



About IBM® MarketScan® Research Databases and analytic notes: IBM MarketScan Research Databases are a family of data sets that fully integrate many types of data for healthcare research. This data analysis summarizes findings for the Commonwealth of Kentucky compared to the US National rates that were pulled from all contributing commercials payers for calendar years 2016 to 2018. All claims were de-identified during the consolidation process to protect patient privacy.

Of the two million members with commercial insurance in the State of Kentucky in 2018 (according to the Kaiser Family Foundation), MarketScan includes about 22% of their data. We further limited our data to only active, self-insured members, Ages 18 - 64.

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Opioid Overdose
Opioid Naloxone Rescue
Substance Abuse Treatment
Opioid MAT





Enrollment & Expenditure Data

Data Type	Commercial	Fee for Servi	ce											
Age Group Rollup Medstat	Ages 18-64													
Employee Status Group Medstat	Active													
Time Period: Incurred Year	ar 2018 2017 2016 de KY National KY National KY National ed 347,099 15,061,984 328,997 13,203,555 337,614 14,2													
State Code	KY	National	KY	National	KY	National								
MarketScan Membership														
Members Med	347,099	15,061,984	328,997	13,203,555	337,614	14,279,012								
Members Rx	344,820	14,659,073	326,340	13,040,851	327,113	13,828,620								
% Male														
Members % Male	45.0%	48.8%	45.2%	48.3%	44.4%	48.1%								
Employees % Male	45.0%	54.5%	45.8%	53.4%	43.4%	53.1%								
Average Age														
Members Avg Age	40.4	40.5	40.4	40.5	40.6	40.5								
Employees Avg Age	43.4	43.2	43.3	43.2	43.4	43.2								
Average Family Size	1.55	1.63	1.55	1.65	1.53	1.66								
Allowed Spend														
Allowed Amount PMPY Med	\$4,601.48	\$5,093.25	\$4,272.73	\$4,848.99	\$4,189.58	\$4,745.72								
Allowed Amount PMPY Rx	\$1,767.28	\$1,516.57	\$1,594.53	\$1,427.76	\$1,463.10	\$1,350.44								

Key Findings:

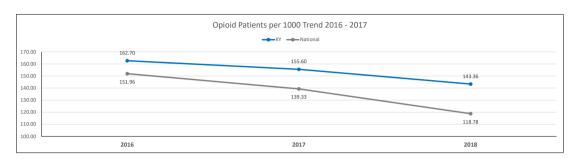
- 1. KY members make up about 2.3% of National MarketScan membership in 2018
 2. KY members had lower medical PMPY allowed spend, but higher rx PMPY allowed spend for all year (2016 2018) when compared to national rates
- 3. Both KY and National opioid users are slightly older and a larger % female compared with total membership
- 4. Both KY and National opioid users cost significantly more in total medical and rx allowed PMPY spend compared with total membership

Enrollment & Expenditure Data - Prescription Opioid Users

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Data Type	Commercial F	ee for Service				
Age Group Rollup Medstat	Ages 18-64					
Employee Status Group Medstat	Active					
Time Period: Incurred Year	20	018	201	17	20	16
State Code	KY	National	KY	National	KY	National
Full Opioid Patients ¹	49,432	1,741,042	50,777	1,816,963	53,220	2,101,430
% Male						
Members % Male	39.0%	42.2%	39.6%	42.0%	38.7%	41.9%
Employees % Male	39.1%	47.5%	40.3%	46.6%	37.3%	46.2%
Average Age						
Members Avg Age	42.6	42.8	42.4	42.6	42.6	42.4
Employees Avg Age	44.9	45.0	44.7	44.9	44.8	44.7
Average Family Size	1.54	1.62	1.53	1.64	1.50	1.65
Allowed Spend						
Allowed Amount PMPY Med	\$12,202.93	\$14,359.99	\$11,330.72	\$12,981.11	\$10,776.83	\$12,249.92
Allowed Amount PMPY Rx	\$2,910.43	\$2,813.46	\$2,636.52	\$2,577.47	\$2,445.56	\$2,408.89
Allowed Amount PMPY Opioid Rx	\$65.99	\$88.36	\$79.60	\$102.84	\$93.94	\$118.88





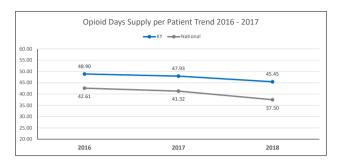


- Key Findings:

 1. KY has a 21% higher opioid utilization rate compared to national average in 2018 up 9 percentage points from 2017

 2. KY opioid utilization decreased -11.9% from 2016 to 2018. National rates decreased -21.8%

- 3. KY annual average opioid supply per patient is 21% higher than national average in 2018
 4. KY annual average opioid supply per patient decreased -7.0% from 2016 to 2018. National rates decreased -12.0%



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opiola othization																					
Data Type	Commercia	al Fee for Ser	vice																		
Age Group Rollup	Ages 18-6	4																			
Employee Status Group	Active																				
Subsets	Full Opioio	Opioid Patients wo Cancer or Chemo or Hospice																			
		2018 2017 2016																			
		Days Days Days																			
	Pats Per	Scripts	Supply	Days Supply				Pats Per 1000			Supply Per			Days Supply							Days Supply
State Code	1000 Rx	PMPM Rx	PMPY Rx	Per Patient	Patients Rx	Scripts Rx	Days Supply Rx	Rx	PMPM Rx	PMPY Rx	Patient	Patients Rx	Scripts Rx	Rx	1000 Rx	PMPM Rx	PMPY Rx	Per Patient	Patients Rx	Scripts Rx	Rx
KY	143.36	0.038	7.58	45.45	49,432	133,856	2,246,733	155.60	0.042	8.60	47.93	50,777	142,581	2,433,943	162.70	0.045	9.38	48.90	53,220	151,474	2,602,220
National	118.78	0.030	5.31	37.50	1,741,232	4,377,586	65,290,491	139.33	0.036	6.73	41.32	1,816,967	4,838,623	75,080,707	151.96	0.041	7.62	42.61	2,101,430	5,746,727	89,545,684
KY % of National Rate	+ 21%	+ 27%	+ 43%	+ 21%				+ 12%	+ 16%	+ 28%	+ 16%				+ 7%	+ 12%	+ 23%	+ 15%			

Analytic Notes

1. Opioid patients include any patient, ages 18 - 64, using a full agonist opioid in the reporting time period, excluding patients with either cancer treatment, chemotherapy, or hospice claims. Opioid partial agonists, such as those used for Opioid Use Disorder treatment, are not included in this report.

Key
KY -6% or lower than National Rate
KY within -5% or +5% of National Rate
KY +6% or higher than National Rate

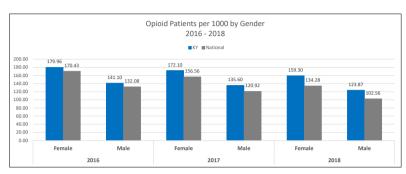


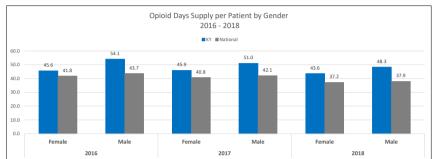


Key Findings:

- 1. KY females had 19% higher utilization and 17% higher average annual supply of opioids compared to national rates in 2018

- 1. NY reintees 180 15% offiger ducation and 37 // higher average annual supply of opioids compared to national rates in 2018
 2. KY males had 21% higher utilitation and 27% higher average annual supply of opioids compared to national rates in 2018
 3. KY females had 28% higher opioid utilization than KY males in 2018, but 9.7% lower average annual supply of opioids compared to national rates in 2018
 3. KY females had 28.6% higher opioid utilization than KY males in 2018, but 9.7% lower average annual supply of opioids compared to national rates in 2018
 3. KY females had 28% higher opioid utilization than KY males in 2018, but 9.7% lower average annual supply of opioids compared to national rates in 2018
 3. KY females had 21% higher opioid utilization decreased -12.2% Not form 2016 to 2018, but 9.7% from 2016 to 2018 to 2 for males during this same time period





Opioid Utilization - Gender																												
Data Type	pe Commercial Fee for Service																											
Age Group Rollup Medstat	Ages 18-6	4																										
Employee Status Group Medstat																												
Subsets	Full Opiate	Patients v	vo Cancer or	Chemo or	Hospice																							
Time Period: Incurred Year							2	018														2017						
State Code		KY National KY National																										
			Days Days Days Days Days																									
				Supply						Days	Supply						Days	Supply						Days	Supply			
			Days Supply	per	Patients		Days Supply			Supply	per			Days Supply					Patients		Days Supply	Pats Per	Scripts	Supply	per			Days Supply
	1000 Rx	PMPM Rx	PMPY Rx	Patient	Rx	Scripts Rx	Rx	1000 Rx	PMPM Rx	PMPY Rx	Patient	Patients Rx	Scripts Rx	Rx	1000 Rx	PMPM Rx	PMPY Rx	Patient	Rx	Scripts Rx	Rx	1000 Rx	PMPM Rx	PMPY Rx	Patient	Patients Rx	Scripts Rx	Rx
Gender																							\square					
Female		0.04	0.01	13.0	30,210	80.141	1.317.722		0.03	5.96	37.2	1.005.763	2,333,372	37.402.972		0.05	9.07	45.9	30,700		1.412.665		0.04	7.47	40.8			
Male		0.03	7.01	48.3	19,222	53,715	929,011	102.56	0.03	4.64	37.9	735,282	1,843,554	27,881,907		0.04	8.03	51.0	20,011		1,021,278		0.03	5.95	42.1			
Aggregate(Gender)	143.36	0.04	7.58	45.5	49,432	133,856	2,246,733	118.77	0.03	5.31	37.5	1,741,045	4,377,126	65,284,879	155.60	0.04	8.60	47.9	50,777	142,581	2,433,943	139.33	0.04	6.73	41.3	1,816,965	4,838,604	75,080,513

KY % of National Rate - 2018	Pats Per 1000 Rx		Days Supply PMPY Rx	Days Supply per Patient	
Female	+ 19%	+ 21%	+ 35%	+ 17%	
Male	+ 21%	+ 32%	+ 51%	+ 27%	k

Key
KY -6% or lower than National Rate
KY within -5% or +5% of National Rate
KY +6% or higher than National Rate

KY % of National Rate - 2017		Days	Days Supply
	Pats Per 1000 Rx	Supply	per
Female		 + 21%	
Male		+ 35%	

3 1,010,303 4,030,004 73	,000,51.
KY % of National Rate - 2016	
	Female
	Male

Analytic Notes

1. Opioid patients include any patient, ages 18 - 64, using a full agonist opioid in the reporting time period, excluding patients with either cancer treatment, chemotherapy, or hospice claims. Opioid partial agonists, such as those used for Opioid Use Disorder treatment, are not included in this report.



