

# Acute Hospitalizations

In past editions of this publication, this section contained different sources for the data. In an effort to be consistent and to include information that may not yet be published by other sources, the source for this year's publication will be the KHA Claims Dataset, unless otherwise noted.

**Important Note:** For most tables, records included discharges from Acute Care Hospitals, Children's Hospitals and Critical Access Hospitals, and excluded discharge records for Normal Newborn, Long-term Acute Care, Psychiatric, Chemical Dependency and Freestanding Physical Rehabilitation facilities. Differences in this criteria will be noted when other information is presented.

As in the past edition, the KHA Claims Dataset began using ICD-10 diagnosis and procedure codes for discharges beginning October 1, 2015. KHA did not employ dual coding between ICD-9 and ICD-10 for records beginning October 1, 2015. KHA continues to collect CPT® and HCPCS codes on all outpatient records.

As described in the last edition of this publication, the Medicare Grouper, beginning October 2015, uses ICD-10 codes for inpatient diagnoses and procedures. The overwhelming reduction in cases for MS-DRG 945 and 946 has rendered analysis by these codes ineffective for determining physical rehabilitation for distinct part units of Acute Hospitals. Analysis of physical rehabilitation cases will be limited to facilities licensed as Acute Rehabilitation facilities. Physical rehabilitation discharges from distinct part units of Acute Hospitals are included in the Acute Care data, causing an indeterminate number of physical rehabilitation cases in the data for records beginning October 1, 2015. Collection of Distinct Part Rehabilitation Units began October 2017.

## Acute Hospital Utilization Trends

There were 503,653 acute discharges from Kentucky community hospitals in 2016, compared to 528,032 discharges in 2012. The trend in these discharges is substantially flat for the five year period, falling at 5.2 percent in 2013 and again, by 1.2 percent in 2014, followed by a 1.5 percent increase in 2015 and a marginal increase (0.2 percent) in 2016. Average length of stay is up slightly over the last five years, capping at 4.7 days in both 2015 and 2016.

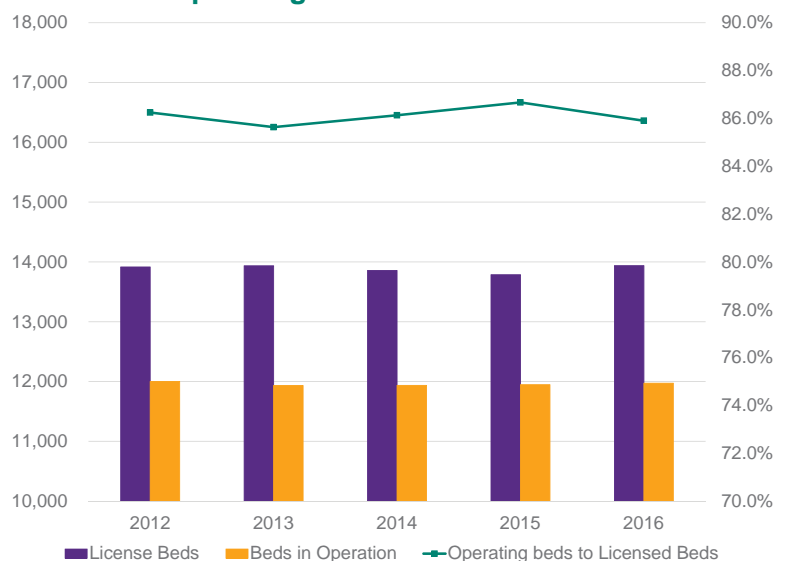
### Acute Hospital Utilization Trends

Year	Discharges	Average Length of Stay	Discharge Days	License Beds	Licensed Beds Occupancy	Beds in Operation	Operational Beds Occupancy Rate
2012	528,032	4.5	2,366,113	13,915	46.6%	12,001	54.0%
2013	500,810	4.5	2,268,605	13,935	44.6%	11,933	52.1%
2014	494,976	4.6	2,268,897	13,857	44.9%	11,935	52.1%
2015	502,475	4.7	2,362,111	13,785	46.9%	11,947	54.2%
2016	503,653	4.7	2,387,008	13,937	46.9%	11,972	54.6%

**Additional Source:** Licensed Beds and Beds in Operation 2012-2016 Kentucky Annual Hospital Utilization and Services Report

A more accurate measure of occupancy is substituting Beds in Operation for Licensed Beds. Based on statistics published by the Kentucky Cabinet for Health and Family Services, in its Annual Hospital Utilization and Services Reports, the total beds in operation was calculated by adding acute, critical access and neonatal beds as reported by facilities. As before, Kentucky hospital bed occupancy rates understate the true utilization of acute care beds. These annual rates can be misleading. Occupancy is measured on the midnight census, which is generally the lowest occupancy of the day. Further, reported occupancy is a yearly average that does not reflect seasonal effects or disparities between weekdays and weekends, when census has been traditionally lower. The operational occupancy is relatively stable, with a slight decrease in 2013 and 2014, then returning to similar levels in 2015 and 2016.

### Operating Beds to Licensed Beds



Numbers of Normal Newborn cases continue decline from previous years, dropping by 2.9 percent from 2015. Conversely, Neonatal cases continue to rise, at a slower annual rate, increasing by 3.1 percent from 2015.

Kentucky facilities experienced a slight decline in Neonates with Withdrawal Symptoms, declining by 61 cases (-4.0 percent) from 2015. The percentage of Neonates with Withdrawal Symptoms as a portion of all neonatal cases declined slightly in 2016, but has remained above 7 percent for the last three years.

### Normal Newborn Trends

Year	Discharges	Discharge Days	Average Length of Stay
2012	36,306	79,486	2.19
2013	35,443	76,937	2.17
2014	34,953	74,600	2.13
2015	33,659	71,174	2.11
2016	32,693	68,461	2.09

### Neonate Trends

Year	Discharges	Discharge Days	Average Length of Stay
2012	17,336	123,601	7.13
2013	18,139	131,324	7.24
2014	19,141	132,358	6.91
2015	19,838	138,535	6.98
2016	20,447	146,627	7.17

### Neonates with Withdrawal Symptoms

Year	Discharges	Discharge Days	Average Length of Stay	% of Total Neonates
2012	874	13,664	15.63	5.04%
2013	1,012	16,593	16.40	5.58%
2014	1,484	22,785	15.35	7.75%
2015	1,542	23,225	15.06	7.77%
2016	1,481	21,442	14.48	7.24%

## Hospital Utilization by the Hospitals' Area Development District

Over the years, the distribution of acute, medical-surgical cases discharged from Kentucky short-term and critical access hospitals has remained relatively consistent. The Kentuckiana Area Development district (ADD) continued to have the largest share of discharges and discharge days, both with less than one-half a percentage point change. As in previous years, the Bluegrass ADD had the second largest share of discharges and patient days, with 20.6 percent of the discharges and 22.9 percent of the discharge days. Adding the Northern Kentucky ADD, over half of the total discharges and 6 of 10 discharge days come from hospitals in these ADDs.

### Hospitalization by Area Development District

Discharging Hospital's AD	Licensed Beds		Discharges		% of Total		Discharge Days		% of Total		ALOS	
	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016
01 - Purchase	846	846	28,669	28,356	5.7%	5.6%	127,521	128,715	5.4%	5.4%	4.45	4.54
02 - Pennyriple	719	719	15,428	15,202	3.1%	3.0%	69,212	69,604	2.9%	2.9%	4.49	4.58
03 - Green River	649	649	20,761	21,383	4.1%	4.2%	90,680	97,643	3.8%	4.1%	4.37	4.57
04 - Barren River	875	875	29,654	28,856	5.9%	5.7%	129,814	124,275	5.5%	5.2%	4.38	4.31
05 - Lincoln Trail	497	473	18,588	18,376	3.7%	3.6%	73,636	74,396	3.1%	3.1%	3.96	4.05
06 - Kentuckiana	3,513	3,513	135,202	136,359	26.9%	27.1%	697,761	694,615	29.5%	29.1%	5.16	5.09
07 - Northern Kentucky	882	888	41,223	42,053	8.2%	8.3%	176,164	177,458	7.5%	7.4%	4.27	4.22
08 - Buffalo Trace	152	152	3,616	3,349	0.7%	0.7%	11,211	9,505	0.5%	0.4%	3.10	2.84
09 - Gateway	186	186	6,359	6,708	1.3%	1.3%	23,966	25,888	1.0%	1.1%	3.77	3.86
10 - FIVCO	630	630	21,448	21,240	4.3%	4.2%	86,780	85,864	3.7%	3.6%	4.05	4.04
11 - Big Sandy	607	646	23,452	24,503	4.7%	4.9%	106,344	121,647	4.5%	5.1%	4.53	4.96
12 - Kentucky River	408	408	15,140	14,513	3.0%	2.9%	66,996	67,220	2.8%	2.8%	4.43	4.63
13 - Cumberland Valley	750	744	24,165	23,657	4.8%	4.7%	93,210	96,828	3.9%	4.1%	3.86	4.09
14 - Lake Cumberland	536	536	16,183	15,571	3.2%	3.1%	67,570	67,133	2.9%	2.8%	4.18	4.31
15 - Bluegrass	2,535	2,672	102,587	103,527	20.4%	20.6%	541,246	546,217	22.9%	22.9%	5.28	5.28
TOTAL	13,785	13,937	502,475	503,653			2,362,111	2,387,008			4.70	4.74

Overall, total discharges only increased by 0.2 percent after a 1.5 percent increase from 2014 to 2015. Overall total discharge days grew by 1.1 percent, reflecting a steady increase in average length of stay. Green River, Kentuckiana, Northern Kentucky, Gateway, Big Sandy, and Bluegrass had increases in total discharges. Barren River, Kentuckiana, Buffalo Trace, FIVCO and Lake Cumberland had declines in Discharge Days from 2015.

## Patient Migration: Percent of Total Inpatient Discharges by State of Residence

Patient migration indicates how many inpatients discharged from Kentucky hospitals reside in Kentucky versus how many reside outside of Kentucky. This distribution percentage has remained fairly constant since 2012, with a slight up-tick in 2016.

### Patient Migration - Adult and Pediatrics

Adult & Pediatric	2012	2013	2014	2015	2016
Cases					
Kentucky	495,212	469,516	464,806	472,038	471,654
Outside Kentucky	32,820	31,294	30,170	30,437	31,999
TOTAL	528,032	500,810	494,976	502,475	503,653
%					
Kentucky	93.8%	93.8%	93.9%	93.9%	93.6%
Outside Kentucky	6.2%	6.2%	6.1%	6.1%	6.4%

As in past years, Normal Newborn cases had a slightly higher Kentucky origin percentage than that for Adult and Pediatric discharges. There has been no significant change in distribution since 2012.

### Patient Migration - Normal Newborns

Normal Newborns	2012	2013	2014	2015	2016
Cases					
Kentucky	35,066	34,271	33,821	32,625	31,647
Outside Kentucky	1,240	1,172	1,132	1,034	1,046
TOTAL	36,306	35,443	34,953	33,659	32,693
%					
Kentucky	96.6%	96.7%	96.8%	96.9%	96.8%
Outside Kentucky	3.4%	3.3%	3.2%	3.1%	3.2%

The percentage of Kentucky neonates discharged from Kentucky hospitals has remained fairly steady over the last five years, with a slight increase in 2016, due primarily to the increase in total cases from Kentucky.

