Southwest	77	23	14	172	302
Jewish Hospital Shelbyville	76	58	79	94	133
Jewish Hospital and St. Mary's Healthcare	71	73	77	92	167
Kentucky River Medical Center	30	34	56	65	98
Kings Daughters Medical Center	108	91	105	125	177
Kosair Children's Hospital	213	205	220	186	175
Kosair Children's Medical Center Brownsboro	82	68	58	66	62
Lake Cumberland Regional Hospital	74	59	82	108	96
Livingston Hospital and Healthcare Services	11	19	10	13	8
Logan Memorial Hospital	51	34	46	43	32
Lourdes Hospital	61	57	56	81	120
Manchester Memorial Hospital OP NG	0	0	0	0	29
Marcum and Wallace Memorial Hospital	48	46	39	48	32
Marshall County Hospital	44	47	50	41	40
Mary Breckinridge ARH Hospital	26	16	22	25	15
McDowell ARH Hospital	39	44	38	52	37
Meadowview Regional Medical Center	47	49	63	71	74
Memorial Hospital Inc.	62	45	50	34	72
Methodist Hospital	77	74	72	109	101
Methodist Hospital Union County	37	16	24	16	34
Middlesboro ARH Hospital	24	27	31	55	54
Monroe County Medical Center	20	23	18	21	21
Morgan County ARH Hospital	26	26	20	29	27
Murray Calloway County Hospital	69	70	115	147	99
Nicholas County Hospital	27	31	*	0	0
Norton Audubon Hospital	194	239	208	265	397
Norton Brownsboro Hospital	80	81	70	111	86
Norton Hospital	62	63	83	83	161
Norton Suburban Hospital	140	120	139	185	299
Ohio County Hospital	28	27	35	41	59
Our Lady Of Bellefonte Hospital	37	44	42	42	44
Owensboro Health Muhlenberg CH	80	52	49	66	84
Owensboro Health Regional Hospital	157	184	232	230	229
Parkway Regional Hospital	10	7	16	*	0

**Drug Overdose ED Visits by Hospital among Kentucky
Residents, 2012-2016**

Hospital	2012	2013	2014	2015	2016
Paul B. Hall Regional Medical Center	47	35	29	42	44
Pikeville Medical Center	126	113	123	114	109
Pineville Community Hospital	31	25	39	31	50
Rockcastle Regional Hospital and Respiratory Care Center	26	31	45	42	43
Russell County Hospital	59	67	51	65	45
Saint Joseph Berea	59	62	52	86	84
Saint Joseph East	52	77	82	149	200
Saint Joseph Hospital	72	83	69	85	164
Saint Joseph Hospital London	76	70	81	100	103
Saint Joseph Hospital Martin	26	28	43	26	31
Saint Joseph Jessamine	48	63	51	66	139
Saint Joseph Jessamine R. J. Corman ACC	0	0	0	0	41
Saint Joseph Mount Sterling	78	78	101	106	146
Spring View Hospital	40	46	37	55	55
St. Claire Regional Medical Center	71	61	68	91	132
St. Elizabeth Covington	192	283	341	496	620
St. Elizabeth Edgewood	283	209	285	290	291
St. Elizabeth Florence	220	208	303	383	416
St. Elizabeth Fort Thomas	219	195	324	390	479
St. Elizabeth Grant	65	56	76	91	117
St. Elizabeth Owen	20	17	19	32	24
Sts. Mary and Elizabeth Hospital	246	121	84	470	708
T. J. Samson Community Hospital	116	127	103	142	114
T. J. Health Columbia	41	41	38	52	34
Taylor Regional Hospital	43	55	60	103	112
The James B. Haggin Memorial Hospital	30	30	44	70	64
The Medical Center at Albany	45	19	25	18	12
The Medical Center at Bowling Green	110	115	168	166	168
The Medical Center at Caverna	19	40	26	27	35
The Medical Center at Franklin	18	23	38	24	24
The Medical Center at Scottsville	33	13	17	20	15
Three Rivers Medical Center	10	12	18	24	20
Tri-Star Greenview Regional Hospital	40	37	62	60	66
Trigg County Hospital Inc.	28	22	40	37	23

**Drug Overdose ED Visits by Hospital among Kentucky
Residents, 2012-2016**

Hospital	2012	2013	2014	2015	2016
Tug Valley ARH Regional Medical Center	18	28	26	15	9
Twin Lakes Regional Medical Center	70	49	83	59	98
UK Healthcare Good Samaritan Hospital	145	134	179	225	329
University of Kentucky Hospital	208	223	324	411	415
University of Louisville Hospital	672	588	595	658	1,023
Wayne County Hospital Inc.	39	31	42	33	27
Whitesburg ARH Hospital	32	22	54	44	52