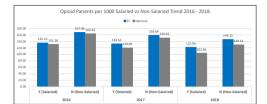


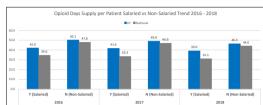
- Findings:

 I. NY hourly (non-salaried) members had 19.8% higher opioid dilitation in 2018 compared to KY salaried members. Nationally, hourly (non-salaried) members had 20% higher opioid dilitation than salaried members in 2018 compared to KY salaried members. Nationally, hourly (non-salaried) members had 20% higher opioid dilitation on contract of a national distation and salaried members in 2018.

 J. NY hourly members how 21% higher opioid distation and 5% higher or enter a name opioid salary compared in notice hourly members in 2018.

 A. NY salaried opioid distation in 60% high opioid and NY hourly (non-salaried) opioid distation in 40% high opioid and in 2018. Both hourly (non-salaried) and salaried making and salaried making and salaried making and salaried and salaried making and salaried





Opioid Utilization - Salary																																									
	e Commerc	al Fee for S	ervice																																	-					
Data Typ Age Group Rollup Medsta		4																																				=	=		
Employee Status Group Medsta																																				_					
Subset	 Full Opiat 	e Patients v	o Cancer o	r Chemo or h	fospice																																				
Time Period: Incurred Yea	r							2018														2017													2016						
State Cod	•			KY							National							KY							Nationa	1						KY						Nation	ial		
	Pats Per 1000 Rx	Scripts	Days Suppl	y Days Supp	ly Patients	S Creinte Dy	Days Sup	ply Pats Per	Script	Days ts Supply	Days Supply pe	Patiente Pu	Strinte Dv	Days Supply	Pats Per	Scripts	Days Supply	Days Supply per	Patients	Scripte Dv	Days Supply	Pats Per	Scripts DMDM Dv	Days Supply	Days Supply	Datiante Dv	Scripto Dy	Days Supply	Pats Per	Scripts	Days Supply	Days Supply per Patient	Patients Cv	Day	ys Supply Pats	Per Scri	Days ipts Supply		Patients	Scripts Ry	Days Supply
Salaried Indicator	1000 ICK	THEFT	11111100	pci rucci	100	Julipus Itx	100	100010		17111110	Tuberia	T GOCILIS TO	Julipus rox	- "	1000 100	111111110	11111100	Tuckin	100	Surpa icc	ILX.	1000 100	THITTICK	THITIM	perrobent	T GCC ICS ICX	Julipia III.	- NA	2000 100	111111100	THE T ICC	TUCKIK	10.	ipca roc	NA 100	TO THE	1100	TOUCH		Scripto roc	- "
	Y 122.04	0.03	5.6	39.	.0 4.58	4 11.36	6 178.7	14 103.8	35 (0.02 3.8	0 31.	491.70	1.121.977	15,272,85	1 132.61	0.03	6.55	41.6	5.326	13.812	221.507	120.09	0.03	4.67	33.3	549,489	1.297.221	18.303.729	135.23	0.04	7.08	42.0	5.364	13.880	225.157 13	1.26	0.03 5.3	3 34.6	604.367	1.470.410	20.923.261
	V 146.15	0.04	7.8	5 46.	3 35.75	8 98.00	2 1.656.4		1 (0.04 7.0	6 44.	551.210		24.266.02	0 159.04	0.04	8.95	49.0	39,440	111.824	1.931.544	150.65	0.04	8,58	46.9	656.197	1.876.271	30.761.277	167.96	0.05	9.85	50.1	39.867 1	14.964 1.	.998.825 16	3.93	0.05 9.5	.2 47.8	691.135		33.066.371
	140.91	0.04	7.6	45.	0 9.15	4 24.48	8 411.5		34 (0.03 5.3	3 36.	703.84			8 149.55	0.04	8.39	46.2	6.084	16.945	280.892	141.24	0.04	7.14	42.1	618.435	1.665.112	26.015.507	156.24	0.04	8.82	47.1				57.79	0.04 8.1	9 43.9	809.074		35,556,052
Aggregate(Salaried Indicator)	143.36	0.04	7.5	3 45.	5 49.43	2 133.85	6 2.246.7	33 118.7	7 0	0.03 5.3	1 37.	1.741.042	4.377.126	65.284.87	9 155.60	0.04	8.60	47.9	50.777	142.581	2.433.943	139.33	0.04	6.73	41.3	1.816.963	4.838.604	75.080.513	162.70	0.05	9.38	48.9	53,220 15	1.474 2.6	602.220 15	1.96 F	0.04 7.6	2 42.6	#####	5.746.727	*****
KY % of National Rate - 2018	I	Cultur	D C	l				Vou							KY % of N	lational Rat	te - 2017	D-1 D	Curiota	Days	D C								KY % of N	lational Rate	- 2016	Data Data	Curiate C	Days							

KY % of National Rate - 2018	Pats Per 1000 Rx	Scripts PMPM Rx	Days Supply PMPY Rx	Days Supply per Patient
Y (Salaried)				+ 26%
N (Non-Salaried)	+ 13%	+ 6%	+ 11%	+ 5%

Key
KY -6% or lower than National Rate
KY within -5% or +5% of National Rate
KY +6% or higher than National Rate

Y % of National Rate - 2017	Pats Per 1000 Rx	Scripts PMPM Rx	Days Supply PMPY Rx	Days Supply per Patient
Y (Salaried)	+ 10%	+ 24%	+ 40%	+ 25%
N (Non-Salaried)	+ 6%	-1%	+ 4%	+ 4%

National Rate - 2016			Days	
	Pats Per 1000 Rx	PMPM Rx	PMPY Rx	Days Supply per Patient
Y (Salaried)	+ 3%	+ 17%	+ 33%	+ 21%

Analytic Notes

Opioid patients include any patient, ages 18 - 64, using a full agonist opioid in the reporting time period, excluding patients with either cancer treatment, chemotherapy, or hospice claims. Opioid partial agonists, such as those used for Opioid Use Disorder treatment, are not included in this report.

2. The Salaried Indicator references whether the member is paid an annual salary (Y) or an hourly wage (N). Some payers do not collect this information, therefore these members are indicated as missing (~)





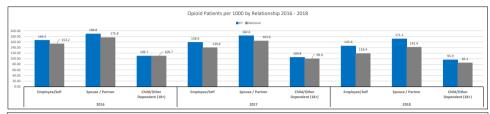
- Findings:

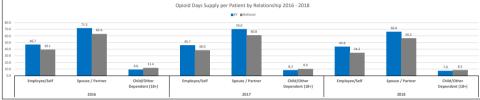
 I. XF spouses had 19% higher utilization of opicids than employees in 2018 (17.1.1 vs 145.5) and 51% higher average annual supply (66.0 vs 4.16.). This is lower than the national rates for spouses which had 19% higher utilization and 64% higher average annual supply when compared to emploit.

 2. K'employee and spouse opicid utilization rates are 23% and 51% higher than national rates in 2018, respectively.

 3. K'employee and spouse average annual supply rates are 27% and 17% higher than national rates in 2018, respectively.

 4. K'employee and collisations rate is done)—17.5% from 2018 2018. while K'emposar action 4018 which the same time period.





Opioid Utilization - Relationsh	ip																																									
Data Type	Commerci	I Fee for Servi	e																																							
Age Group Rollup Medstat	Ages 18-6																																									
Employee Status Group Medstat	Active																																									
Subsets	Full Opiate	Patients wo C	ncer or Ch	emo or Ho	ospice																																					
Time Period: Incurred Year								2018														2017														2016						
State Code				KY							Na	tional						KY							Nation	al						KY							Nationa	al le		
	Pats Per	Scripts Su	poly Sup	Days iply per P	Patients		Days Suppi	ly Pats Pe	r Scripts		Days Supply per			Days Supply	Pats Per	Scripts	Supply	Days Supply per Pa	atients		Days Supply	Pats Per		Days S	Days upply per			Days Supply	Pats Per	Scripts	Days Supply	per	Patients	Scripts	Days Supply	/ Pats Per	Scripts	Supply	Days Supply per			Days Supply
	1000 Rx	PMPM Rx PM	Y Rx P	atient	Rx	Scripts Rx	Rx	1000 R:	PMPM R	PMPY Rx	Patient	Patients Rx	Scripts Rx	Rx	1000 Rx	PMPM Rx	PMPY Rx	Patient	Rx S	cripts Rx	Rx	1000 Rx	PMPM Rx PI	MPY Rx P	atient P	atients Rx	Scripts Rx	Rx	1000 Rx	PMPM Rx	PMPY Rx	Patient	Rx	Rx	Rx	1000 Rx	PMPM Rx	PMPY Rx	Patient P	Patients Rx	Scripts Rx	Rx
Relationship Medstat	-		_	_	_				_	_	$\overline{}$				$\overline{}$		_	_	_			$\overline{}$	_	_	_						$\overline{}$	_				-	_	\vdash	\rightarrow	\rightarrow		
Employee/Self		0.04	7.33	43.6	32.096	85.099	1.398.89	8 118.4	4 0.03	4.86	34.2	1.071.947	2.568.050	36,702,594	158.56	0.04	8.30	45.7	33.108	90.152	1.512.272	139.75	0.03	6.20	38.0	1.102.161	2,797,064	41.886.349	166.32	0.04	9.08	46.7	35,353	97.913	1.650.65	6 153.25	5 0.04	7.04				49.869.804
Spouse/Partner		0.06	13.04	66.0	12.319	42.101	812.56	4 141.4	3 0.04	9.25	56.2	481.488	1.547.057		182.56	0.06	14.67	70.0	12.564	45.245	880.065	163.58	0.05	11.44	60.8	513.277		31.190.902	188.78	0.07	15.92	71.5	12.653	46,002	904.47			12.79	62.6	590.495		
Child/Other Dependent (18+)		0.01	0.82	7.0	5.017	6,656	35.27	1 85.1	2 0.01	0.85	8.2	187.607	262.019	1.540.812	104.80	0.01	1.02	8.2	5.105	7.184	41,606	99.94	0.01	1.19	9.9	201.525		2.003.262	109.72	0.02	1.21	9.0	5.214	7.559	47.08	38 109.74		1.52	11.4	236.035	372.933	
Aggregate(Relationship Medstat)	143.36	0.04	7.58	45.5	49,432	133,856	2,246,73	3 118.7	7 0.03	5.31	37.5	1,741,042	4,377,126	65,284,879	155.60	0.04	8.60	47.9 5	0,777	142,581	2,433,943	139.33	0.04	6.73	41.3 1	,816,963	4,838,604	75,080,513	162.70	0.05	9.38	48.9	53,220	151,474	2,602,22	0 151.96	0.04	7.62	42.6 2	,101,430	,746,727	89,545,684
KY % of National Rate - 2018		1.0	ays I	Days	Г					1					KY % of N	ational Rat	e - 2016			Days		1							KY % of N	ational Rat	e - 2016			Days								