### Patient Migration - Neonates

Neonates	2012	2013	2014	2015	2016
Cases					
Kentucky	16,372	17,178	18,097	18,796	19,461
Outside Kentucky	964	961	1,044	1,042	986
TOTAL	17,336	18,139	19,141	19,838	20,447
%					
Kentucky	94.4%	94.7%	94.5%	94.7%	95.2%
Outside Kentucky	5.6%	5.3%	5.5%	5.3%	4.8%

## Age Characteristics of Hospital Inpatients

Comparing 2016 to 2012, overall, average length of stay has increased by 0.2 days, total discharges are down 4.6 percent, but discharge days are up 0.9 percent.

Discharges for two age categories had large increases: Age 55-64 (1.8 percent) and Age 65-74 (1.8 percent). Discharges for three age categories had large declines in cases: Age 6-17 (-29.6 percent), Age 18-24 (-15.1 percent) and age 45-54 (-10.3 percent).

Discharge days for two age categories had large decreases: Age 6-17 (-19.4 percent) and Age 18-24 (-14.1 percent). For Age 0-5, the total discharge days increased as the total discharges decreased.

Average length of stay increased for all categories, with the largest in the child age ranges: Age 0-5 (14.3 percent) and Age 6-17 (14.5 percent). For Age 0-5, the average length of stay increased just short of one day (+0.8). The average length of stay for Age 18-24 remained at 3.1.

## Age Characteristics of Acute Adult and Pediatric Patients

Age Range	CY 2012				CY 2016			
	Discharges	% of Total	ALOS	Discharge Days	Discharges	% of Total	ALOS	Discharge Days
A - Age 0-5	31,328	5.9%	5.6	174,146	28,923	7.8%	6.4	185,437
B - Age 6-17	11,669	2.2%	3.2	36,825	8,212	1.2%	3.6	29,673
C - Age 18-24	32,230	6.1%	3.1	99,476	27,362	3.6%	3.1	85,424
D - Age 25-34	50,507	9.6%	3.3	165,481	50,032	7.1%	3.4	169,457
E - Age 35-44	41,460	7.9%	3.9	160,197	39,866	7.1%	4.2	168,768
F - Age 45-54	65,384	12.4%	4.3	284,034	58,661	11.3%	4.6	270,431
G - Age 55-64	86,052	16.3%	4.7	408,207	87,562	18.2%	5.0	435,366
H - Age 65-74	92,047	17.4%	4.8	445,390	93,739	19.8%	5.0	472,830
I - Age 75-84	76,216	14.4%	5.0	384,869	71,020	15.6%	5.2	372,279
J - Age 85+	41,139	7.8%	5.0	207,488	38,276	8.3%	5.2	197,343
TOTAL	528,032		4.5	2,366,113	503,653		4.7	2,387,008

## Inpatient Utilization by Major Diagnostic Category (MDC) by Age Group

Major Diagnostic Category (MDC)	Age 0-5	Age 6-17	Age 18-24	Age 25-34	Age 35-44	Age 45-54	Age 55-64	Age 65-74	Age 75-84	Age 85+	Total	% of Total	Rank	Cumulative %
05: Circulatory System	256	198	333	1,188	3,651	8,939	16,006	18,610	15,325	8,203	72,709	14.4%	1	14.4%
04: Respiratory System	3,332	1,100	704	1,600	3,179	7,959	14,587	16,650	12,269	5,990	67,370	13.4%	2	27.8%
14: Pregnancy Childbirth and the Puerperium	24	1,165	18,646	29,535	6,135	56	2			1	55,564	11.0%	3	38.8%
08: Musculoskeletal Sys & Connective Tissue	255	780	592	1,400	2,959	7,006	12,665	13,473	8,603	4,394	52,127	10.3%	4	49.2%
06: Digestive System	737	967	1,020	2,546	4,507	7,005	8,949	9,226	7,101	3,653	45,711	9.1%	5	58.3%
18: Infectious And Parasitic Diseases	429	216	752	1,869	2,821	4,667	7,214	8,094	6,466	3,838	36,366	7.2%	6	65.5%
01: Nervous System	830	888	760	1,597	2,520	4,175	6,071	7,200	6,156	3,449	33,646	6.7%	7	72.2%
11: Kidney And Urinary Tract	339	336	522	1,251	2,020	3,243	5,028	6,162	5,980	4,209	29,090	5.8%	8	77.9%
15: Newbrns (excluded)/Neonates	20,445		1	1							20,447	4.1%	9	82.0%
10: Metabolic Diseases/Disorders	552	542	1,077	1,991	2,636	3,337	3,351	2,681	1,878	1,065	19,110	3.8%	10	85.8%
07: Hepatobiliary System And Pancreas	23	164	546	1,660	2,502	3,520	3,795	2,899	1,585	580	17,274	3.4%	11	89.2%
09: Skin Subcutaneous Tissue and Breast	369	305	488	1,493	2,016	2,426	2,381	1,801	1,321	814	13,414	2.7%	12	91.9%
21: Injury Poisoning and Toxic Effects	179	318	656	1,220	1,382	1,663	1,449	987	483	187	8,524	1.7%	13	93.6%
00: Unassigned	148	142	295	685	664	1,113	1,659	1,416	866	355	7,343	1.5%	14	95.0%
16: Blood/Blood Forming Organs/Immunity Disorders	181	251	183	365	431	657	979	1,315	1,008	538	5,908	1.2%	15	96.2%
13: Female Reproductive System	16	67	143	583	1,151	991	539	503	215	76	4,284	0.9%	16	97.1%
23: Factors Influencing Hlth Status	110	52	72	172	291	501	713	805	690	423	3,829	0.8%	17	97.8%
17: Myeloproliferative	145	286	111	166	254	427	815	748	341	101	3,394	0.7%	18	98.5%
03: Ear Nose and Throat	472	290	181	257	300	380	478	436	355	176	3,325	0.7%	19	99.2%
12: Male Reproductive System	9	12	19	62	86	208	519	490	189	94	1,688	0.3%	20	99.5%
24: Multiple Significant Trauma	19	86	202	238	175	191	181	124	126	100	1,442	0.3%	21	99.8%
02: Eye	30	28	21	42	57	46	82	65	48	23	442	0.1%	22	99.9%
25: Human Immunodeficiency Virus Infection - AIDS			16	76	88	116	54	20	3	1	374	0.1%	23	99.9%
22: Burns	23	19	22	35	41	35	45	34	12	6	272	0.1%	24	100.0%
TOTAL	28,923	8,212	27,362	50,032	99,866	58,661	87,562	93,739	71,020	38,276	503,653			
% of Total All Ages	5.7%	1.6%	5.4%	9.9%	7.9%	11.6%	17.4%	18.6%	14.1%	7.6%				

For all cases, regardless of age group, nearly 60 percent of all adult and pediatric cases fall into five top categories of major diagnostic categories (MDCs). As in years past, the rank order and percentage of total cases has not significantly changed.

Major Diagnostic Category (MDC)	Discharges	% of Total	Rank
05: Circulatory System	72,709	14.4%	1
04: Respiratory System	67,370	13.4%	2
14: Pregnancy Childbirth and the Puerperium	55,564	11.0%	3
08: Musculoskeletal Sys & Connective Tissue	52,127	10.3%	4
06: Digestive System	45,711	9.1%	5

For cases age 0-5 (excluding normal newborn), the distribution has not changed when compared to 2015. Seven of 10 cases were Neonates, requiring special care. Nine of ten cases for this age group fell into one of these five categories.

Major Diagnostic Category (MDC)	Discharges	% of Total	Rank
15: Newbrns/Neonates (excluding Normal Newborn)	20,445	70.7%	1
04: Respiratory System	3,332	11.5%	2
01: Nervous System	830	2.9%	3
06: Digestive System	737	2.5%	4
10: Metabolic Diseases/Disorders	552	1.9%	5

Again this period, Childbirth and the Puerperium cases hold the highest rank for cases Age 6-17. The distribution of cases by MDC for this age group hasn't change since 2015.

Major Diagnostic Category (MDC)	Discharges	% of Total	Rank
14: Pregnancy Childbirth and the Puerperium	1,165	14.2%	1
04: Respiratory System	1,100	13.4%	2
06: Digestive System	967	11.8%	3
01: Nervous System	888	10.8%	4
08: Musculoskeletal Sys & Connective Tissue	780	9.5%	5

For ages 18-44, nearly half of the cases were categorized as Childbirth and the Puerperium, which was ranked first. Metabolic Diseases/ Disorders were ranked third, moving from fifth in 2015.

Major Diagnostic Category (MDC)	Discharges	% of Total	Rank
14: Pregnancy Childbirth and the Puerperium	54,316	46.3%	1
06: Digestive System	8,073	6.9%	2
10: Metabolic Diseases/Disorders	5,704	4.9%	3
04: Respiratory System	5,483	4.7%	4
18: Infectious And Parasitic Diseases	5,442	4.6%	5

For the remaining age groups, the top ten ranked MDCs were nearly identical, except for the Age 85+ category.

Major Diagnostic Category (MDC)	Age 45-64	Rank	Age 65-74	Rank	Age 75-84	Rank	Age 85+	Rank	Aggregate	Agg Rank
05: Circulatory System	24,945	1	18,610	1	15,325	1	8,203	1	67,083	1
04: Respiratory System	22,546	2	16,650	2	12,269	2	5,990	2	57,455	2
08: Musculoskeletal Sys & Connective Tissue	19,671	3	13,473	3	8,603	3	4,394	3	46,141	3
06: Digestive System	15,954	4	9,226	4	7,101	4	3,653	6	35,934	4
18: Infectious And Parasitic Diseases	11,881	5	8,094	5	6,466	5	3,838	5	30,279	5
01: Nervous System	10,246	6	7,200	6	6,156	6	3,449	7	27,051	6
11: Kidney And Urinary Tract	8,271	7	6,162	7	5,980	7	4,209	4	24,622	7
07: Hepatobiliary System And Pancreas	7,315	8	2,899	8	1,585	9	580	10	12,379	8
10: Metabolic Diseases/Disorders	6,688	9	2,681	9	1,878	8	1,065	8	12,312	9
09: Skin Subcutaneous Tissue and Breast	4,807	10	1,801	10	1,321	10	814	9	8,743	10

## Patient Discharge Status

KHA has combined similar discharge status categories, placing cases with a planned readmission with similar discharge status categories.