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About This Report

This report presents drug overdose ED visit data among Kentucky residents treated in Kentucky facilities. The data source is the Kentucky Outpatient Hospitalization (OH) Discharge Files, Cabinet for Health and Family Services, Office of Health Policy, 2008-2016 (data are provisional and subject to change). Data prior to October 1st, 2015 were coded according to the International Classification of Disease, 9th revision, Clinical Modification (ICD-9-CM, <http://www.cdc.gov/nchs/icd/icd9cm.htm>). The ICD-9-CM system describes a drug overdose using diagnosis codes and E-codes. The Kentucky data system includes up to 25 diagnosis code fields for each hospitalization. ICD-9-CM diagnosis codes describing drug poisonings are in the range 960-979. Drug overdose (drug poisoning) diagnoses should be supplemented (when circumstances of the overdose are known) with additional codes called external-cause-of-injury codes (E-codes). Based on the external-cause-of-injury code, a drug poisoning can be classified by intent as accidental (unintentional, E850-E858), intentional (self-harm, E950.0-E950.5; or assault, E962.0), or undetermined (E980.0-E980.5, when there is insufficient documentation in the medical chart to determine whether the drug overdose was accidental or intentional). Some drug overdose hospitalization records, however, do not list any E-codes. We treat such records as a separate category (“No E-code”) when reporting the intent of the overdose. On average, 90 to 95 percent of the Kentucky drug overdose hospitalization records listed valid external-cause-of-injury codes describing the intent of the overdose.

Starting October 1st, 2015, coding switched to International Classification of Disease, 10th revision, Clinical Modification (ICD-10-CM, <https://www.cdc.gov/nchs/icd/icd10cm.htm>). Diagnosis codes describing drug overdose are in the range T36-T50. Codes in the ICD-10-CM coding system have an internal structure for coding intent. Only encounters with unintentional, self-harm, assault, and undetermined intent were considered drug overdoses. Guidelines for coding intent also changed with the transition. Since the ICD-10-CM coding system does not require additional codes for intent there are no drug overdose encounters with missing intent. Also, the ICD-10-CM guidelines suggest using the undetermined intent codes less than in the previous coding system. The ICD-10-CM coding guidelines state that if the intent of the poisoning is unknown or unspecified, the intent should be coded as unintentional. The undetermined intent is only for use if the documentation in the record specifies that the intent cannot be determined.

In addition, only encounters with 7th characters A (initial encounter) and D (subsequent encounter) were considered drug overdose. Encounters with 7th character S (sequela) were excluded from the definition.

Definition: An ED visit was considered a drug overdose ED visit if:

- 1) any of the ICD-9-CM codes in the range 960-979 were listed in any diagnosis; or
- 2) any of the ICD-9-CM codes in the range E850-E858, E950.0-E950.5, E962.0, or E980.0-E980.5 were listed in the E-code fields; or
- 3) any of the ICD-10-CM codes in the range T36-T50 were listed in any diagnosis, with unintentional, self-harm, assault, or undetermined intent and encounter character A or D.

Starting in 2014 Kentucky expanded Medicaid. This may account for the changes in expected payer over the time period represented in this report.

Specific drug definitions		
Type of Poison	ICD-9-CM codes	ICD-10-CM codes
DRUG	E850-E858, E950(.0-.5), E962.0, E980(.0-.5), 960-979	T36-T50
-Opiates/opioids	E850(.0-.2), 965.0	T40.1-T40.4, T40.6
--Heroin	E850.0, 965.01	T40.1
--Opioids other than heroin	E850(.1-.2), 965(.00,.02-.09)	T40.2-T40.4
—Methadone	E850.1, 965.02	T40.3
—Synthetic opioids other than methadone	No specific code	T40.4
-Cocaine	E854.3, E855.2, 968.5, 970.81	T40.5, T41.3
-Benzodiazepines	E853.2, 969.4	T42.4

Limitations:

1. Only records for Kentucky residents treated in Kentucky emergency departments were included in this report. Data for Kentucky residents treated in neighboring states were not available. Therefore, the counts and rates presented likely underestimate the full extent of drug overdoses in Kentucky.
2. Reported counts reflect the number of ED visits or encounters of care for drug overdoses, rather than number of distinct patients. The ED discharge data received by the Kentucky Injury Prevention & Research Center do not include personal identifiers such as names, addresses, or social security numbers in order to protect patient privacy. Thus, our counts do not necessarily correspond to the number of people who were treated for an overdose in a given year: a patient who had two overdose episodes requiring ED treatment during a given year would have two distinct ED discharge records. The counts of hospital admissions better describe the burden of the drug overdose epidemic on the health care facilities and the insurers and allow for better capacity planning.