KY % of National Rate - 2018			Days	Days
		Scripts		Supply per
	1000 Rx	PMPM Rx	PMPY Rx	Patient
Employee/Self	+ 23%	+ 31%	+ 51%	+ 27%
Spouse/Partner	+ 21%	+ 28%	+ 41%	+ 17%
Child/Other Dependent (18+)	+ 13%	+ 7%	-4%	-14%

	Key
K	Y -6% or lower than National Rate
KY	within -5% or +5% of National Rate
K	f +6% or higher than National Rate

KY % of National Rate - 2016			Days	
	Pats Per	Scripts	Supply	Days Supply
	1000 Rx	PMPM Rx	PMPY Rx	per Patient
Employee/Self	+ 13%	+ 19%	+ 34%	+ 20%
Spouse/Partner	+ 12%	+ 18%	+ 28%	+ 15%
ild/Other Dependent (18+)	+ 5%	-2%	-15%	-18%

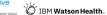
KY % of National Rate - 2016			Days	
	Pats Per	Scripts	Supply	Days Supply
	1000 Rx	PMPM Rx	PMPY Rx	per Patient
Employee/Self	+ 9%	+ 15%	+ 29%	+ 19%
Spouse/Partner	+ 7%	+ 14%	+ 25%	+ 14%
hild/Other Dependent (18+)	096	-896	-71%	-71%

Analytic Notes

Opioid patients include any patient, ages 18 - 64, using a full agonist opioid in the reporting time period, excluding patients with either cancer treatment, chemotherapy, or hospice claims. Opioid partial agonists, such as those used for Opioid Use Disorder treatment, are not included in this report.

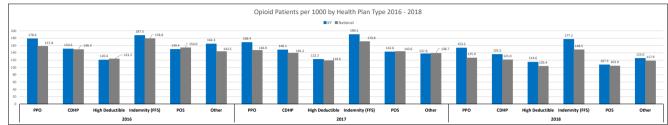
2. Relationship Medstat differentiates the member into Employee or the primary subscriber and their dependents. Spouses / Partners are also split from Children / Other Dependents.

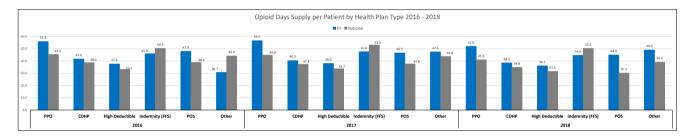




Indemnity and PPO plans had the highest rate of opioid utilization for KY in 2018 - 19% and 22% higher than national, respectively

2. NY PPOI members had 13% higher opioid utilization than NY CDRP members in 2018 (153.2 or 155.3 and 35% higher werage annual supply (25.2 or 15.5 and 15.6 higher werage annual supply (25.2 or 15.5 and 15.6 higher werage annual supply (25.2 or 15.5 and 15.6 higher werage annual supply (25.2 or 15.6 higher werage annual su





Opioid Utilization - Health Plan	1 Туре																																						
Data Type	Commercia	al Fee for Service																																					
Age Group Rollup Medstat	Ages 18-64	4																														-		-					
Employee Status Group Medstat	Active																																_						
Subsets	Full Opiate	Patients wo Car	cer or Chem	o or Hospic																												_		_					
Time Period: Incurred Year							2018													2017													201	16					
State Code			K	Υ						Nationa	al						KY						Nation	nal						KY						Na	ational		
	Pats Per	Scripts Supp		/ I	Scrints Rx	Days Suppl	ly Pats Per	Scripts PMPM Rx	Days Supply PMPY Rx	Days Supply per Patient P	atients Rx	Scrints Rx	Days Supply	Pats Per 1000 Rx	Scripts 5	Days S Supply	Days iupply per Patie	nts Scrints R	Days Supply	Pats Per		Days : Supply	per	atients Rx	Scrints Ry	Days Supply	Pats Per	Scripts PMPM Rx F	Days : Supply	Days Supply per F	Patients S	Scripts Da		ats Per Sc	cripts Su	Days lays Supply ipply per PY Rx Patien		Days:	s Supply
Plan Type Medstat					1		-	\Box							\neg			1	1									\neg	$\overline{}$		$\overline{}$	-	$\overline{}$	-		\neg	_		-
PPO	153.21	0.04 9	.34 52.	.0 24.053	70,306	1.250.39	3 125.86	0.03	6.08	41.0	891.994	2.355.900	36.536.307	168.36	0.05	10.99	56.5 23.	67 73.07	2 1.332.488	146.87	0.04	7.66	44.8	992.699	2.766.482	44.428.023	178.56	0.05	11.64	55.8	26.952	83.280 *	1.504.121 7	157.84	0.04	8.43 45	.3 1.265.58	3 3.582.882 57.29	290.047
CDHP	135.55	0.03 5	.97 38.	5 17.600	43,376	677.13	3 120.98	0.03	4.91	34.8	252.567	614.954	8.795.008	148.13	0.04	6.78	40.3 18.	15 47.41	3 753,765	139.23	0.03	6.01	37.3	292.436	737,443	10.915.810	150.63	0.04	7.36	41.6	18.905	48.818	786,354	148.86	0.04	6.69 3F	.6 336.08	9 871.809 12.9	985.251
High Deductible	114.61	0.03 5	.12 36.	.1 3.842	9.109	138.56	5 103.41	0.02	3.90	31.5	252,948	583.044	7.957.145	122.19	0.03	5.70	38.0 4.	25 10.30	160.424	118.59	0.03	4.77	33.7	246.117	589,675	8.296.527	120.37	0.03	5.62	37.6	3.627	8.750	136,250 1	123.20	0.03	4.92 3?	.1 232.13	7 554,908 7.6	686.160
Indemnity (FFS)	177.16	0.05 8	1.89 44.	.6 2,599	7,309	115,96	1 148.46	0.04	8.51	50.3	43,333	130,291	2,178,603	190.07	0.05	10.34	47.6 2,	19 7,91	2 129,296	170.81	0.05	10.66	53.0	44,433	136,967	2,356,340	187.49	0.06	10.67	45.9	2,652	7,576	121,771 1	178.80	0.05	10.27 50	3 59,821	1 181,168 3,0	010,011
POS	107.30	0.03 6	.88 44.	9 935	2.441	41.98	8 103.92	0.02	4.10	30.1	223.003	490.605	6.710.648	142.60	0.04	8.41	46.5	90 1.07	3 18.151	143.61	0.04	6.31	37.6	97.933	248.072	3.680.275	149.37	0.04	9.02	47.9	439	1.206	21.042	153.99	0.04	7.16 3F	.9 129.03	4 335,668 5.0	017.152
Other	125.00	0.04 8	.73 49.	.0 388	1.066	19.00	1 117.86	0.03	5.46	39.0	51.539	131.638	2.011.027	137.59	0.04	8.36	47.5	83 49	1 8.693	138.67	0.04	7.20	43.6	54.239	145.837	2.366.974	164.26	0.04	7.59	30.7	91	193	2.794 1	143.53	0.04	7.84 44	1.0 29.615		
~Missing	114.41	0.03 4	.57 31.	.1 77	167	2.39	3 122.33	0.03	6.46	41.8	20.143	53,315	842,779		0.03	4.59	31.1 1.	02 2.318	B 31.117	108.83	0.03	4.47	33.2	87.504	205,372	2.901.154	0.75	0.00	0.01	14.0	3	3	42	13.22	0.00	0.60 3F	.3 4.42	1 10.584 1	160.681
HMO (Managed Care)	123.71	0.03 5	.85 36.	.1 36	82	1,29	9 100.83	0.03	5.16	37.5	6,455	16,401	242,042	117.65	0.01	0.55	4.5	2	2 9	180.07	0.05	10.35	51.5	2,400	7,729	123,552		-						95.58	0.02	3.87 36	5.6 1,009		36,968
Unknown							78.05	0.01	2.03	21.4	529	978	11.320							89.23	0.02	2.56	24.1	493	1.027	11.858				50.0	597	1.648	29.846			44			055.431
Aggregate(Plan Type Medstat)	143.36	0.04 7	.58 45.	5 49.432	133.856	2.246.73	3 118.77	0.03	5.31	37.5 1	.741.042	4.377.126	65.284.879	155.60	0.04	8.60	47.9 50.7	77 142.581	1 2.433.943	139.33	0.04	6.73	41.3 1	.816.963	4.838.604	75.080.513	157.64	0.05	9.38	48.9	53.220 1	51.474 2	.602.220 15	51.96	0.04	7.62 42	6 2.101.43/	0 5.746.727 ###	****

KY % of National Rate - 2018				Davs
			Days	Supply
	Pats Per	Scripts	Supply	per
	1000 Rx	PMPM Rx	PMPY Rx	Patient
PPO	+ 22%	+ 34%	+ 54%	+ 27%
CDHP		+ 12%	+ 22%	+ 10%
High Deductible		+ 18%	+ 31%	+ 15%
Indemnity (FFS)		+ 10%	+ 4%	-11%
POS	+ 3%	+ 33%	+ 68%	+ 49%
Other	+ 6%	+ 37%	+ 60%	+ 26%
~Missina		-22%	-29%	
HMO (Managed Care)	+ 23%	+ 6%	+ 13%	-4%
Unknown				

Kev
nc,
KY -6% or lower than National Rate
KY within -5% or +5% of National Rate
KY +6% or higher than National Rate

KY % of National Rate - 2017				
			Days	
	Pats Per	Scripts	Supply	Days Supply
	1000 Rx	PMPM Rx	PMPY Rx	per Patient
PPO	+ 15%	+ 26%	+ 44%	+ 26%
CDHP	+ 6%	+ 5%	+ 13%	+ 8%
High Deductible	+ 3%	+ 8%	+ 19%	+ 13%
Indemnity (FFS)	+ 11%	+ 2%	-3%	-10%
POS	-1%	+ 17%	+ 33%	+ 24%
Other	-1%	+ 7%	+ 16%	+ 9%
~Missing	+ 15%	+ 8%	+ 3%	-6%
HMO (Managed Care)	-35%	-81%	-95%	-91%
Unknown				

KY % of National Rate - 2016				
			Days	
	Pats Per	Scripts	Supply	Davs Supply
	1000 Rx	PMPM Rx	PMPY Rx	per Patient
PPO	+ 13%	+ 22%	+ 38%	+ 23%
CDHP	+ 1%	+ 2%	+ 10%	+ 8%
High Deductible	-2%	+ 2%	+ 14%	+ 13%
Indemnity (FFS)	+ 5%	+ 7%	+ 4%	-9%
POS	-3%	+ 8%	+ 26%	+ 23%
Other	+ 14%	+ 8%	-3%	-30%
~Missina	-94%	-98%	-98%	-61%
HMO (Managed Care)				

Analytic Notes

Opioid patients include any patient, ages 18 - 64, using a full agonist opioid in the reporting time period, excluding patients with either cancer treatment, chemotherapy, or hospice claims. Opioid partial agonists, such as those used for Opioid Use Disorder treatment, are not included in this report.