### Distribution by Patient Discharge Status Groupings

	Total		0-5		6-17		18-44		45-64		65+			
	Cases	% Down	Cases	% Across	Cases	% Down	% Across	Cases	% Down	% Across	Cases	% Down	% Across	
Home	336,369	66.8%	27,070	93.6%	7,679	93.5%	2.3%	104,364	89.0%	101,866	69.7%	95,390	47.0%	28.4%
Home Health	53,210	10.6%	171	0.6%	95	1.2%	0.2%	4,112	3.5%	18,332	12.5%	30,500	15.0%	57.3%
Skilled Nursing Facility	49,254	9.8%	34	0.1%	31	0.4%	0.1%	706	0.6%	7,680	5.3%	40,803	20.1%	82.8%
Rehab Facility or Unit	13,787	2.7%	40	0.1%	90	1.1%	0.7%	991	0.8%	4,021	2.7%	8,645	4.3%	26.7%
Expired	12,710	2.5%	226	0.8%	33	0.4%	0.3%	698	0.6%	3,057	2.1%	8,696	4.3%	26.8%
STACH	10,156	2.0%	841	2.9%	69	0.8%	0.7%	1,433	1.2%	3,223	2.2%	4,590	2.3%	14.5%
Hospice	8,026	1.6%	30	0.1%	27	0.3%	0.3%	259	0.2%	1,778	1.2%	5,932	2.9%	18.9%
Left AMA	5,948	1.2%	7	0.0%	6	0.1%	0.1%	2,724	2.3%	2,406	1.6%	805	0.4%	2.5%
Swing Bed Facility	3,615	0.7%	-	0.0%	2	0.0%	0.1%	64	0.1%	639	0.4%	2,910	1.4%	9.1%
LTAC Hospital	2,589	0.5%	4	0.0%	2	0.0%	0.2%	284	0.2%	919	0.6%	1,380	0.7%	5.3%
Intermediate Care (ICF)	2,222	0.4%	8	0.0%	1	0.0%	0.0%	70	0.1%	483	0.3%	1,660	0.8%	7.4%
Cancer Center or Childrens Hospital	1,850	0.4%	414	1.4%	53	0.6%	2.9%	196	0.2%	505	0.3%	682	0.3%	3.7%
Psychiatric Facility or Unit	1,499	0.3%	-	0.0%	103	1.3%	6.9%	561	0.5%	512	0.4%	323	0.2%	2.2%
Other	1,121	0.2%	7	0.0%	6	0.1%	0.5%	594	0.5%	406	0.3%	108	0.1%	0.8%
Misc Health Care Institution	619	0.1%	61	0.2%	15	0.2%	2.4%	121	0.1%	185	0.1%	237	0.1%	1.7%
Federal Facility	350	0.1%	1	0.0%	-	0.0%	0.0%	22	0.0%	107	0.1%	220	0.1%	1.6%
Nursing Facility	216	0.0%	1	0.0%	-	0.0%	0.0%	42	0.0%	71	0.0%	102	0.1%	0.8%
Critical Access Hospital	107	0.0%	8	0.0%	-	0.0%	7.5%	19	0.0%	31	0.0%	49	0.0%	0.4%
Custodial or Supportive Care	5	0.0%	-	0.0%	-	0.0%	0.0%	-	0.0%	2	0.0%	3	0.0%	0.0%
TOTAL	503,653	100.0%	28,923	100.0%	8,212	100.0%	1.6%	117,260	100.0%	146,223	100.0%	203,035	100.0%	40.3%

The distribution of cases across age groups has not significantly changed since 2015. The percentage of cases discharged to home decreases as the patient is older, with a much higher percentage of those age 65+ discharged to post-acute services.

For those who expire, the percentage doubles between cases for patients age 45-64 and cases for patients age 65+. Sixty-eight percent of all expirations occur within the age 65+ category.

For those using an long-term acute care hospital (LTACH), the age 65+ percentage increased slightly from 2015.

For those leaving against medical advice, the overall distribution percentage (1.2%) did not significantly change from the previous year.

## Patient Admit Source

### Distribution by Patient Admin Source

Admission Source	2012	% of Total	2013	% of Total	2014	% of Total	2015	% of Total	2016	% of Total	% Change 2012 - 2016
1: Non-Health Care Facility by Order of a Physician	369,497	70.0%	333,274	66.5%	325,738	65.8%	329,627	65.6%	323,853	64.3%	-12.4%
2: Clinic	71,537	13.5%	92,603	18.5%	95,690	19.3%	94,438	18.8%	95,930	19.0%	34.1%
4: Transfer from Hospital (Different Facility)	28,910	5.5%	35,178	7.0%	35,373	7.1%	38,830	7.7%	43,273	8.6%	49.7%
5: Transfer from SNF/ICF	20,007	3.8%	21,574	4.3%	21,462	4.3%	22,069	4.4%	25,173	5.0%	25.8%
6: Transfer from another HC facility	6,653	1.3%	3,204	0.6%	3,156	0.6%	2,864	0.6%	3,381	0.7%	-49.2%
7: Emergency Room	25,639	4.9%	8,849	1.8%	8,675	1.8%	8,884	1.8%	5,849	1.2%	-77.2%
8: Court/Law Enforcement	276	0.1%	348	0.1%	327	0.1%	342	0.1%	317	0.1%	14.9%
9: Information Not Available	3,334	0.6%	4,135	0.8%	3,089	0.6%	3,284	0.7%	3,232	0.6%	-3.1%
B: Transfer from Another Home Health Agency	12	0.0%	46	0.0%	78	0.0%	118	0.0%	121	0.0%	908.3%
C: Readmission to Same Home Health Agency	2	0.0%	13	0.0%	2	0.0%		0.0%		0.0%	-100.0%
D: Tsfr From Hosp IP In Same Fac - Separate Claim To Payer	1,527	0.3%	1,171	0.2%	1,217	0.2%	1,773	0.4%	2,009	0.4%	31.6%
E: Transfer from Ambulator Surgery Center	491	0.1%	271	0.1%	28	0.0%	56	0.0%	225	0.0%	-54.2%
F: Transfer from Hospice/Under Hospice Plan or Enrolled in a Hospice Program	147	0.0%	144	0.0%	141	0.0%	190	0.0%	290	0.1%	97.3%
<b>TOTAL</b>	<b>528,032</b>	<b>100.0%</b>	<b>500,810</b>	<b>100.0%</b>	<b>494,976</b>	<b>100.0%</b>	<b>502,475</b>	<b>100.0%</b>	<b>503,653</b>	<b>100.0%</b>	<b>-4.6%</b>

There has been a shift over time from non-health care facility by order of a physician to clinic.

Transfer from a Hospital (Different Facility) has also slowly increased. Transfers from SNF/ICF have also grown by just over 1 percent during the five-year period. Continued concern for re-admissions from skilled facilities affects hospitals' efforts to reduce unplanned readmissions.

As in past years, the emergency room as a source of admission may be misleading. Emergency department (ED) admission source cases have stabilized over the previous years, dropping slightly in 2016 from the previous years. The reduction and stabilization of these cases reflects how facilities are interpreting these categories. If a practitioner sends a patient to the emergency room and the patient is subsequently admitted, the source code will likely be 1: Non-Health Care Facility by Order of a Physician, rather than 7: Emergency Room. Further, it should be noted that hospitals continue to bill differently for inpatient admissions through the ED by creating two separate bills – one for the ED service and one for the inpatient admission. Other hospitals may continue to include both on one bill.

### Distribution of Cases with ED Services

Examination of the data shows that 55.5 percent of all 2016 inpatient discharges had revenue codes associated with care in the hospital's emergency room as part of the overall case, increasing only slightly when compared with previous years.

Year	Total Discharges	Discharges with ED Services	% Discharges with ED Services
2012	528,032	277,835	52.6%
2013	500,810	266,055	53.1%
2014	494,976	268,750	54.3%
2015	502,475	276,986	55.1%
2016	503,653	279,425	55.5%

### Distribution by Cases with ED Services by Patient State of Residence

Not all inpatient admissions from surrounding states are products of emergency room service. Indiana, Illinois, Tennessee and Virginia residents have a lower ratio of inpatient cases with emergency room services. This may indicate more of a dependence for inpatient services from Kentucky facilities. Conversely, Ohio and All Others have a higher ratio of inpatient cases with emergency room service, indicating a more transient use of Kentucky inpatient facilities.

State of Residence	2012	2013	2014	2015	2016
Kentucky	261,455	250,320	253,455	261,418	262,720
% of Total IP Discharges with ED Services	52.8%	53.3%	54.5%	55.4%	55.7%
Indiana	3,988	4,391	4,314	4,630	4,863
% of Total IP Discharges with ED Services	35.9%	38.8%	39.1%	39.8%	40.2%
Ohio	5,533	4,944	4,533	4,403	4,661
% of Total IP Discharges with ED Services	64.6%	62.2%	61.8%	64.2%	67.6%
West Virginia	2,166	1,933	1,967	2,070	2,451
% of Total IP Discharges with ED Services	58.3%	57.7%	58.4%	57.9%	56.2%
Tennessee	1,263	1,138	1,052	1,024	986
% of Total IP Discharges with ED Services	45.5%	46.4%	46.6%	48.1%	48.9%
Missouri	83	68	66	68	68
% of Total IP Discharges with ED Services	66.9%	57.1%	60.0%	60.7%	63.6%
Illinois	1,477	1,298	1,314	1,340	1,354
% of Total IP Discharges with ED Services	45.5%	47.6%	50.0%	49.2%	50.1%
Virginia	297	383	479	508	593
% of Total IP Discharges with ED Services	28.9%	34.0%	37.5%	39.1%	41.6%
All Others	1,573	1,580	1,570	1,525	1,729
% of Total IP Discharges with ED Services	69.6%	70.4%	72.7%	72.7%	72.2%

## Distribution of Discharges and Patient Days by Primary Payer

Nearly all care provided by Kentucky's hospitals is paid through third-party government or private insurance.

### Government Payers:

- **Medicare** is a federal health program administered by the United States government, covering people who are age 65 and over, as well as some disabled people.
- **Medicaid** is a federally established, state-administered program designed to pay for the care provided to specifically defined categories of the poor (e.g., low-income families, disabled and low-income seniors and more recently, through Medicaid expansion, the working poor).
- **Medicaid Managed Care** programs include Aetna Better Health of Kentucky, Anthem Medicaid Managed Care, Coventry Cares Medicaid Managed Care (no longer participating), Humana Medicaid Managed Care, Passport Medicaid Managed Care, and WellCare of Kentucky Medicaid Managed Care

### Private Payers:

- **Commercial Health Insurance** provides coverage to large and small groups and individuals through the private health insurance market and includes Preferred Provider Organizations (PPO), Health Maintenance Organizations (HMO), auto insurance and all other commercial and indemnity plans.
- **Self-Pay** patients include the population that is not covered by health insurance. This may also include charity care for which the hospital is not reimbursed.
- **Other** payers include workers' compensation, TriCare (formerly CHAMPUS), Veteran's Administration inter-hospital payment, pending insurance, other federal programs and "other," which may include unknown coverage at the time of discharge.

In 2012, the care for 65.5 percent of all community hospital acute care discharges and 69.6 percent of the related discharge days were reimbursed through government payers. By 2015, those percentages had grown to 71.7 percent and 75.1 percent respectively. In 2016, the shift continued, where government-related discharges grew to 72.2 percent and discharge days also grew to 75.8 percent.

In essence, nearly three of every four discharges and related discharge days were for government payers.

### Distribution by Primary Payer: 2012-2016

Payer Group	Discharges				Discharge Days				Average Length of Stay			
	2012	2016	Change	% Change	2012	2016	Change	% Change	2012	2016	Change	% Change
Commercial	137,749	121,305	(16,444)	-11.9%	547,092	500,212	(46,880)	-8.6%	3.97	4.12	0.15	3.6%
Medicaid Fee for Service	17,197	15,396	(1,801)	-10.5%	90,844	85,581	(5,263)	-5.8%	5.28	5.56	0.28	5.0%
Medicaid Managed Care	81,213	110,078	28,865	35.5%	336,872	505,003	168,131	49.9%	4.15	4.59	0.44	9.6%
Medicare	247,570	238,097	(9,473)	-3.8%	1,218,008	1,219,658	1,650	0.1%	4.92	5.12	0.20	3.9%
Other	9,512	10,050	538	5.7%	40,447	43,802	3,355	8.3%	4.25	4.36	0.11	2.5%
Self-Pay & Charity	34,791	8,727	(26,064)	-74.9%	132,850	32,752	(100,098)	-75.3%	3.82	3.75	(0.07)	-1.9%
TOTAL	528,032	503,653	(24,379)	-4.6%	2,366,113	2,387,008	20,895	0.9%	4.48	4.74	0.26	5.5%

The five-year change in inpatient discharges by primary payer reflects the 2014 Medicaid expansion in Kentucky, where Medicaid Managed Care grew substantially and all other major payer groups fell. The largest reduction occurred in the Self-Pay & Charity group, which nearly offset the Medicaid Managed Care (MC) increases. The small margin (a net difference of 2,801 cases) may reflect the net growth in the Medicaid Expansion. Factoring the decline of 1,801 cases for Medicaid Fee for Service, which includes out-of-state Medicaid cases, net Medicaid MC cases grew by just over 1,000 cases during the period.