2. Fish in Type Medited differentiates each member into the type of health plan they are enrolled in during the study year. The paper or plan papers delights the plan type is bedwill table from produced produce



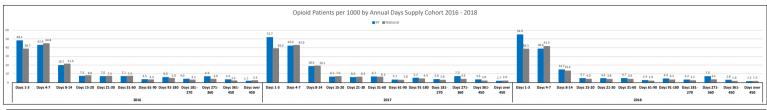


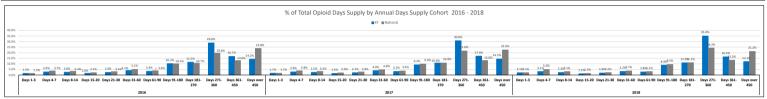
Findings:
1. 1.19% of KY opoid users have over 90 days supply in 2017 compared to 10.0% of national opioid users
2. 1.50% of KY opid users have over 90 days supply in 2017 compared to 10.0% of national opid users
2. 1.50% of KY opid upods supply in 2018 (example 4.4% of opid users (X4.10 users with annual days supply between 271 - 30.0 days)
2. 1.5% of KY opid users had over 30.04 are yet in 2018 (example opid multiple overlapped prescriptions) - this in higher than the national rate of 2.5%, but down from 2.2% is 20.16

down from 2.2% is 20.16

Very large of the 1.0% of KY opid users were prescribed 12.1% of KYs total opid supply in 2018 (428 users with annual days supply over 450 days)







Data Type	Commerci	ial Fee for S	ervice																																					
Age Group Rollup Medstat	Aces 18-6	64																																-	-	-			=	_
Employee Status Group Medstat																																								_
Subsets	Full Opiati	e Patients v	o Cancer or	Chemo or Ho	spice																																			_
Time Period: Incurred Year								2018													2017													2016	1 1					
State Code				KY							National						KY							National							KY						National			
						Days Supply	% of Total						Davs					I I.	Days Supply %	of Total						Davs				% of			Days 9 Supply T	of stal		% of			Days Supply	% To
			% of Total		Days Supply	per	Days			% of Total		Days Supply		% of Total Pat	ents Pats Pe	r % of Total		Days Supply	per	Days		Pats Per	% of Total		Days Supply	Supply per	% of Total	Patients P	ats Per	Total	D	ays Supply		ays	Pats	ts Per Total		Days Supply	y per	0
	Rx	1000 Rx	Patients	Scripts Rx	Rx	Patient	Supply	Patients Rx	1000 Rx	Patients	Scripts Rx	Rx	Patient	Days Supply	x 1000 R	c Patients	Scripts Rx	Rx F	Patient 5	Supply F	Patients Rx	1000 Rx	Patients	Scripts Rx	Rx	Patient	Days Supply	Rx 1	000 Rx P	atients Scri	pts Rx	Rx F	Patient Su	aply Patier	nts Rx 100	0 Rx Patient	ts Scripts Rx	Rx	Patient	Su
Davs Supply Cohorts																																								
Days 1-3				19.177	46,786	2.5	2.1%	564,378	38.50	32.4%	570.693	1.382.580	2.4	2.1% 1	.887 51.7	5 33.39	6 17.10	41.486	2.5	1.7%	508.114	38.96	28.1%	514.215	1.250.403	2.5	1.7%	16.242	48.11	30.5%	16.418	40,063	2.5	1.5% 5"	52,208	38.67 26.3°	% 557.2			
		38,65	27.0%	17.234	70.095	5.3	3.1%	608,258	41.49	34.9%	722,783	3.250.146	5.3	5.0% 1	.715 42.0	3 27.09	6 17.43	70,696	5.2	2.9%	559.081	42.87	31.0%	670.179	2.886.393	5.2	3,8%	14.499	42.95	27.2%	18.098	74.750	5.2	2.9% 67	39.015	44.75 30.4	% 763.9	97 3.295.303		2
Davs 8-14	5.079	14.73	10.3%	10.366	51.616	10.2	2,3%	196,548	13.41	11.3%	412,638	2.019.709	10.3	3.1%	.068 18.5	9 12.09	6 11.46	61.017	10.1	2.5%	249.167	19.11	13.8%	461.869	2.501.543	10.0	3,3%	6.645	19.68	12.5%	12.392	67.168	10.1	2.6% 30	04.994	21.36 14.50	% 558.6			1
Days 15-20	1.622	4.70	3.3%	4.053	27 322	16.8	1.2%	58.033	3 96	3.3%	155 585	966 989	16.7	1 5%	130 6.5	3 4.20	6 4.78	35 654	16.7	1 5%	90.849	6.97	5.0%	206 425	1 512 667	16.7	2.0%	2 473	7.32	4.6%	5 484	41 554	16.8	1.6% 1	14 569	8.02 5.59	% 257.5	06 1 915 101	11 16.	7
Days 21-30	1.589	4.61	3.2%	3.869	41.866	26.3	1.9%	56,362	3.84	3.2%	156,582	1.446.800	25.7	2.2%	.956 5.9	9 3.99	6 4.60	52.024	26.6	2.1%	81.984	6.29	4.5%	199.407	2.149.772	26.2	2.9%	2.355	6.98	4.4%	5.361	62,509	26.5	2,4% 10	04.455	7.32 5.0	% 253.4	04 2.740.237	7 26.7	2
Days 31-60	1.620	4.70	3.3%	5.931	72.846	45.0	3.2%	56,700	3.87	3.3%	223,332	2,446,365	43.1	3.7%	.179 6.6	8 4.39	6 7.76	97.050	44.5	4.0%	82.751	6.35	4.6%	306.089	3.570.289	43.1	4.8%	2.407	7.13	4.5%	8.397	106.855	44.4	4.1% 1	05.337	7.38 5.0	% 388.3	78 4.554.610	0 43.	2
Days 61-90	837	2.43	1.7%	3,755	63.816	76.2	2.8%	27.236	1.86	1.6%	135,774	2.037.504	74.8	3.1%	.016 3.1	1 2.09	6 4.61	78.019	76.8	3.2%	36.821	2.82	2.0%	179.217	2,736,764	74.3	3.6%	1.179	3.49	2.2%	5.396	89,248	75.7	3,4%	47.039	3.29 2.2	% 232.1	99 3.484.507	77 74.	ıΠ
Days 91-180	1.500	4.35	3.0%	9.211	199,421	132.9	8.9%	47.227	3.22	2.7%	310.896	6.172.132	130.7	9.5%	.694 5.1	9 3.39	6 10.54	223,763	132.1	9.2%	57.629	4.42	3.2%	381.078	7.426.434	128.9	9.9%	2.025	6.00	3.8%	12.492	266.218	131.5	0.2%	70.684	4.95 3.4	% 476.7	56 9.069.180	30 128.3	3 1
Days 181-270	1.094	3.17	2.2%	9 724	247 641	226.4	11.0%	32,610	2.22	1.9%	300.806	7 236 906	221.9	11.1%	174 3.6	0 2.39	6 10.55	263.068	224.1	10.8%	36 798	2.82	2.0%	342 478	8 114 706	220.5	10.8%	1 348	3.99	2.5%	12.066	299 942	222.5	1 5%	43 565	3.05 2.1	% 410.9	21 9 539 933	32 219.0	0 1
Days 271-360	2.410	6.99	4.9%	27.672	786,581	326.4	35.0%	49,196	3.36	2.8%	571.483	15.798.344	321.1	24.2%	300 7.0	5 4.59	6 26.54	749.060	325.7	30.8%	50.668	3.89	2.8%	591.141	16.194.765	319.6	21.6%	2.318	6.87	4.4%	26.593	749,300	323.3	8.8%	55.463	3.88 2.6	% 647.4	94 17.546.960	50 316.4	4 1
Days 361-450	980	2.84	2.0%	13 232	367.552	375.1	16.4%	22 961	1.57	1 3%	319 318	8 703 152	379.0	13.3%	092 3.3	5 2.29	6 14.80	412.836	378.1	17.0%	25.804	1 98	1.4%	362 514	9 797 294	379.7	13.0%	1 148	3.40	2.2%	15 595	434.068	378 1 1	6.7%	30.752	2.15 1.5	% 431.6	93 11 614 903	377.7	7
Davs over 450	428	1.24	0.9%	9,633	271.194	633.6	12.1%	21,409	1.46	1.2%	497,161	13.824.455	645.7	21.2%	543 1.6	6 1.19	6 12.32	349,270	643.2	14.3%	26.155	2.01	1.4%	610.107	16,939,768	647.7	22.6%	580	1.72	1.1%	13.181	370,545	638.9	4.2%	32.898	2.30 1.6	% 768.1	90 21.350.90	04 649.0	٠Τ٠
								1 740 018	110.76	100.00/-				100 00/ F				2 422 042			1 005 031	120 47		4 934 710 0		41.6												O PAFOA		

				70 01
KY % of National		% of		Total
Rate - 2017	Pats Per	Total	Days Supply	Days
	1000 Rx	Patients	per Patient	Supply
Days 1-3	+ 43%	+ 6%	+ 1%	0%
Days 4-7	-7%	-8%	-2%	-2%
Days 8-14	+ 10%	-1%	-1%	-1%
Days 15-20	+ 19%	0%	+ 1%	0%
Days 21-30	+ 20%	0%	+ 3%	0%
Days 31-60	+ 21%	+ 0%	+ 4%	-1%
Davs 61-90	+ 31%	+ 0%	+ 2%	0%
Days 91-180	+ 35%	+ 0%	+ 2%	-1%
Days 181-270	+ 43%	+ 0%	+ 2%	0%
Days 271-360	+ 108%	+ 2%	+ 2%	+ 11%
Davs 361-450	+ 81%	+ 1%	-1%	+ 3%
Days over 450	-15%	0%	-2%	-9%

% of

Кеу	
KY -6% or lower than National Rate	Т
KY within -5% or +5% of National Rate	
KY +6% or higher than National Rate	
	Τ

KY % of National				% of Total
Rate - 2017	Pats Per	% of Total	Days Supply	Days
	1000 Rx	Patients	per Patient	Supply
Days 1-3	+ 33%	+ 5%	0%	+ 0%
Days 4-7	-2%	-4%	0%	-1%
Davs 8-14	-3%	-2%	+ 0%	-1%
Days 15-20	-6%	-1%		-1%
Days 21-30	-5%	-1%	+ 1%	-1%
Days 31-60	+ 5%	0%	+ 3%	-1%
Davs 61-90	+ 10%	0%	+ 3%	0%
Days 91-180	+ 17%	+ 0%	+ 3%	-1%
Days 181-270	+ 27%	+ 0%	+ 2%	+ 0%
Days 271-360	+ 81%	+ 2%	+ 2%	+ 9%
Days 361-450	+ 69%	+ 1%		+ 4%
Days over 450	-17%	0%	-1%	-8%

KY % of National Rate - 2016			Days	% of
			Supply	Total
	Pats Per	% of Total	per	Days
	1000 Rx	Patients	Patient	Supply
Days 1-3	+ 24%	+ 4%	-1%	+ 0%
Days 4-7	-4%	-3%	0%	-1%
Davs 8-14	-8%	-2%	+ 1%	-1%
Days 15-20	-9%	-1%	+ 1%	-1%
Days 21-30	-5%	-1%	+ 1%	-1%
Days 31-60	-3%	0%	+ 3%	-1%
Days 61-90	+ 6%	0%	+ 2%	0%
Days 91-180	+ 21%	+ 0%	+ 2%	+ 0%
Days 181-270	+ 31%	+ 0%	+ 2%	+ 1%
Days 271-360	+ 77%	+ 2%	+ 2%	+ 9%
Days 361-450	+ 58%	+ 1%	+ 0%	+ 4%
Days over 450	-25%	0%	-2%	-10%

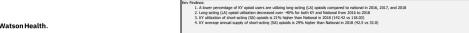
Analytic Notes

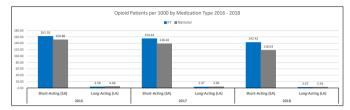
Opioid patients include any patient, ages 18 - 64, using a full agonist opioid in the reporting time period, excluding patients with either cancer treatment, chemotherapy, or hospice claims.
 Opioid partial aconists, such as those used for Opioid Use Disorder treatment, are not included in this report.

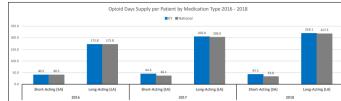
Annual Days Supply (Chhart divides members by the amount of days supply of an opinid they receive during the reporting ear. The member may receive more than one script, type, or amount of the opinidis) that contribute to their total days supply. Additionally, members may be taking multiple opinids at once therefore days supply amounts may acceed the number of calendar days in a year.











Opioid Utilization - Short Acti	ing (SA)	vs Long	Acting	(LA)																																						
Data Typ	Commerc	al Fee for Se	ervice																																=							
Age Group Rollup Medsta	Ages 18-	4																																								
Employee Status Group Medsta	at Active																																									
		Patients wo	o Cancer o	Chemo or H	ospice																																					
Time Period: Incurred Yea	ar							2018													20	017													20	1016						
State Cod	le			KY							Nationa	ıl						KY							Nationa	al						KY							National			
		Pats F	% c	d I	Days Supply	% of Total Days	Days Supply per		Pats Per	% of Total			% of Total Days	Days Supply		Pats Per	% of Total	Days	To	of of otal E ays Sup	Days pply per		Pats Per	% of Total		Days Supply	% of Total Days	Days Supply		Pats Per 1000	% of Total		Days Supply	% of Total Days	Days Supply per		Pats Per	% of Total			% of Total Days	Supply per
	Patients	Rx 1000	Rx Paties	ts Scripts R	(Rx	Supply	Patient	Patients Rx	1000 Rx	Patients :	Scripts Rx	Rx	Supply	per Patient	Patients Rx	1000 Rx	Patients Scri	pts Rx	Rx Su	pply Pa	Patient Pa	atients Rx	1000 Rx F	Patients S	cripts Rx	Rx	Supply	per Patient	Patients Rx	Rx	Patients	Scripts Rx	Rx	Supply	Patient	Patients Rx	1000 Rx 8	Patients S	Zripts Rx D/	ays Supply Rx	Supply	Patient
Medication Type						\Box				$\overline{}$			$\overline{}$			\Box				$\overline{}$	$\overline{}$	$\overline{}$	$\overline{}$	$\overline{}$	$\overline{}$										$\overline{}$		$\overline{}$	$\overline{}$	$\overline{}$	$\overline{}$	$\overline{}$	=
Short-Acting (SA		.110 142	42 9	9% 128.05	2.087.290	93%	42.5	1.730.246	118.03	99%	4.082.319	57.022.032	87%	33.0	50.399	154.44	99% 13		231.781	92%	44.3	1.803.315	138.28	99%	4.482.902	65.179.460	87%	36.1	52.844	161.55	99%	143,530	2.381.243	92%	40.5	2.086.413	150.88			77.395.838	86%	40.5
Long-Acting (LA		714 2.	.07	1% 5,42	156,426	7%	219.1	37,549	2.56	2%	282,781	8,166,555	13%	217.5	969	2.97	2%		198,617	8%	205.0	48,102	3.69	3%	338,321	9,765,717	13%	203.0	1,172	3.58	2%	7,528	217,301	8%	. 171.8	61,898	4.48		412,727	11,991,390	13%	171.8
Aggregate(Medication Type)	49	432 143.	.36	133,850	2,246,733		45.5	1,741,042	118.77	- 4	4,377,126	65,284,879		37.5	50,777	155.60	14	2,581 2,43	33,943		47.9 1	,816,963	139.33	4,	,838,604	75,080,513		41.3	53,220	162.70	d .	151,474	2,602,220		47.9	2,101,430	151.96	5,	,746,727	89,545,684		47.9
	2018	lational Rate	Pats I	% of Total Rx Patients 1% 09	% of Total Days Supply + 6%	Days Supply per Patient + 29% + 1%			KY wit	6% or lowe	Key er than Nation +5% of Nation	onal Rate			KY % of Nation 2017 Short-Acting Long-Acting	(SA)		6 of otal % o bients Days + 0% -1%	of Total p Supply Pat + 5% +	er									KY % of Nat 2016 Short-Actin Long-Actin	ng (SA)	Pats Per 1000 Rx + 7% -20%		% of Total Days Supply + 5% -5%	Days Supply per Patient 0%								

Analytic Notes

Opioid patients include any patient, ages 18 - 64, using a full agonist opioid in the reporting time period, excluding patients with either cancer breatment, chemotherapy, or hospice claims. Opioid partial agonists, such as those used for Opioid Use Disorder breatment, are not included in this report.





Findings:

I. hydrocockine Bitartise-Austaminophen (generic Vicodin) is the top product both in KY and nationally - 64% of KY opioid users had a script for this product in 2018 compared to only 52% of users.