It would then appear that Kentucky's hospitals have provided care for the greater majority of patients all along, only recently being compensated for cases eligible under Medicaid MC and Kentucky's Medicaid Expansion.



## Distribution by Primary Payer: 2015-2016

Payer Group	Discharges				Discharge Days				Average Length of Stay			
	2015	2016	Change	% Change	2015	2016	Change	% Change	2015	2016	Change	% Change
Commercial	125,136	121,305	(3,831)	-3.1%	518,612	500,212	(18,400)	-3.5%	4.14	4.12	(0.02)	-0.5%
Medicaid Fee for Service	16,695	15,396	(1,299)	-7.8%	90,046	85,581	(4,465)	-5.0%	5.39	5.56	0.17	3.1%
Medicaid Managed Care	110,775	110,078	(697)	-0.6%	495,230	505,003	9,773	2.0%	4.47	4.59	0.12	2.6%
Medicare	232,830	238,097	5,267	2.3%	1,189,124	1,219,658	30,534	2.6%	5.11	5.12	0.01	0.2%
Other	8,497	10,050	1,553	18.3%	37,378	43,802	6,424	17.2%	4.4	4.36	(0.04)	-0.9%
Self-Pay & Charity	8,542	8,727	185	2.2%	31,721	32,752	1,031	3.3%	3.71	3.75	0.04	1.1%
<b>TOTAL</b>	<b>502,475</b>	<b>503,653</b>	<b>1,178</b>	<b>0.2%</b>	<b>2,362,111</b>	<b>2,387,008</b>	<b>24,897</b>	<b>1.1%</b>	<b>4.7</b>	<b>4.74</b>	<b>0.04</b>	<b>0.8%</b>

It should also be noted that the average length of stay continues to grow for all payer groups except Self-Pay and Charity cases, through 2015. Only in 2016 did average length of stay fall for commercial and other payers cases, while government payers continued to increase.

## Cases by Area Development District and Payer Groups

The proportion of inpatient care paid through government programs is much higher in areas of Kentucky where a large portion of the population is poor, elderly or both. For hospitals in some Area Development Districts (ADDs), particularly in eastern Kentucky, government payer cases comprise as much as 80 percent or more of all acute cases. The exceptions are cases for residents of the Kentuckiana ADD and the Bluegrass ADD, both slightly below 70 percent respectively.

### Inpatient Discharges by Payer by Patient ADD

Patient ADD	Commercial	% of ADD	Medicaid FFS	% of ADD	Medicaid MC	% of ADD	Medicare	% of ADD	Other	% of ADD	Self-Pay & Charity	% of ADD	Grand Total	% Governmental Payers
01 - Purchase	4,663	20.9%	463	2.1%	4,188	18.8%	12,123	54.3%	473	2.1%	405	1.8%	22,315	75.2%
02 - Pennyrite	4,094	20.6%	438	2.2%	4,310	21.7%	10,231	51.6%	405	2.0%	351	1.8%	19,829	75.5%
03 - Green River	5,011	24.2%	638	3.1%	4,453	21.5%	9,810	47.4%	478	2.3%	328	1.6%	20,718	71.9%
04 - Barren River	6,369	22.1%	377	1.3%	6,292	21.8%	14,796	51.3%	458	1.6%	545	1.9%	28,837	74.4%
05 - Lincoln Trail	6,776	23.5%	266	0.9%	6,598	22.9%	13,502	46.8%	1,281	4.4%	416	1.4%	28,839	70.6%
06 - Kentuckiana	30,852	28.8%	1,729	1.6%	25,246	23.6%	45,153	42.1%	2,022	1.9%	2,123	2.0%	107,125	67.3%
07 - Northern Kentucky	10,711	25.8%	1,711	4.1%	6,793	16.3%	20,797	50.0%	434	1.0%	1,132	2.7%	41,578	70.5%
08 - Buffalo Trace	1,214	22.0%	134	2.4%	1,163	21.1%	2,872	52.1%	58	1.1%	72	1.3%	5,513	75.6%
09 - Gateway	2,173	23.2%	160	1.7%	2,251	24.0%	4,510	48.1%	152	1.6%	139	1.5%	9,385	73.7%
10 - FIVCO	3,318	21.2%	427	2.7%	3,212	20.5%	8,318	53.1%	154	1.0%	243	1.6%	15,672	76.3%
11 - Big Sandy	3,513	15.8%	332	1.5%	5,861	26.3%	11,947	53.7%	471	2.1%	127	0.6%	22,251	81.5%
12 - Kentucky River	2,226	11.4%	423	2.2%	6,146	31.4%	10,152	51.8%	506	2.6%	141	0.7%	19,594	85.3%
13 - Cumberland Valley	4,549	14.5%	684	2.2%	9,817	31.2%	15,561	49.5%	556	1.8%	254	0.8%	31,421	82.9%
14 - Lake Cumberland	3,743	16.1%	442	1.9%	5,791	25.0%	12,588	54.3%	427	1.8%	190	0.8%	23,181	81.2%
15 - Bluegrass	22,932	30.4%	2,052	2.7%	17,317	23.0%	30,790	40.8%	1,132	1.5%	1,173	1.6%	75,396	66.5%
99 - Out of State	9,161	28.6%	5,120	16.0%	640	2.0%	14,947	46.7%	1,043	3.3%	1,088	3.4%	31,999	64.7%
<b>TOTAL</b>	<b>121,305</b>	<b>24.1%</b>	<b>15,396</b>	<b>3.1%</b>	<b>110,078</b>	<b>21.9%</b>	<b>238,097</b>	<b>47.3%</b>	<b>10,050</b>	<b>2.0%</b>	<b>8,727</b>	<b>1.7%</b>	<b>503,653</b>	<b>72.2%</b>

Due to increasingly longer lengths of stay for elderly patients, Medicare covers 47.3 percent of cases and 51.1 percent of related discharge days, both growing by approximately 1 percentage point from 2015. Conversely, commercial covers 24.1 percent of the cases and 21.0 percent of the discharge days.

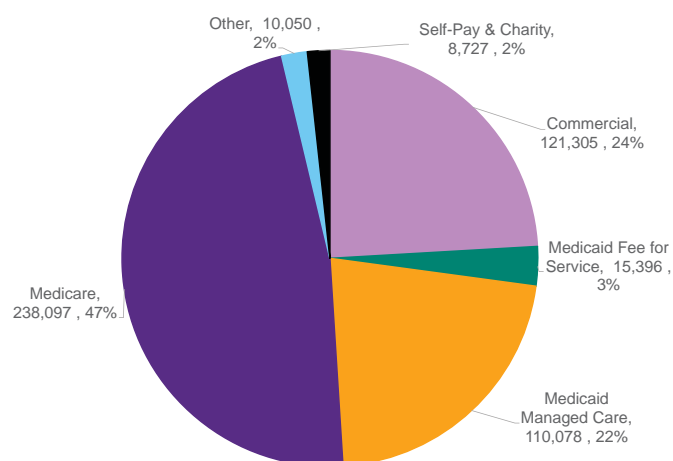
This high proportion of government payer to all payers is also evident in the total of patient days.

## Inpatient Discharge Days by Payer by Patient ADD

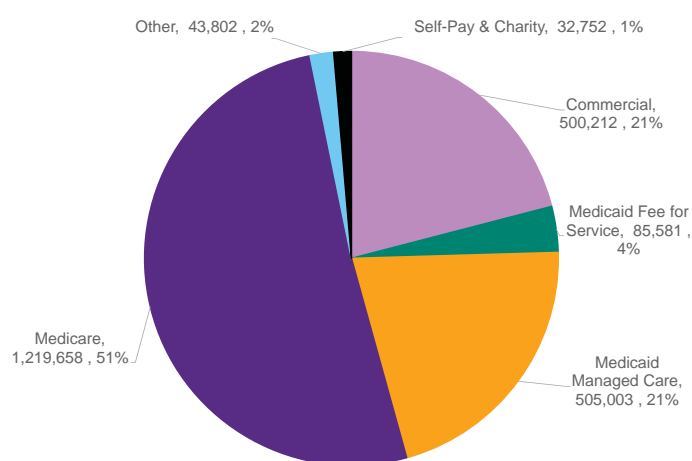
Patient ADD	Commercial	% of ADD	Medicaid FFS	% of ADD	Medicaid MC	% of ADD	Medicare	% of ADD	Other	% of ADD	Self-Pay & Charity	% of ADD	Grand Total	% Governmental Payers
01 - Purchase	18,348	17.7%	2,135	2.1%	18,035	17.4%	61,795	59.5%	1,894	1.8%	1,727	1.7%	103,934	78.9%
02 - Pennyrite	16,319	17.3%	2,126	2.3%	18,798	19.9%	53,973	57.2%	1,715	1.8%	1,438	1.5%	94,369	79.4%
03 - Green River	20,543	20.9%	3,190	3.2%	20,305	20.7%	50,831	51.7%	2,272	2.3%	1,117	1.1%	98,258	75.6%
04 - Barren River	22,727	17.6%	2,500	1.9%	24,937	19.4%	74,966	58.2%	2,029	1.6%	1,676	1.3%	128,835	79.5%
05 - Lincoln Trail	28,343	21.2%	1,636	1.2%	29,702	22.2%	67,159	50.2%	5,204	3.9%	1,707	1.3%	133,751	73.6%
06 - Kentuckiana	134,068	25.8%	9,810	1.9%	120,145	23.1%	238,406	45.9%	8,066	1.6%	9,007	1.7%	519,502	70.9%
07 - Northern Kentucky	36,607	20.6%	7,301	4.1%	29,873	16.8%	98,530	55.4%	1,659	0.9%	3,849	2.2%	177,819	76.3%
08 - Buffalo Trace	4,666	20.7%	610	2.7%	4,623	20.5%	12,290	54.6%	162	0.7%	168	0.7%	22,519	77.8%
09 - Gateway	8,847	20.1%	754	1.7%	10,769	24.5%	22,552	51.4%	632	1.4%	364	0.8%	43,918	77.6%
10 - FIVCO	12,219	18.3%	1,635	2.5%	13,424	20.1%	37,900	56.8%	716	1.1%	794	1.2%	66,688	79.4%
11 - Big Sandy	13,812	12.5%	1,873	1.7%	27,616	24.9%	64,835	58.5%	2,194	2.0%	497	0.4%	110,827	85.1%
12 - Kentucky River	8,468	8.7%	2,881	3.0%	26,954	27.8%	55,390	57.2%	2,633	2.7%	515	0.5%	96,841	88.0%
13 - Cumberland Valley	17,588	11.9%	3,980	2.7%	43,691	29.5%	79,620	53.8%	2,473	1.7%	684	0.5%	148,036	86.0%
14 - Lake Cumberland	15,032	13.8%	2,406	2.2%	27,222	25.0%	61,602	56.6%	2,019	1.9%	535	0.5%	108,816	83.8%
15 - Bluegrass	99,466	27.1%	10,100	2.7%	85,366	23.2%	163,448	44.5%	5,178	1.4%	4,131	1.1%	367,689	70.4%
99 - Out of State	43,159	26.1%	32,644	19.8%	3,543	2.1%	76,361	46.2%	4,956	3.0%	4,543	2.7%	165,206	68.1%
<b>GRAND TOTAL</b>	<b>500,212</b>	<b>21.0%</b>	<b>85,581</b>	<b>3.6%</b>	<b>505,003</b>	<b>21.2%</b>	<b>1,219,658</b>	<b>51.1%</b>	<b>43,802</b>	<b>1.8%</b>	<b>32,752</b>	<b>1.4%</b>	<b>2,387,008</b>	<b>75.8%</b>

In 2016, obstetrics delivery cases (all types) comprised 20.0 percent (one of every five Medicaid discharges) of all Medicaid cases and 16.1 percent of related discharge days in community hospitals. Medicaid cases make up 44.9 percent of the total obstetrics delivery cases and 44.7 percent of the total obstetrics delivery discharge days.

### Inpatient Discharges by Payer, 2016



### Inpatient Discharge Days by Payer, 2016



Changes in the distribution of the Kentucky hospital payer mix from 2012 to 2016 demonstrates the significant, continued shift from Self-Pay & Charity to Medicaid, leveling off in 2016. In 2016, Medicare recovered a higher share of the distribution of discharges. Medicaid MC fell slightly in 2016, after a continued climb from 2012, with the noted growth in 2014 during Medicaid Expansion.

### Distribution of Discharges by Primary Payer

IP Primary Payer	2012	%	2013	%	2014	%	2015	%	2016	%
Commercial	137,749	26.1%	130,664	26.1%	129,011	26.1%	125,136	24.9%	121,305	24.1%
Medicaid FFS	17,197	3.3%	20,224	4.0%	20,107	4.1%	16,695	3.3%	15,396	3.1%
Medicaid MC	81,213	15.4%	71,413	14.3%	100,991	20.4%	110,775	22.0%	110,078	21.9%
Medicare	247,570	46.9%	235,390	47.0%	224,462	45.3%	232,830	46.3%	238,097	47.3%
Other	9,512	1.8%	9,821	2.0%	8,981	1.8%	8,497	1.7%	10,050	2.0%
Self-Pay & Charity	34,791	6.6%	33,298	6.6%	11,424	2.3%	8,542	1.7%	8,727	1.7%
<b>TOTAL</b>	<b>528,032</b>	<b>100.0%</b>	<b>500,810</b>	<b>100.0%</b>	<b>494,976</b>	<b>100.0%</b>	<b>502,475</b>	<b>100.0%</b>	<b>503,653</b>	<b>100.0%</b>

Changes in distribution follow similar patterns.

### Distribution of Discharge Days by Primary Payer

IP Primary Payer	2012	%	2013	%	2014	%	2015	%	2016	%
Commercial	547,092	23.1%	525,850	23.2%	524,842	23.1%	518,612	22.0%	500,212	21.0%
Medicaid FFS	90,844	3.8%	110,918	4.9%	107,287	4.7%	90,046	3.8%	85,581	3.6%
Medicaid MC	336,872	14.2%	302,317	13.3%	438,328	19.3%	495,230	21.0%	505,003	21.2%
Medicare	1,218,008	51.5%	1,158,027	51.0%	1,117,105	49.2%	1,189,124	50.3%	1,219,658	51.1%
Other	40,447	1.7%	41,826	1.8%	38,928	1.7%	37,378	1.6%	43,802	1.8%
Self-Pay & Charity	132,850	5.6%	129,667	5.7%	42,407	1.9%	31,721	1.3%	32,752	1.4%
TOTAL	2,366,113	100.0%	2,268,605	100.0%	2,268,897	100.0%	2,362,111	100.0%	2,387,008	100.0%

As in the previous year, the high proportion of Medicare cases and severity of illness among Medicaid cases continues to create a significant financial impact on hospitals. Kentucky Medicaid payments cover only about 75 percent of the actual cost of inpatient care. Federal health care reform will cut Medicare payments to Kentucky hospitals by more than \$5 billion dollars from 2010 through 2025.

### Comparison of Medicaid Utilization vs. All Payers

Year	All Payers				Medicaid			
	Total Discharges	Total Discharge Days	ALOS	Average Case Mix Weight per Case	Total Discharges	Total Discharge Days	ALOS	Average Case Mix Weight per Case
2012	528,032	2,366,113	4.48	1.4450	98,410	427,716	4.35	1.2559
2013	500,810	2,268,605	4.53	1.4959	91,637	413,235	4.51	1.3136
2014	494,976	2,268,897	4.58	1.5231	121,098	545,615	4.51	1.3809
2015	502,475	2,362,111	4.70	1.5603	127,470	585,276	4.59	1.4350
2016	503,653	2,387,008	4.74	1.6146	125,474	590,584	4.71	1.5046
Change 2012-2013	(27,222)	(97,508)	0.05	0.0509	(6,773)	(14,481)	0.16	0.0578
Change 2013-2014	(5,834)	292	0.05	0.0272	29,461	132,380	-	0.0672
Change 2014-2015	7,499	93,214	0.12	0.0373	6,372	39,661	0.09	0.0542
Change 2015-2016	1,178	24,897	0.04	0.0543	(1,996)	5,308	0.12	0.0695
% Change 2012-2013	-5.2%	-4.1%		3.5%	-6.9%	-3.4%		4.6%
% Change 2013-2014	-1.2%	0.0%		1.8%	32.1%	32.0%		5.1%
% Change 2014-2015	1.5%	4.1%		2.4%	5.3%	7.3%		3.9%
% Change 2015-2016	0.2%	1.1%		3.5%	-1.6%	0.9%		4.8%

# Births

Total number of births continued to decline in 2016 from 2012. These statistics are based on the case having a Point of Origin. Born Inside the hospital includes Born Inside the Hospital, Normal Birth and Premature Birth. Born Outside the Hospital includes only those cases classified as Extramural Births.

## Births in Kentucky by Discharge Year

IP Primary Payer	2012	2013	2014	2015	2016
Born Inside the Hospital	55,263	55,501	55,665	54,825	54,696
Born Outside the Hospital	2,297	2,273	2,423	2,457	1,946
Total Births	57,560	57,774	58,088	57,282	56,642

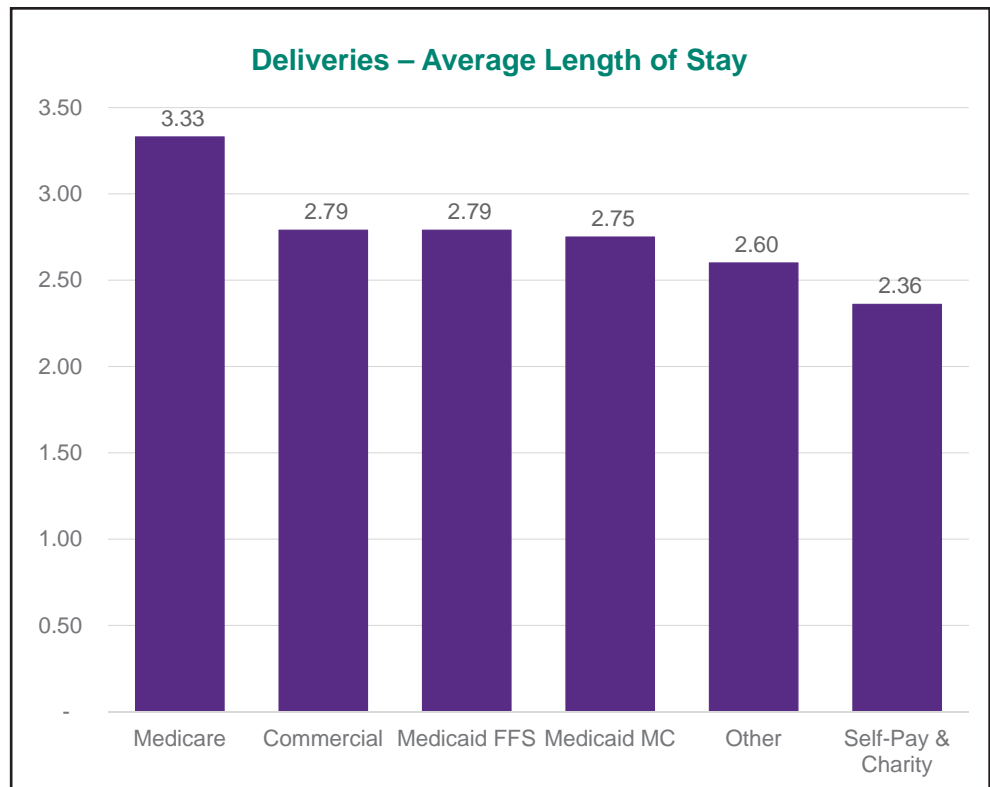
## Deliveries by Payer

Unlike the general inpatient population, where Medicaid represents 25.0 percent of the total cases in 2016, Medicaid and Medicaid Managed Care paid for just over 49.4 percent of all Kentucky deliveries. This percentage has not changed significantly since 2012. Patient discharge days follow the same distribution pattern, as average length of stay also has not change significantly since 2012.

## Delivery Utilization by Primary Payer, 2016

Payer	Discharges	% of Total	Discharge Days	% of Total	ALOS
Commercial	23,545	46.4%	65,674	46.8%	2.79
Medicaid FFS	2,254	4.4%	6,290	4.5%	2.79
Medicaid MC	22,827	44.9%	62,761	44.7%	2.75
Medicare	332	0.7%	1,104	0.8%	3.33
Other	971	1.9%	2,527	1.8%	2.60
Self-Pay & Charity	857	1.7%	2,026	1.4%	2.36
TOTAL	50,786	100.0%	140,382	100.0%	2.76

Patient discharge days follow the same general distribution pattern, with average length of stay essentially stable from the previous year. As in previous years, Self-Pay & Charity cases had the lowest length of stay of all payer categories. Medicare, with a small number of cases, had the highest average length of stay, increasing by 0.3 days from 2015. The other payer categories had similar average length of stay.



## Cesarean Deliveries

For many years, just over one in three deliveries has been by Cesarean Section (C-Section). Kentucky, like the rest of the nation, had seen a somewhat steady rise in the rate of C-Section cases to overall delivery cases. However, there was a decline in the Kentucky rate in 2015 and 2016. Kentucky's rates are still higher than the National Rate. Average length of stay and average age of the patient has remained fairly consistent over the last five years.

Year	Total Deliveries	C-Section Cases	Kentucky C-Section Rate	National Rate	C-Section Days	C-Section ALOS	Average Age
2012	51,271	18,903	36.9%	32.8%	63,668	3.4	27.3
2013	51,151	19,071	37.3%	32.8%	64,486	3.4	27.5
2014	51,598	18,576	36.0%	32.2%	61,671	3.3	27.7
2015	51,095	18,133	35.5%	32.0%	61,519	3.4	27.9
2016	50,786	17,968	35.4%	**	60,748	3.4	28.1

## Vaginal vs. Cesarean Deliveries: 2016 vs. 2012

Payer	Vaginal Delivery				Cesarean Delivery						All Deliveries			
	Cases		Average Age		Cases		C-Section Rate		Average Age		Cases		Average Age	
	2012	2016	2012	2016	2012	2016	2012	2016	2012	2016	2012	2016	2012	2016
Commercial	14,244	14,940	28.0	28.3	8,907	8,605	38.5%	36.5%	29.3	29.7	23,151	23,545	28.5	28.8
Medicaid FFS	1,692	1,529	25.5	26.4	900	725	34.7%	32.2%	26.4	27.7	2,592	2,254	25.8	26.9
Medicaid MC	14,920	14,884	23.9	24.8	8,333	7,943	35.8%	34.8%	25.2	26.3	23,253	22,827	24.4	25.3
Medicare	185	166	27.9	29.3	182	166	49.6%	50.0%	30.2	30.5	367	332	29.0	29.9
Other	543	680	25.8	27.5	287	291	34.6%	30.0%	27.6	28.8	830	971	26.4	27.9
Self-Pay & Charity	784	619	26.8	27.2	294	238	27.3%	27.8%	28.0	29.0	1,078	857	27.1	27.7
TOTAL	32,368	32,818	25.9	26.6	18,903	17,968	36.9%	35.4%	27.3	28.1	51,271	50,786	26.4	27.1

C-Section rates are highest among the small number of Medicare patients (50 percent). Again, note that the Medicare cases had an average age of 29.9 years in 2016. This may reflect patients who qualified for a disability or were qualified dependents and were eligible for Medicare coverage. The second highest rate was held by Commercial, repeating this trend from the previous year (36.5 percent). The lowest rate for C-Sections appeared in the Self-Pay & Charity Group, at 27.8 percent, similar to previous years.