2. KY has a high vaerage annual supply than National for four of the top five products and seven of the top ten in 2018

3. Many of the top products also contain acetaminophen, which in large doses can cause significant liver damage.

Top 20 Opioid Products

rop zo opicia riouacto																															
	e Commercial F	ee for Service																													
Age Group Rollup Medstat	t Ages 18-64																														
Subsets	Full Opiate Pa	tients wo Can	cer or Chemo	or Hospice																											
Employee Status Group Medstat	t Active																														
Time Period: Incurred Year	r					201	.8									20	17									20	16				
State Code	e			KY					Nati	onal				KY					National					KY					National		-
Product Name	2018 KY Rank	Patients Rx	% of Total Opioid Patient	s Scripts Rx	Days Supply Rx	Days Supply Per Pat Rx	2018 National Rank	Patients Rx	% of Total Opioid Patients	Scripts Rx	Days Supply Rx	Days Supply Per Pat Rx 2017 KY Rank	Patients Rx	Scripts Rx	Days Supply Rx	Days Supply Per Pat Rx	2017 National Rank	Patients Rx	Scripts Rx	Days Supply Rx	lays Supply Per Pat Rx	2016 KY Rank	Patients Rx	Scripts Rx	Days Supply Rx	Days Supply Per Pat Rx	2016 National Rank	Patients Rx	Scripts Rx	Days Supply Rx	Days Supply Per Pat Rx
HYDROCODONE BITARTRATE-ACETAMINOPHEN	1	31,821	64	% 70,400	1,095,885	34.44	1	905,520	52%	1,755,849	22,941,992	25.34	1 32,796	74,384	1,176,361.00	35.87	1	977,621	1,971,708	26,580,380	27.19	1	34,566	79,469	1,281,637	37.08	1	1,158,004	2,383,054	4 32,457,804	28.03
DXYCODONE HCL-ACETAMINOPHEN	2	12,745	26	% 24,992	351,637	27.59	2	372,011	21%	715,448	9,596,454	25.80	2 13,758	27,257	377,414.00	27.43	2	410,857	798,690	10,633,174	25.88	2	14,252	28,030	390,733	27.42	2	490,559	949,631	1 12,281,013	25.03
TRAMADOL HCL	3	6,916	14	% 20,396	451,793	65.33	3	344,498	20%	807,835	14,333,146	41.61	3 7,267	20,522	461,314.00	63.48	3	362,669	853,215	16,287,921	44.91	3	7,702	21,251	467,776	60.73	3	414,754	977,698	8 18,854,183	45.46
ACETAMINOPHEN-CODEINE PHOSPHATE	4	2,938	6	% 4,490	46,262	15.75	4	251,893	14%	337,867	2,297,193	9.12	4 3,006	4,549	46,668.00	15.52	4	253,252	344,956	2,535,546	10.01	4	3,442	5,197	54,071	15.71	4	288,419	393,492	2 2,934,468	10.17
DXYCODONE HCL	5	2,391	5	% 6,087	7 114,209	47.77	5	129,366	7%	333,221	5,927,043	45.82	5 2,030	6,205	124,712.00	61.43	5	117,882	347,903	6,678,461	56.65	5	1,943	6,300	131,102	67.47	5	122,378	383,202	2 7,567,721	61.84
HYDROMORPHONE HCL	6	298	1	% 527	7,197	24.15	6	20,540	1%	49,857	834,288	40.62	5 314	664	11,067.00	35.25	6	23,234	57,406	960,355	41.33	7	339	717	12,448	36.72	6	28,032	69,061	1 1,163,155	41.49
MORPHINE SULFATE	7	222	0	% 1,382	2 39,352	177.26	8	13,694	1%	87,612	2,423,471	176.97	7 306	1,837	52,121.00	170.33	8	16,102	100,277	2,779,338	172.61	6	414	2,106	58,728	141.86	9	19,548	120,164		171.59
DXYCONTIN	8	160	0	% 1,121	1 32,000	200.00	10	9,175	1%	60,946	1,726,430	188.17	B 228	1,421	40,505.00	177.65	10	12,715	72,412	2,035,783	160.11	9	265	1,611	45,932	173.33	10	17,772	94,452	2,654,278	149.35
TRAMADOL HCL/ACETAMINOPHEN	9	160	0	% 396	6,578	41.11	7	16,900	1%	26,362	308,830	18.27	9 225	643	13,927.00	61.90		18,738	31,065	442,426	23.61	8	301	781	15,865	52.71	7	23,003	39,605	5 594,080	25.83
HYDROCODONE BITARTRATE-IBUPROFEN	10	119	0	% 238	3,930	33.03	9	9,903	1%	17,384	224,458	22.67	133	281	5,291.00	39.78	9	13,499	24,873		25.94	11	219	425	6,890	31.46	8	19,628	35,533	3 504,938	25.73
FENTANYL TRANSDERMAL SYSTEM	11	111	0	% 811	23,698	213.50	13	3,621	0%	23,873	692,038	191.12	1 127	1,007	30,029.00	236.45	14	4,851	31,817	927,911	191.28	13	154	1,069	32,010	207.86	16	6,479	39,704	4 1,175,083	181.37
BUTALBITAL-APAP-CAFFEINE-CODEINE	12	97	0	% 346	5,877	60.59	11	5,005	0%	16,514	251,975	50.34	5 92	328	5,940.00	64.57	13	5,518	17,890	271,371	49.18	18	80	328	5,032	62.90	14	6,701	21,206	6 322,629	48.15
METHADONE HCL	13	94	0	% 704	19,203	204.29	14	3,311	0%	24,819	699,408	211.24	3 103	902	25,765.00	250.15	16	3,986	32,426	918,387	230.40	15	123	1,010	29,131	236.84	17	5,058	40,691	1 1,163,490	230.03
NUCYNTA	14	70	0	% 343	8,965	128.07	12	4,442	0%	19,168	492,212	110.81	2 105	436	11,897.00	113.30	12	6,245	22,662	573,332	91.81	16	101	366	9,844	97.47	13	7,125	24,523	3 609,676	85.57
Z-TUSS AC	15	67	0	% 72	2 481	7.18	50	70	0%	75	505	7.21	4 100	110	811.00	8.11	47	105	115		7.98	14	149	163	1,069	7.17	30	159	181	1 1,200	7.55
ENDOCET	16	54	0	% 152	3,739	69.24	21	1,282	0%	3,857	89,017	69.44	5 91	230	4,995.00	54.89	20	2,567	6,123	133,419	51.97	10	253	459	8,829	34.90	12	7,163	13,488	8 253,165	35.34
FENTANYL .	17	44	0	% 206	6,024	136.91	15	2,997	0%	18,269	536,456	179.00	9 45	273	8,283.00	184.07	17	3,519	21,738	651,877	185.24	20	42	260	7,664	182.48	19	4,914	29,027	7 869,265	176.90
LORCET	18	30	0	% 32	2 173	5.77	33	265	0%	309	2,671	10.08 5	3				44	126	150	1,577	12.52	51	0	0	0	0.00	105	0	0	. 0	0.00
OXYMORPHONE HCL	19	25	0	% 233	6,897	237.83	19	1,529	0%	12,831	361,934	236.71	3	216	6,272.00	190.06	21	2,413	16,435	460,248	190.74	24	36	265	6,984	194.00	21	2,983	19,183	3 539,756	180.94
XTAMPZA ER	20	25	0	% 119	3,054	105.31	18	1,625	0%	8,731	250,828	154.36	7 13	36	1,037.00	79.77	28	851	3,141		105.73	51	0	0	0	0.00	50	130	277	7,490	57.61
Total - All Products		49,432		133,856	2,246,733	45.45		1,741,042	100%	4,377,126	65,284,879	37.50	50,777	142,581	2,433,943.00	47.93		1,816,963	4,838,604	75,080,513	41.32		53,220	151,474	2,602,220	48.90		2,101,433	5,746,727	7 89,545,684	42.61

Analytic Notes

1. Opicid patients include any patient, ages 18 - 64, using a full agonist opicid in the reporting time period, excluding patients with either cancer treatment, chemotherapy, or hospice claims. Opicid partial agonists, such as those used for Opicid Use Disorder treatment, are not included in this report.

Key	
KY -6% or lower than National Rate	
KY within -5% or +5% of National Rate	
KV ±6% or higher than National Pate	





1. In 2018, the average annual amount prescribed for KY opioid users was 17.5% higher than National

Low Back patients (69.4 vs 59.1), 11.6% higher than National for Osteoarthritis (82.0 vs 73.4), and

1. In 2018, the average annual amount prescribed for KY opioid users was higher than National for nine

Top 20 Conditions for Opioid Use

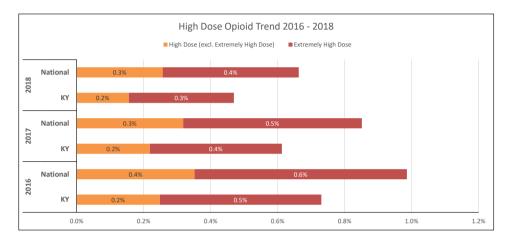
	Data Type	Commercial	l Fee for Ser	vice																					
	Age Group Rollup Medstat																								
				Cancer or Cl	hemo or Hos	pice																			
	Employee Status Group Medstat	Active																							
	Time Period: Incurred Year				20:	18							20	17							20	16			
	State Code		K	Υ			Nat	ional			K	.Y			Natio	onal			K	Υ			Nati	onal	
Episode Summary Group Code		2018 KY Rank		% of Total Condition Patients	Days Supply Per Pat Rx	2018 National Rank	Patients	% of Total Condition Patients	Days Supply Per Pat Rx	2017 KY Rank	Patients	% of Total Condition Patients	Days Supply Per Pat Rx	2017 National Rank	Patients	% of Total Condition Patients	Days Supply Per Pat Rx	2016 KY Rank	Patients	% of Total Condition Patients	Days Supply Per Pat Rx	2016 National Rank	Patients	% of Total Condition Patients	Days Supply Per Pat Rx
	Spinal/Back Disord, Low Back	1	3,271	12%	69.44	1	127,176	11%	59.10	1	4,080	13%	82.26	1	157,078	12%	69.30	1	4,816	14%		1	195,436	13%	68.84
	Osteoarthritis	2	3,249				116,097	10%	73.45	2	3,579	11%		3	127,206	10%		2	3,763	11%		3	146,814	10%	84.38
	Prevent/Admin Hlth Encounters	3	2,943			2	125,916	11%	18.04	3	3,350	11%		2	151,151	12%		3	3,317	10%		2	163,060	11%	
	Arthropathies/Joint Disord NEC	4	1,910			4	92,342	8%	30.50	4	2,296	7%		4	112,534	9%		4	2,644	8%		4	138,426	9%	34.59
	Diabetes	5	1,697				67,300	6%	47.61	5	1,894	6%		6	75,063	6%	51.22	6	2,041	6%		6	86,462	6%	52.25
	Spinal/Back Disord, Ex Low	6	1,431				61,491	5%	44.27	7	1,839	6%	59.06	5	76,287	6%	50.74	5	2,078	6%		5	96,064	6%	50.16
	Hypertension, Essential Infections - ENT Ex Otitis Med	7	1,427				50,014	4% 4%	44.52 22.69	9	1,335	4%	0.1.00	8	47,581	4%	13.17	12	1,112 1,990	3% 6%		12	44,931	3% 5%	48.12 23.49
	Urinary Tract Calculus	8	1,394				45,144			6	1,885	6%		/	57,709	5%			-	4%		/	70,012	3%	
	Condition Rel to Tx - Med/Surg	10	1,368		-		35,504	3% 2%	7.84 20.69	14	1,406	4% 3%		12	38,533	3% 2%	9.78	8	1,459		7.00	11		3,0	10.15
	Fracture/Disloc - Upper Extrem	10	-,				27,910 41,312	2% 4%	13.05	14	949 1,108	3%		19	25,554 46,383	2% 4%	23.91 15.78	16	910 1,161	3%		21	27,089 56,400	2%	25.11 16.59
	Bursitis	12					36,074	3%	28.04	10		3%	-	10	45,076	4%	32.38	11		3%		0	55,135	4%	32.41
	Headache, Migraine/Muscle Tens	13					34,738	3%	37.11	13		3%		10		3%		13	-	3%		10		4%	39.45
	Cholecystitis/Cholelithiasis	14					21,301	2%	7.80	13	834	3%	9.24	21		2%	9.31	14	933	3%		22		2%	10.14
	Pregnancy w Cesarean Section	15					18,837	2%	5.31	11	1,099	3%		16	29,317	2%		10		3%		18	.,	2%	6.57
	Dysfunctional Uterine Bleeding	16					18,485	2%	9.25	16	774	2%		24		2%		18	777	2%		23		2%	0.01
	Gastroint Disord, NEC	17					28,275		16.71	18		2%		13		3%		17		2%		13		3%	
	Injury - Knee	18			12.26	_	26,785	2%	10.63	19	679	2%		15	30,483	2%	12.43	21		2%		15		2%	13.56
	Fracture/Disloc - Ankle/Foot	19					23,798	2%	13.44	20		2%		17	27,910	2%	15.78	20	760	2%		17	_	2%	15.80
	Injury - Musculoskeletal, NEC	20			16.59		27,202	2%	13.20			2%		14	33,416	3%	14.55	19		2%		14		3%	14.19
Total - All Co			49,432		45.45		1,741,042		37.50		50,777		47.93		1,816,963		41.32		53,220		48.90		2,101,433	2.15	42.61

- 1. Opioid patients include any patient, ages 18 64, using a full agonist opioid in the reporting time period, excluding patients with either cancer treatment, chemotherapy, or hospice claims. Opioid partial agonists, such as those used for Opioid Use Disorder treatment, are not included in this report.
- 2. Unlike medical claims, drug claims do not have diagnosis code on the claim to identify the condition for which the treatment was provided. IBM Watson Health's proprietary Medical Episode Grouper (MEG) has been designed to incorporate drug claims into an episode of care using sophisticated logic to determine why the drug was prescribed and assign the prescription to a medical episode group based on clinical appropriateness.