## Teenage Deliveries in Kentucky by Age

Teenage deliveries have continued to decline, to a five-year low in 2016. Cases fell from 1,521 in 2012 to 1,043 in 2016, a 31.4 percent decline.

As in previous years, over half the teen mothers were age 17.

As reported in 2015, the largest overall decline in teenage deliveries occurred in 2015 (-161).

Age of Mother	2012	2013	2014	2015	2016
12	4	1		1	
13	9	6	6	8	6
14	46	39	41	37	35
15	189	167	122	130	113
16	431	390	369	347	304
17	842	773	743	597	585
TOTAL	1,521	1,376	1,281	1,120	1,043

## Teenage Deliveries in Kentucky by Payer

Since 2012, roughly three of four teenage delivery cases had Medicaid or Medicaid Managed Care as the primary payer. That percentage increased in 2015 to 80.9 percent, but fell to 79.3 percent. The percentage of cases with Commercial insurance rose slightly in 2016, after a steady decline since 2013.

Primary Payer	2012	% of Total	2013	% of Total	2014	% of Total	2015	% of Total	2016	% of Total
Commercial	296	19.5%	271	19.7%	235	18.3%	178	15.9%	186	17.8%
Medicaid FFS	97	6.4%	113	8.2%	84	6.6%	58	5.2%	67	6.4%
Medicaid MC	1,088	71.5%	959	69.7%	929	72.5%	848	75.7%	760	72.9%
Medicare	1	0.1%	1	0.1%		0.0%		0.0%		0.0%
Other	13	0.9%	7	0.5%	7	0.5%	14	1.3%	15	1.4%
Self-Pay & Charity	26	1.7%	25	1.8%	26	2.0%	22	2.0%	15	1.4%
TOTAL	1,521	100.0%	1,376	100.0%	1,281	100.0%	1,120	100.0%	1,043	100.0%

# Top 30 Most Frequent Diagnosis-Related Groups Statewide

## Top 30 Most Frequent Diagnosis-Related Groups Statewide

Medicare Severity Diagnosis-related Groups (MS-DRGs) is a system by which hospital inpatient cases are classified into one of approximately 750 groups, based on the patient's diagnosis, procedure, age, sex and the presence of complications. MS-DRGs recognize the severity of illness and resources used and are based on the complexity of the case.

In 2016, deliveries (MS-DRGs 766, 774 and 775) again were the top reason for inpatient discharge, at 5.4 percent of total cases. Deliveries made up 9.9 percent of all cases and three MS-DRGs within the top ten. Septicemia was the second highest MS-DRG, with Major Joint Replacement as the third. In 2016, Neonates with Other Significant Problems was fourth. Esophagitis (#6) fell from #4 in 2015.

MS-DRG	Discharges	% of All Discharges	Aggregate % of All Discharges	Discharge Days	ALOS	Average Age
775: Vaginal Delivery w/o Complicating Diagnoses	27,102	5.4%	5.4%	63,265	2.3	26.5
871: Septicemia w/o MV 96+ Hours W MCC	20,204	4.0%	9.4%	129,655	6.4	66.7
470: Major Joint Replacement or Reattachment of Lower Extremity w/o MCC	18,616	3.7%	13.1%	47,396	2.5	65.5
794: Neonate w Other Significant Problems	10,592	2.1%	15.2%	27,367	2.6	-
766: Cesarean Section w/o CC/MCC	10,537	2.1%	17.3%	31,083	2.9	28.1
392: Esophagitis Gastroent & Misc Digest Disorders w/o MCC	9,844	2.0%	19.2%	30,467	3.1	54.9
291: Heart Failure & Shock w MCC	9,087	1.8%	21.0%	52,945	5.8	72.5
189: Pulmonary Edema & Respiratory Failure	8,995	1.8%	22.8%	41,601	4.6	63.9
190: Chronic Obstructive Pulmonary Disease w MCC	8,276	1.6%	24.5%	37,868	4.6	67.1
765: Cesarean Section w CC/MCC	7,431	1.5%	25.9%	29,665	4.0	28.1
603: Cellulitis w/o MCC	7,212	1.4%	27.4%	25,208	3.5	51.2
193: Simple Pneumonia & Pleurisy w MCC	6,533	1.3%	28.7%	34,929	5.3	67.2
194: Simple Pneumonia & Pleurisy w CC	6,467	1.3%	30.0%	25,185	3.9	62.4
872: Septicemia W/O Mv 96+ Hours w/o MCC	6,437	1.3%	31.2%	27,121	4.2	58.4
690: Kidney & Urinary Tract Infections w/o MCC	6,251	1.2%	32.5%	21,304	3.4	63.2
683: Renal Failure w CC	6,139	1.2%	33.7%	23,732	3.9	66.1
292: Heart Failure & Shock w CC	5,570	1.1%	34.8%	23,868	4.3	71.6
247: Perc Cardiovasc Proc w Drug-Eluting Stent w/o MCC	5,120	1.0%	35.8%	12,318	2.4	61.1
191: Chronic Obstructive Pulmonary Disease w CC	4,946	1.0%	36.8%	18,863	3.8	65.9
774: Vaginal Delivery w Complicating Diagnoses	4,768	0.9%	37.7%	13,920	2.9	26.8
682: Renal Failure w MCC	4,597	0.9%	38.7%	28,319	6.2	68.3
378: G.I. Hemorrhage w CC	4,556	0.9%	39.6%	16,620	3.6	69.6
641: Nutritional & Misc Metabolic Disorders w/o MCC	4,502	0.9%	40.5%	14,247	3.2	57.8
065: Intracranial Hemorrhage Or Cerebral Infarction w CC	4,263	0.8%	41.3%	17,345	4.1	69.4
853: Infectious & Parasitic Diseases w O.R. Procedure w MCC	3,653	0.7%	42.0%	50,652	13.9	60.7
192: Chronic Obstructive Pulmonary Disease w/o CC/MCC	3,630	0.7%	42.8%	10,641	2.9	64.2
638: Diabetes w CC	3,511	0.7%	43.5%	11,218	3.2	47.8
793: Full Term Neonate w Major Problems	3,409	0.7%	44.1%	28,497	8.4	-
460: Spinal Fusion Except Cervical w/o MCC	3,355	0.7%	44.8%	10,432	3.1	59.3
309: Cardiac Arrhythmia & Conduction Disorders w CC	3,319	0.7%	45.5%	10,024	3.0	69.3
All Other MS-DRGs	274,731	54.5%	100.0%	1,471,253	5.4	56.5
TOTAL	503,653	100.0%		2,387,008	4.7	54.5

The 30 most frequent MS-DRGs listed in the table above account for 45.5 percent of all short-term acute cases and 38.4 percent of total short-term acute discharge days, up slightly from previous years. The information does not include patients who may have been hospitalized for mental or psychiatric disorders, chemical dependency disorders or care in long-term acute care hospitals (LTACHs).

However, the number of psychiatric patients and related days of care are very significant. When care provided in acute care psychiatric units and private psychiatric hospitals is considered, MS-DRG 885 – Psychosis would rank number one with 27,951 discharges in 2016, up by 4.4 percent from 2015. Cases for all psychiatric-related MS-DRGs totaled 37,904 for the same period.

# Kentucky's Area Development Districts (ADDs)

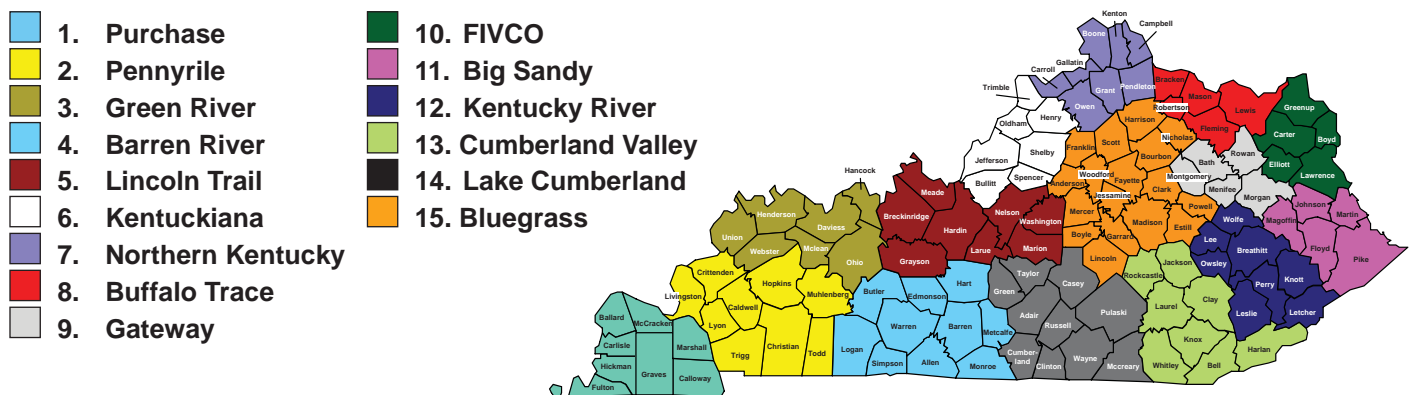
There are 15 Area Development Districts (ADDs) in Kentucky, which have been in existence for more than 40 years. These ADDs are designed to be the focal point of an essential federal-state-local partnership whose objective is to improve the quality of life in the Commonwealth. Unlike other organizations structured along multi-jurisdictional lines, the ADDs have both federal and state statutory authority.

Kentucky's ADDs provide a system of complete coverage to all 120 counties and serve as planning areas for many regional services, including health care. ADDs allow planners to better understand the distribution of services throughout the commonwealth, including the differences in utilization and the differences in medical needs. The ADDs also indicate more readily where gaps in medical care exist. Different health problems emerge when the top MS-DRGs are compared among Kentucky's 15 ADDs.