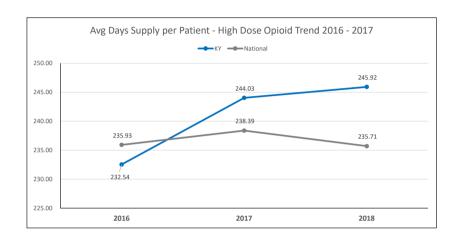
Key
KY -6% or lower than National Rate
KY within -5% or +5% of National Rate
KY +6% or higher than National Rate







- 1. A lower percentage of KY opioid users are utilizing high dose opioids compared to National in 2016, 2017, and 2018
- 2. KY's average annual opioid supply for high dose opioids was five-times higher than the average for all KY opioid users
- 3. The percentage of opioid users utilizing high dose opioids dropped from 2016 to 2018 for both KY and National 4. KY's average annual opioid supply for high dose opioids rose 4.2% from 2016 to 2018 while National rates were flat (despite a small increase in 2017)



High Dose Ry

nigh bose KX																		
Data Type	Commercial	Fee for Service	ce															
Age Group Rollup Medstat	Ages 18-64																	
Employee Status Group Medstat	Active																	
Time Period: Incurred Year			20	18					20)17					20	16		
State Code	de KY National		KY National			KY			National									
			Days			Days			Days			Days			Days			Days
		% of Opioid	Supply per		% of Opioid	Supply per		% of Opioid	Supply per		% of Opioid	Supply per		% of Opioid	Supply per		% of Opioid	Supply per
	Patients Rx	Patients	Patient	Patients Rx	Patients	Patient	Patients Rx	Patients	Patient	Patients Rx	Patients	Patient	Patients Rx	Patients	Patient	Patients Rx	Patients	Patient
Subsets																		
High Dose Opioids	232	0.5%	245.92	11,543	0.7%	235.71	311	0.6%	244.03	15,471	0.9%	238.39	388	0.7%	232.54	20,678	1.0%	235.93
Extremely High Dose Opioids	155	0.3%	248.58	7,075	0.4%	233.11	200	0.4%	255.21	9,691	0.5%	235.25	259	0.5%	236.33	13,295	0.6%	233.66
Full Opioid Patients wo Cancer or Chemo or Hospice	49,432		45.45	1,741,042		37.50	50,777		47.93	1,816,963		41.32	53,220		48.90	2,101,430		42.61

KY vs National - 2018	% of Opioid Patients	Days Supply per Patient
High Dose Opioids	-29%	+ 4%
Extremely High Dose Onioids	-23%	+ 7%

KY vs National - 2017		Days
	% of Opioid	Supply per
	Patients	Patient
High Dose Opioids	-28%	+ 2%
emely High Dose Opioids	-26%	+ 8%

KY vs National			Days
		% of Opioid	Supply per
		Patients	Patient
High Do	se Opioids	-26%	-1%
emely High Do	se Opioids	-24%	+ 1%

- 1. Opioid patients include any patient, ages 18 64, using a full agonist opioid in the reporting time period, excluding patients with either cancer treatment, chemotherapy, or hospice claims. Opioid partial agonists, such as those used for Opioid Use Disorder treatment, are not included in this report.
- 2. High Dose Opioids are any prescription opioid where a single dose (unit / mL / pill) exceeds 50 MME. Extremely High Dose Opioids are any prescription opioid where a single dose (unit / mL / pill / etc) exceeds 90 MME. Extremely High Dose Opioids are included in High Dose Opioids (unless otherwise noted).

Key
KY -6% or lower than National Rate
KY within -5% or +5% of National Rate
KY +6% or higher than National Rate





1. A lower percentage of KY opioid users received opioids from 3+ pharmacies compared to National in 2016, 2017, and 2018

Multiple Rx Providers - Pharmacies

Time Period: Incurred Year							
2018							
2017							
2016							

KY								
Number of Providers	Patients Rx	% of Total						
1 Pharmacy	42,301	85.6%						
2 Pharmacies	5,664	11.5%						
3 Pharmacies	1,068	2.2%						
4 Pharmacies	399	0.8%						
Sum	49,432	100.0%						
1 Pharmacy	43,562	85.8%						
2 Pharmacies	5,649	11.1%						
3 Pharmacies	1,128	2.2%						
4 Pharmacies	438	0.9%						
Sum	50,777	100.0%						
1 Pharmacy	45,489	85.5%						
2 Pharmacies	6,077	11.4%						
3 Pharmacies	1,171	2.2%						
4 Pharmacies	483	0.9%						
Sum	53,220	100.0%						

National									
Number of Providers	Patients Rx	% of Total							
1 Pharmacy	1,510,844	86.8%							
2 Pharmacies	181,873	10.4%							
3 Pharmacies	34,308	2.0%							
4 Pharmacies	14,017	0.8%							
Sum	1,741,042	100.0%							
1 Pharmacy	1,548,019	85.2%							
2 Pharmacies	206,188	11.3%							
3 Pharmacies	42,088	2.3%							
4 Pharmacies	20,668	1.1%							
Sum	1,816,963	100.0%							
1 Pharmacy	1,769,834	84.2%							
2 Pharmacies	250,218	11.9%							
3 Pharmacies	53,313	2.5%							
4 Pharmacies	28,065	1.3%							
Sum	2,101,430	100.0%							

- 1. Opioid patients include any patient, ages 18 64, using a full agonist opioid in the reporting time period, excluding patients with either cancer treatment, chemotherapy, or hospice claims. Opioid partial agonists, such as those used for Opioid Use Disorder treatment, are not included in this report.
- 2. Number of pharmacies calculated by the average number of National Pharmacy ID numbers at patient receives their opioid prescriptions from that year

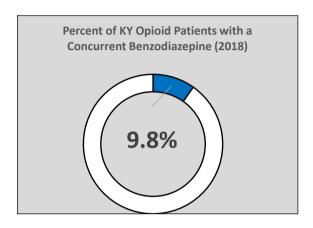
Key
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KY +6% or higher than National Rate

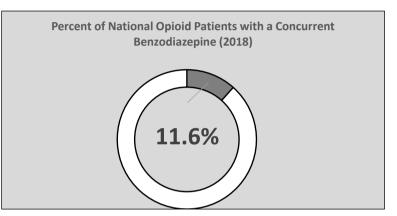


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Key Findings

1. A lower percentage of KY opioid users had an overlapping Benzodiazepine prescription compared to National in 2016, 2017, and 2018





Concurrent Opioid & Benzodiazepine

Concurrent Opiola & Benzoalazepine									
Data Type	Commercial	Fee for Service							
Age Group Rollup Medstat	Ages 18-64								
Employee Status Group Medstat	Active								
Time Period: Incurred Year	2018		2017		2016				
State Code	KY	National	KY	National	KY	National			
Subsets									
Members Rx	344,820	14,659,073	326,340	13,040,851	327,113	13,828,620			
Full Opioid Patients wo Cancer or Chemo or Hospice	49,432	1,741,042	50,777	1,816,963	53,220	2,101,430			
Concurrent Opioid & Benzodiazepine Patients	4,852	202,151	5,223	220,584	5,670	267,151			
Concurrent Opioid & Benzodiazepine Patients per 1000	14.07	13.79	16.00	16.91	17.33	19.32			
% of Full Opioid Patients	9.8%	11.6%	10.3%	12.1%	10.7%	12.7%			

Key
KY -6% or lower than National Rate
KY within -5% or +5% of National Rate
KY +6% or higher than National Rate

KY vs National	2018	2017	2016
Concurrent Opioid & Benzodiazepine Patients per 1000	+ 2%	-5%	-10%
% of Full Opioid Patients	-15%	-15%	-16%

- 1. Opioid patients include any patient, ages 18 64, using a full agonist opioid in the reporting time period, excluding patients with either cancer treatment, chemotherapy, or hospice claims. Opioid partial agonists, such as those used for Opioid Use Disorder treatment, are not included in this report.
- 2. Overlapping Benzodiazepine identify as any Benzodiazepine prescription within either 30 days before or 30 days after the start of an Opioid prescription.



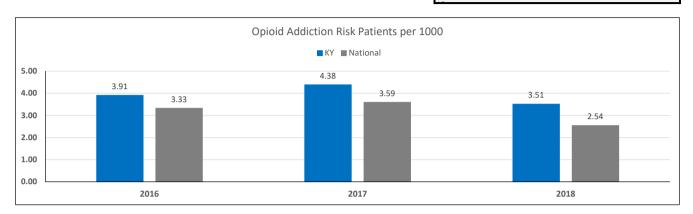


Key Findings

1. 59% of KY opioid overdose patients in 2018 received another prescription opioid within 12 months (93 patients out of 157 on Opioid Overdose tab) 2. 2.5% of KY opioid patients and 2.2% of National

opioi

patients in 2018 had a history of opioid overdose, substance abuse treatment, or Naloxone rescue in the



Opioid Addiction Risk

Opiola Addiction Risk								
		Commercial Fe	e for Service					
	Age Group Rollup Medstat							
	Employee Status Group Medstat	Active						
Time Period: Incurred Year		20	018	20	17	2016		
State Code		KY	National	KY	National	KY	National	
Subsets								
Members Med or Rx		347,099	15,062,780	328,997	13,203,568	337,614	14,279,012	
Full Opioid Patients wo Cancer or Chemo	or Hospice	49,432	1,741,042	50,777	1,816,963	53,220	2,101,430	
	Patients	93	2,760	151	3,948	147	4,608	
Patients with Addiction Risk - Overdose History	% of Total Addiction Risk Patients	7.6%	7.2%	10.5%	8.3%	11.1%	9.7%	
	% of Full Opioid Patients	0.2%	0.2%	0.3%	0.2%	0.3%	0.2%	
	Days Supply per Patient	172.08	116.65	152.72	131.11	158.59	120.20	
	Patients	955	27,908	1,173	36,963	1,081	39,064	
Patients with Addiction Risk - Substance	% of Total Addiction Risk Patients	78.4%	73.0%	81.3%	77.9%	81.9%	82.3%	
Abuse Treatment History	% of Full Opioid Patients	1.9%	1.6%	2.3%	2.0%	2.0%	1.9%	
	Days Supply per Patient	98.54	81.49	86.64	86.63	83.06	87.92	
	Patients	207	9,234	176	8,922	150	6,060	
Patients with Addiction Risk - Naloxone	% of Total Addiction Risk Patients	17.0%	24.1%	12.2%	18.8%	11.4%	12.8%	
History	% of Full Opioid Patients	0.4%	0.5%	0.3%	0.5%	0.3%	0.3%	
	Days Supply per Patient	225.59	221.06	170.18	209.69	190.77	206.38	
Patients with Addiction Risk - Total	Patients	1,218	38,246	1,442	47,441	1,320	47,489	
	Patients per 1000	3.51	2.54	4.38	3.59	3.91	3.33	
rationis with Addiction Risk - Total	% of Full Opioid Patients	2.5%	2.2%	2.8%	2.6%	2.5%	2.3%	
	Days Supply per Patient	124.92	114.92	101.92	110.85	102.88	104.83	