## Kentucky Counties by Area Development District (ADD)

<p><b>1. Purchase</b> Ballard Calloway Carlisle Fulton Graves Hickman Marshall McCracken</p>	<p><b>4. Barren River</b> Allen Barren Butler Edmonson Hart Logan Metcalf Monroe Simpson Warren</p>	<p><b>7. Northern Kentucky</b> Boone Campbell Carroll Gallatin Grant Kenton Owen Pendleton</p>	<p><b>11. Big Sandy</b> Floyd Johnson Magoffin Martin Pike</p>	<p>Adair Casey Clinton Cumberland Green McCreary Pulaski Russell Taylor Wayne</p>
<p><b>2. Pennyriple</b> Caldwell Christian Crittenden Hopkins Livingston Lyon Muhlenberg Todd Trigg</p>	<p><b>5. Lincoln Trail</b> Breckinridge Grayson Hardin Larue Marion Meade Nelson Washington</p>	<p><b>8. Buffalo Trace</b> Bracken Fleming Lewis Mason Robertson</p>	<p><b>12. Kentucky River</b> Breathitt Knott Lee Leslie Letcher Owsley Perry Wolfe</p>	<p><b>15. Bluegrass</b> Anderson Bourbon Boyle Clark Estill Fayette Franklin Garrard Harrison Jessamine Lincoln Madison Mercer Nicholas Powell Scott Woodford</p>
<p><b>3. Green River</b> Daviess Hancock Henderson McLean Ohio Union Webster</p>	<p><b>6. Kentuckiana</b> Bullitt Henry Jefferson Oldham Shelby Spencer Trimble</p>	<p><b>9. Gateway</b> Bath Menifee Montgomery Morgan Rowan</p>	<p><b>13. Cumberland Valley</b> Bell Clay Harlan Jackson Knox Laurel Rockcastle Whitley</p>	
	<p><b>10. FIVCO</b> Boyd Carter Elliott Greenup Lawrence</p>		<p><b>14. Lake Cumberland</b></p>	

## Kentucky Area Development District (ADD) Map



# Prevalent MS-DRGs by ADDs

## Prevalent MS-DRGs by ADD, Where MS-DRG Does Not Appear in Statewide Top 10

MS-DRG	Area Development District(s)
191: Chronic Obstructive Pulmonary Disease w CC	FIVCO, Big Sandy, Kentucky River, Cumberland Valley
192: Chronic Obstructive Pulmonary Disease w/o CC/MCC	Pennyrile, Big Sandy, Kentucky River
193: Simple Pneumonia & Pleurisy w MCC	Purchase, Lincoln Trail, Kentuckiana, Buffalo Trace, Gateway, Kentucky River
194: Simple Pneumonia & Pleurisy w CC	Pennyrile, Barren River, Buffalo Trace, FIVCO, Big Sandy, Lake Cumberland
247: Perc Cardiovasc Proc w Drug-Eluting Stent w/o MCC	Buffalo Trace
603: Cellulitis w/o MCC	Pennyrile, Northern Kentucky, Buffalo Trace, FIVCO, Big Sandy, Kentucky River, Cumberland Valley, Lake Cumberland
641: Nutritional & Misc Metabolic Disorders w/o MCC	Lake Cumberland
683: Renal Failure w CC	Green River, FIVCO
690: Kidney & Urinary Tract Infections w/o MCC	Pennyrile, Northern Kentucky, Lake Cumberland
872: Septicemia w/o MV 96+ Hours w/o MCC	Lincoln Trail, Gateway, Bluegrass

As in previous years, there continues to be geographic differences in health conditions and problems across the commonwealth. Part of the reason for the prevalence of certain conditions may be due to the availability of specialized services in certain ADDs, such as neonatal intensive care units or advanced heart programs. Of particular note, MS-DRGs for Chronic Obstructive Pulmonary Disease appear in several ADDs, but are not part of the top 10 MS-DRGs for the commonwealth as a whole.

## Top 10 MS-DRGs by Kentucky's Area Development Districts (ADDs): 2016

(Red text indicates prevalent MS-DRGs not included in the Statewide Top 10 List)

01 - Purchase Area Development District				
MS-DRG	Cases	% of Total Cases	Aggregate %	Discharge Days
470: Major Joint Replacement Or Reattachment Of Lower Extremity W/O Mcc	1,630	5.7%	5.7%	4,869
775: Vaginal Delivery W/O Complicating Diagnoses	1,446	5.1%	10.8%	3,498
871: Septicemia W/O Mv 96+ Hours W Mcc	833	2.9%	13.8%	5,341
766: Cesarean Section W/O Cc/Mcc	630	2.2%	16.0%	1,757
392: Esophagitis Gastroent & Misc Digest Disorders W/O Mcc	618	2.2%	18.2%	1,988
291: Heart Failure & Shock W Mcc	497	1.8%	19.9%	2,937
794: Neonate W Other Significant Problems	458	1.6%	21.6%	1,171
189: Pulmonary Edema & Respiratory Failure	455	1.6%	23.2%	2,317
190: Chronic Obstructive Pulmonary Disease W Mcc	439	1.5%	24.7%	2,083
193: Simple Pneumonia & Pleurisy W Mcc	432	1.5%	26.2%	2,588
All Others	20,918	73.8%	100.0%	100,166
TOTAL	28,356	100.0%		128,715

02 - Pennyrile Area Development District				
MS-DRG	Cases	% of Total Cases	Aggregate %	Discharge Days
775: Vaginal Delivery W/O Complicating Diagnoses	806	5.3%	5.3%	1,536
871: Septicemia W/O Mv 96+ Hours W Mcc	639	4.2%	9.5%	4,333
190: Chronic Obstructive Pulmonary Disease W Mcc	616	4.1%	13.6%	3,325
470: Major Joint Replacement Or Reattachment Of Lower Extremity W/O Mcc	465	3.1%	16.6%	1,232
392: Esophagitis Gastroent & Misc Digest Disorders W/O Mcc	375	2.5%	19.1%	1,180
690: Kidney & Urinary Tract Infections W/O Mcc	344	2.3%	21.3%	1,319
766: Cesarean Section W/O Cc/Mcc	332	2.2%	23.5%	767
603: Cellulitis W/O Mcc	313	2.1%	25.6%	1,299
192: Chronic Obstructive Pulmonary Disease W/O Cc/Mcc	307	2.0%	27.6%	1,000
194: Simple Pneumonia & Pleurisy W Cc	300	2.0%	29.6%	1,390
All Others	10,705	70.4%	100.0%	52,223
TOTAL	15,202	100.0%		69,604



## Top 10 MS-DRGs by Kentucky's Area Development Districts (ADDs): 2016

(Red text indicates prevalent MS-DRGs not included in the Statewide Top 10 List)

03 - Green River Area Development District				
MS-DRG	Cases	% of Total Cases	Aggregate %	Discharge Days
775: Vaginal Delivery W/O Complicating Diagnoses	1,322	6.2%	6.2%	2,910
871: Septicemia W/O Mv 96+ Hours W Mcc	731	3.4%	9.6%	4,623
766: Cesarean Section W/O Cc/Mcc	726	3.4%	13.0%	2,092
470: Major Joint Replacement Or Reattachment Of Lower Extremity W/O Mcc	715	3.3%	16.3%	2,030
794: Neonate W Other Significant Problems	493	2.3%	18.6%	1,352
291: Heart Failure & Shock W Mcc	422	2.0%	20.6%	2,233
189: Pulmonary Edema & Respiratory Failure	420	2.0%	22.6%	1,927
392: Esophagitis Gastroent & Misc Digest Disorders W/O Mcc	399	1.9%	24.4%	1,250
683: Renal Failure W Cc	394	1.8%	26.3%	1,506
765: Cesarean Section W Cc/Mcc	362	1.7%	28.0%	1,292
All Others	15,399	72.0%	100.0%	76,428
TOTAL	21,383	100.0%		97,643

04 - Barren River Area Development District				
MS-DRG	Cases	% of Total Cases	Aggregate %	Discharge Days
775: Vaginal Delivery W/O Complicating Diagnoses	2,189	7.6%	7.6%	4,672
470: Major Joint Replacement Or Reattachment Of Lower Extremity W/O Mcc	1,138	3.9%	11.5%	3,086
871: Septicemia W/O Mv 96+ Hours W Mcc	938	3.3%	14.8%	5,682
766: Cesarean Section W/O Cc/Mcc	889	3.1%	17.9%	2,142
189: Pulmonary Edema & Respiratory Failure	767	2.7%	20.5%	3,709
392: Esophagitis Gastroent & Misc Digest Disorders W/O Mcc	563	2.0%	22.5%	1,729
194: Simple Pneumonia & Pleurisy W Cc	556	1.9%	24.4%	2,263
291: Heart Failure & Shock W Mcc	479	1.7%	26.1%	2,867
794: Neonate W Other Significant Problems	466	1.6%	27.7%	1,080
190: Chronic Obstructive Pulmonary Disease W Mcc	461	1.6%	29.3%	2,081
All Others	20,410	70.7%	100.0%	94,964
TOTAL	28,856	100.0%		124,275

05 - Lincoln Trail Area Development District				
MS-DRG	Cases	% of Total Cases	Aggregate %	Discharge Days
775: Vaginal Delivery W/O Complicating Diagnoses	1,468	8.0%	8.0%	3,287
871: Septicemia W/O Mv 96+ Hours W Mcc	1,022	5.6%	13.6%	5,848
470: Major Joint Replacement Or Reattachment Of Lower Extremity W/O Mcc	876	4.8%	18.3%	2,541
766: Cesarean Section W/O Cc/Mcc	650	3.5%	21.9%	1,677
291: Heart Failure & Shock W Mcc	483	2.6%	24.5%	2,551
189: Pulmonary Edema & Respiratory Failure	415	2.3%	26.7%	1,894
392: Esophagitis Gastroent & Misc Digest Disorders W/O Mcc	403	2.2%	28.9%	1,238
794: Neonate W Other Significant Problems	390	2.1%	31.1%	967
193: Simple Pneumonia & Pleurisy W Mcc	348	1.9%	33.0%	1,696
872: Septicemia W/O Mv 96+ Hours W/O Mcc	327	1.8%	34.7%	1,203
All Others	11,994	65.3%	100.0%	51,494
TOTAL	18,376	100.0%		74,396

06 - Kentuckiana Area Development District				
MS-DRG	Cases	% of Total Cases	Aggregate %	Discharge Days
775: Vaginal Delivery W/O Complicating Diagnoses	6,709	4.9%	4.9%	16,764
470: Major Joint Replacement Or Reattachment Of Lower Extremity W/O Mcc	5,945	4.4%	9.3%	13,811
871: Septicemia W/O Mv 96+ Hours W Mcc	4,414	3.2%	12.5%	28,846
794: Neonate W Other Significant Problems	3,488	2.6%	15.1%	10,022
392: Esophagitis Gastroent & Misc Digest Disorders W/O Mcc	2,544	1.9%	16.9%	8,387
766: Cesarean Section W/O Cc/Mcc	2,387	1.8%	18.7%	8,452
291: Heart Failure & Shock W Mcc	2,209	1.6%	20.3%	12,900
765: Cesarean Section W Cc/Mcc	2,150	1.6%	21.9%	10,614
190: Chronic Obstructive Pulmonary Disease W Mcc	1,930	1.4%	23.3%	9,433
193: Simple Pneumonia & Pleurisy W Mcc	1,508	1.1%	24.4%	7,979
All Others	103,075	75.6%	100.0%	567,407
TOTAL	136,359	100.0%		694,615

## Top 10 MS-DRGs by Kentucky's Area Development Districts (ADDs): 2016

(Red text indicates prevalent MS-DRGs not included in the Statewide Top 10 List)