KY vs National		2018	2017	2016
	% of Total Addiction Risk Patients	+ 0%	+ 2%	+ 1%
Overdose History	% of Full Opioid Patients	+ 0%	+ 0%	+ 0%
	Days Supply per Patient	+ 48%	+ 16%	+ 32%
	% of Total Addiction Risk Patients	+ 7%	+ 4%	0%
Substance Abuse Treatment History	% of Full Opioid Patients	+ 21%	+ 14%	+ 9%
	Days Supply per Patient	+ 21%	+ 0%	-6%
	% of Total Addiction Risk Patients	-30%	-35%	-11%
Naloxone Rescue History	% of Full Opioid Patients	-21%	-29%	-2%
	Days Supply per Patient	+ 2%	-19%	-8%
	Patients per 1000	+ 38%	+ 22%	+ 18%
Total Addiction Risk	% of Full Opioid Patients	+ 12%	+ 9%	+ 10%
	Days Supply per Patient	+ 9%	-8%	-2%

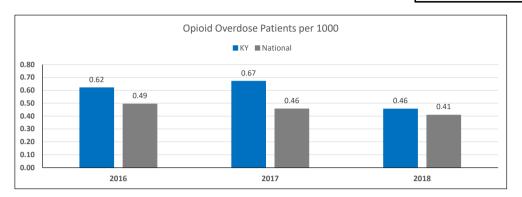
- 1. Opioid patients include any patient, ages 18 64, using a full agonist opioid in the reporting time period, excluding patients with either cancer treatment, chemotherapy, or hospice claims. Opioid partial agonists, such as those used for Opioid Use Disorder treatment, are not included in this report.
- 2. Opioid patients with Addiction Risk are any patients with a current opioid prescription who has had either an opioid overdose, opioid rescue medication (such as Narcan), or any substance use disorder treatment in the 12 months prior to the opioid prescription. Patients can have multiple factors for addition risk (e.g. history of both overdose AND substance abuse treatment). This excludes patients with either cancer treatment, chemotherapy, or hospice claims.







- 1. KY had an opioid overdose patient rate 12% higher than the National rate in 2018
- 2. KY's opioid overdose patient rate decreased significantly from 2017 to 2018 (down -32%) while the National rate decreased -11%
- 3. A higher percentage of KY overdoses were treated outpatient and a lower percentage treated inpatient when compared with National rates in 2016, 2017, and 2018



Opioid Overdose Events

Opiola Overaose Everi	L								
	Data Type	Commercial Fee for Service							
Age	Group Rollup Medstat	Ages 18-64							
Employee	Status Group Medstat	t Active							
Time	Period: Incurred Year	ear 2018 2017 2016							
	State Code	e KY National KY National KY National							
Subsets									
Members Med		344,820	14,659,073	326,340	13,040,851	327,113	13,828,620		
	Patients	157	5,979	219	5,950	203	6,822		
	Patients per 1000	0.46	0.41	0.67	0.46	0.62	0.49		
Opioid Overdose Events	Visits	250	9,648	326	9,281	296	10,578		
	Visits per 1000	0.73	0.66	1.00	0.71	0.90	0.76		
	Visits per Patient	1.59	1.61	1.49	1.56	1.46	1.55		

KY vs National	2018	2017	2016
Patients per 1000	+ 12%	+ 47%	+ 26%
Visits per 1000	+ 10%	+ 40%	+ 18%
Visits per Patient	-1%	-5%	-6%

Key
KY -6% or lower than National Rate
KY within -5% or +5% of National Rate
KY +6% or higher than National Rate

Opioid Overdose Visits by Place of Service

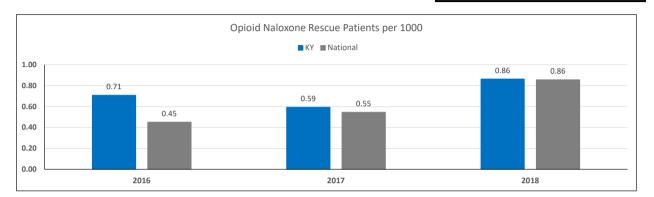
Data Type	Commercial Fee for S	ervice							
Age Group Rollup Medstat	Ages 18-64								
Employee Status Group Medstat	Active								
Subsets	Overdose Dx	verdose Dx							
Time Period: Incurred Year	2018		201	.7	20)16			
State Code	KY National		KY	National	KY	National			
	Visits Patient	Visits Patient	Visits Patient	s Patient Visits Patient		Visits Patient			
Place of Service Medstat w Code									
22 Outpatient Hospital-On Campus	59.2%	42.5%	61.7%	45.4%	49.0%	39.7%			
23 Emergency Room - Hospital	27.6%	34.3%	32.5%	37.0%	34.8%	37.1%			
21 Inpatient Hospital	19.2%	34.9%	23.6%	32.4%	25.7%	39.1%			
11 Office	15.6%	12.2%	14.7%	10.2%	13.2%	8.7%			
41 Ambulance (land)	4.0%	2.9%	2.8%	3.0%	1.0%	2.1%			
81 Independent Laboratory	1.2%	0.7%	0.3%	0.5%	0.7%	0.8%			
12 Patient Home	0.4%	0.7%	0.3%	1.9%	0.0%	0.6%			
31 Skilled Nursing Facility	0.4%	0.2%	0.0%	0.1%	0.7%	0.2%			
99 ~Missing/Other	0.4%	1.0%	0.0%	1.2%	0.3%	1.3%			
01 Pharmacy	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
19 Outpatient Hospital-Off Campus	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%			
20 Urgent Care Facility	0.0%	0.2%	0.0%	0.2%	0.0%	0.2%			
24 Ambulatory Surgical Center	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%			
25 Birthing Center	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%			
26 Military Treatment Facility	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
32 Nursing Facility	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
34 Hospice	0.0%	1.3%	0.0%	2.0%	0.0%	0.0%			
42 Ambulance (air or water)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
49 Independent Clinic	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
50 Federally Qualified Health Ctr	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
51 Inpatient Psychiatric Facility	0.0%	0.2%	0.0%	0.1%	0.0%	0.1%			
61 Comprehensive Inpt Rehab Fac	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%			

^{1.} Opioid Overdose patients include any patient with a primary or secondary diagnosis code of T40.0* - T40.4*, or T40.6* regardless if they had a prescription opioid during the year or not.





The rate of KY patients with naloxone rescue increased 45% from 2017 to 2018 - similar to National rates, which rose 57%



Opioid Naloxone Rescue

·	Data Type	Commercial Fee	e for Service							
Ag	je Group Rollup Medstat	Ages 18-64								
Employe	e Status Group Medstat	Active								
Time Period: Incurred Year		20:	18	20	17	2	2016			
	State Code	KY	National	KY	National	KY	National			
Subsets										
Members Med or Rx		344,820	14,659,073	326,340	13,040,851	327,113	13,828,620			
	Patients Med or Rx	298	12,566	194	7,127	232	6,248			
	Patients per 1000	0.86	0.86	0.59	0.55	0.71	0.45			
	Patients Rx	187	10,103	89	4,743	121	3,547			
	Scripts Rx	193	10,625	94	5,087	122	3,884			
Opioid Naloxone Rescue	Scripts per 1000	0.56	0.72	0.29	0.39	0.37	0.28			
Opiola Naioxone Rescue	Scripts per Patient	1.03	1.05	1.06	1.07	1.01	1.10			
	Patients Med	111	2,524	108	2,418	112	2,728			
	Visits Med	308	13,212	204	7,576	252	6,780			
	Visits per 1000	0.89	0.90	0.63	0.58	0.77	0.49			
	Visits per Patient	2.77	5.23	1.89	3.13	2.25	2.49			

KY vs National	2018	2017	2016
Patients per 1000	+ 1%	+ 9%	+ 57%
Scripts per 1000	-23%	-26%	+ 33%
Scripts per Patient	-2%	-2%	-8%
Visits per 1000	-1%	+ 8%	+ 57%
Visits per Patient	-47%	-40%	-9%

Key
KY -6% or lower than National Rate
KY within -5% or +5% of National Rate
KY +6% or higher than National Rate

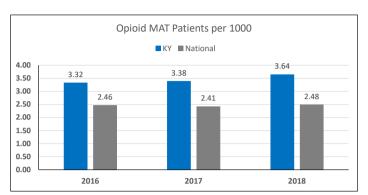
- 1. Opioid Naloxone Rescue includes any patient with either a prescription for an overdose rescue medication (e.g. Naloxone, Narcan) or a medical procedure for the administration of an opioid antagonist in an emergency situation.
- 2. Patients could have both a prescription and medical procedure for Naloxone rescue therefore the sum of medical and rx patient counts will not total the aggregate.

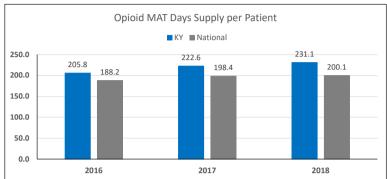




Key Findings:

1. A higher rate of KY patients use MAT treatment, with also higher average annual supply per patient compared to National in both 2016, 2017, and 2018





Opioid Medication Assisted Treatment (MAT)

Opiola Medication Assisted Treatment (MAT)									
Data Type	Commercial F	ee for Service							
Age Group Rollup Medstat	Ages 18-64	Ages 18-64							
Employee Status Group Medstat	Active								
Time Period: Incurred Year	2018 2017 2016								
State Code	KY	National	KY	National	KY	National			
Subsets									
MAT Patients Rx	1,254	36,405	1,104	31,475	1,085	34,047			
MAT Patients per 1000 Rx	3.64	2.48	3.38	2.41	3.32	2.46			
MAT Scripts per Patient	12.2	8.7	11.2	8.5	10.3	8.0			
MAT Days Supply per Patient	231.1	200.1	222.6	198.4	205.8	188.2			
Allowed Amount MAT per Patient	\$2,523.61	\$2,193.30	\$2,531.50	\$2,131.07	\$2,369.74	\$1,998.16			

KY vs National	2018	2017	2016
MAT Patients per 1000 Rx	+ 46%	+ 40%	+ 35%
MAT Scripts per Patient	+ 40%	+ 31%	+ 29%
MAT Days Supply per Patient	+ 15%	+ 12%	+ 9%
Allowed Amount MAT per Patient	+ 15%	+ 19%	+ 19%

Key KY -6% or lower than National Rate KY within -5% or +5% of National Rate KY +6% or higher than National Rate

Analytic Notes

1. Medication Assisted Treatment (MAT) is determined by the utilization of partial opioid agonists, such as Buprenorphine or Suboxone. Utilization of these products may be higher than Opioid Abuse treatment episodes due to billing of opioid abuse a secondary diagnosis, if a non-opioid abuse (e.g. general substance abuse) diagnosis is used on the claim, and/or carrier-masked substance abuse medical claims.