07 - Northern Kentucky Area Development District				
MS-DRG	Cases	% of Total Cases	Aggregate %	Discharge Days
775: Vaginal Delivery W/O Complicating Diagnoses	2,384	5.7%	5.7%	5,014
470: Major Joint Replacement Or Reattachment Of Lower Extremity W/O Mcc	1,492	3.5%	9.2%	3,791
871: Septicemia W/O Mv 96+ Hours W Mcc	1,264	3.0%	12.2%	8,561
794: Neonate W Other Significant Problems	1,128	2.7%	14.9%	2,246
392: Esophagitis Gastroent & Misc Digest Disorders W/O Mcc	1,015	2.4%	17.3%	2,898
189: Pulmonary Edema & Respiratory Failure	968	2.3%	19.6%	4,913
765: Cesarean Section W Cc/Mcc	757	1.8%	21.4%	2,856
603: Cellulitis W/O Mcc	743	1.8%	23.2%	2,700
291: Heart Failure & Shock W Mcc	680	1.6%	24.8%	4,070
690: Kidney & Urinary Tract Infections W/O Mcc	661	1.6%	26.4%	2,209
All Others	30,961	73.6%	100.0%	138,200
TOTAL	42,053	100.0%		177,458

08 - Buffalo Trace Area Development District				
MS-DRG	Cases	% of Total Cases	Aggregate %	Discharge Days
775: Vaginal Delivery W/O Complicating Diagnoses	258	7.7%	7.7%	442
189: Pulmonary Edema & Respiratory Failure	177	5.3%	13.0%	568
247: Perc Cardiovasc Proc W Drug-Eluting Stent W/O Mcc	164	4.9%	17.9%	290
470: Major Joint Replacement Or Reattachment Of Lower Extremity W/O Mcc	154	4.6%	22.5%	351
194: Simple Pneumonia & Pleurisy W Cc	126	3.8%	26.2%	404
871: Septicemia W/O Mv 96+ Hours W Mcc	113	3.4%	29.6%	438
766: Cesarean Section W/O Cc/Mcc	91	2.7%	32.3%	188
193: Simple Pneumonia & Pleurisy W Mcc	84	2.5%	34.8%	262
603: Cellulitis W/O Mcc	76	2.3%	37.1%	235
291: Heart Failure & Shock W Mcc	75	2.2%	39.4%	281
All Others	2,031	60.6%	100.0%	6,046
TOTAL	3,349	100.0%		9,505

09 - Gateway Area Development District				
MS-DRG	Cases	% of Total Cases	Aggregate %	Discharge Days
871: Septicemia W/O Mv 96+ Hours W Mcc	583	8.7%	8.7%	2,860
775: Vaginal Delivery W/O Complicating Diagnoses	355	5.3%	14.0%	778
470: Major Joint Replacement Or Reattachment Of Lower Extremity W/O Mcc	330	4.9%	18.9%	933
193: Simple Pneumonia & Pleurisy W Mcc	208	3.1%	22.0%	914
190: Chronic Obstructive Pulmonary Disease W Mcc	200	3.0%	25.0%	685
189: Pulmonary Edema & Respiratory Failure	172	2.6%	27.5%	730
794: Neonate W Other Significant Problems	161	2.4%	29.9%	351
291: Heart Failure & Shock W Mcc	161	2.4%	32.3%	732
872: Septicemia W/O Mv 96+ Hours W/O Mcc	152	2.3%	34.6%	478
766: Cesarean Section W/O Cc/Mcc	113	1.7%	36.3%	260
All Others	4,273	63.7%	100.0%	17,167
TOTAL	6,708	100.0%		25,888

10 - FIVCO Area Development District				
MS-DRG	Cases	% of Total Cases	Aggregate %	Discharge Days
871: Septicemia W/O Mv 96+ Hours W Mcc	1,022	4.8%	4.8%	5,636
470: Major Joint Replacement Or Reattachment Of Lower Extremity W/O Mcc	725	3.4%	8.2%	2,032
775: Vaginal Delivery W/O Complicating Diagnoses	600	2.8%	11.0%	1,406
291: Heart Failure & Shock W Mcc	490	2.3%	13.4%	2,537
603: Cellulitis W/O Mcc	476	2.2%	15.6%	1,568
189: Pulmonary Edema & Respiratory Failure	467	2.2%	17.8%	1,929
191: Chronic Obstructive Pulmonary Disease W Cc	458	2.2%	20.0%	1,746
194: Simple Pneumonia & Pleurisy W Cc	419	2.0%	21.9%	1,481
683: Renal Failure W Cc	418	2.0%	23.9%	1,450
190: Chronic Obstructive Pulmonary Disease W Mcc	418	2.0%	25.9%	1,709
All Others	15,747	74.1%	100.0%	64,370
TOTAL	21,240	100.0%		85,864

## Top 10 MS-DRGs by Kentucky's Area Development Districts (ADDs): 2016

(Red text indicates prevalent MS-DRGs not included in the Statewide Top 10 List)

11 - Big Sandy Area Development District				
MS-DRG	Cases	% of Total Cases	Aggregate %	Discharge Days
871: Septicemia W/O Mv 96+ Hours W Mcc	1,360	5.6%	5.6%	9,122
775: Vaginal Delivery W/O Complicating Diagnoses	866	3.5%	9.1%	2,081
470: Major Joint Replacement Or Reattachment Of Lower Extremity W/O Mcc	852	3.5%	12.6%	2,067
190: Chronic Obstructive Pulmonary Disease W Mcc	669	2.7%	15.3%	2,871
191: Chronic Obstructive Pulmonary Disease W Cc	499	2.0%	17.3%	1,940
392: Esophagitis Gastroent & Misc Digest Disorders W/O Mcc	478	2.0%	19.3%	1,554
291: Heart Failure & Shock W Mcc	464	1.9%	21.2%	2,949
603: Cellulitis W/O Mcc	450	1.8%	23.0%	1,464
194: Simple Pneumonia & Pleurisy W Cc	448	1.8%	24.8%	1,793
192: Chronic Obstructive Pulmonary Disease W/O Cc/Mcc	420	1.7%	26.6%	1,234
All Others	17,997	73.4%	100.0%	94,572
TOTAL	24,503	100.0%		121,647

12 - Kentucky River Area Development District				
MS-DRG	Cases	% of Total Cases	Aggregate %	Discharge Days
871: Septicemia W/O Mv 96+ Hours W Mcc	663	4.6%	4.6%	4,711
190: Chronic Obstructive Pulmonary Disease W Mcc	552	3.8%	8.4%	2,483
392: Esophagitis Gastroent & Misc Digest Disorders W/O Mcc	452	3.1%	11.5%	1,267
775: Vaginal Delivery W/O Complicating Diagnoses	447	3.1%	14.6%	1,071
191: Chronic Obstructive Pulmonary Disease W Cc	435	3.0%	17.6%	1,461
603: Cellulitis W/O Mcc	373	2.6%	20.1%	1,134
189: Pulmonary Edema & Respiratory Failure	357	2.5%	22.6%	1,712
291: Heart Failure & Shock W Mcc	320	2.2%	24.8%	2,163
192: Chronic Obstructive Pulmonary Disease W/O Cc/Mcc	311	2.1%	26.9%	781
193: Simple Pneumonia & Pleurisy W Mcc	291	2.0%	28.9%	1,930
All Others	10,312	71.1%	100.0%	48,507
TOTAL	14,513	100.0%		67,220

13 - Cumberland Valley Area Development District				
MS-DRG	Cases	% of Total Cases	Aggregate %	Discharge Days
871: Septicemia W/O Mv 96+ Hours W Mcc	1,485	6.3%	6.3%	8,887
775: Vaginal Delivery W/O Complicating Diagnoses	1,334	5.6%	11.9%	3,002
189: Pulmonary Edema & Respiratory Failure	747	3.2%	15.1%	2,980
291: Heart Failure & Shock W Mcc	591	2.5%	17.6%	3,281
392: Esophagitis Gastroent & Misc Digest Disorders W/O Mcc	567	2.4%	20.0%	1,644
766: Cesarean Section W/O Cc/Mcc	566	2.4%	22.4%	1,339
190: Chronic Obstructive Pulmonary Disease W Mcc	538	2.3%	24.6%	2,228
794: Neonate W Other Significant Problems	537	2.3%	26.9%	1,294
603: Cellulitis W/O Mcc	500	2.1%	29.0%	1,600
191: Chronic Obstructive Pulmonary Disease W Cc	494	2.1%	31.1%	1,799
All Others	16,298	68.9%	100.0%	68,774
TOTAL	23,657	100.0%		96,828

14 - Lake Cumberland Area Development District				
MS-DRG	Cases	% of Total Cases	Aggregate %	Discharge Days
775: Vaginal Delivery W/O Complicating Diagnoses	739	4.7%	4.7%	1,671
871: Septicemia W/O Mv 96+ Hours W Mcc	577	3.7%	8.5%	3,244
189: Pulmonary Edema & Respiratory Failure	390	2.5%	11.0%	1,911
194: Simple Pneumonia & Pleurisy W Cc	386	2.5%	13.4%	1,552
392: Esophagitis Gastroent & Misc Digest Disorders W/O Mcc	381	2.4%	15.9%	1,151
190: Chronic Obstructive Pulmonary Disease W Mcc	380	2.4%	18.3%	1,675
690: Kidney & Urinary Tract Infections W/O Mcc	368	2.4%	20.7%	1,334
766: Cesarean Section W/O Cc/Mcc	320	2.1%	22.7%	719
641: Nutritional & Misc Metabolic Disorders W/O Mcc	312	2.0%	24.7%	1,008
603: Cellulitis W/O Mcc	302	1.9%	26.7%	1,082
All Others	11,416	73.3%	100.0%	51,786
TOTAL	15,571	100.0%		67,133

## Top 10 MS-DRGs by Kentucky's Area Development Districts (ADDs): 2015

(Red text indicates prevalent MS-DRGs not included in the Statewide Top 10 List)

### 15 - Bluegrass Area Development District

MS-DRG	Cases	% of Total Cases	Aggregate %	Discharge Days
775: Vaginal Delivery W/O Complicating Diagnoses	6,179	6.0%	6.0%	15,133
871: Septicemia W/O Mv 96+ Hours W Mcc	4,560	4.4%	10.4%	31,523
470: Major Joint Replacement Or Reattachment Of Lower Extremity W/O Mcc	3,587	3.5%	13.8%	8,097
766: Cesarean Section W/O Cc/Mcc	2,420	2.3%	16.2%	7,947
794: Neonate W Other Significant Problems	2,269	2.2%	18.4%	5,936
291: Heart Failure & Shock W Mcc	1,751	1.7%	20.1%	10,666
765: Cesarean Section W Cc/Mcc	1,710	1.7%	21.7%	7,843
189: Pulmonary Edema & Respiratory Failure	1,658	1.6%	23.3%	7,355
392: Esophagitis Gastroent & Misc Digest Disorders W/O Mcc	1,483	1.4%	24.7%	4,722
872: Septicemia W/O Mv 96+ Hours W/O Mcc	1,325	1.3%	26.0%	5,477
All Others	76,585	74.0%	100.0%	441,518
TOTAL	103,527	100.0%		546,217

## Top Inpatient Procedures by ICD-10 Codes Statewide

The table below shows the number of cases for the top 36 inpatient primary procedures discharged from Kentucky's community hospitals, having a total count of at least 1,000 cases for the year.

ICD-10 Description	2016 Cases	% of Total	Aggregate %
10E0XZZ: Delivery of Products of Conception External Approach	25,556	8.4%	8.4%
10D00Z1: Extraction of Poc Low Cervical Open Approach	17,346	5.7%	14.0%
02HV33Z: Insertion of Infusion Dev Into Sup Vena Cava Perc Approach	8,760	2.9%	16.9%
3E0234Z: Introduction of Serum/Tox/Vaccine Into Muscle Perc Approach	8,436	2.8%	19.6%
4A023N7: Measure of Cardiac Sampl & Pressure L Heart Perc Approach	7,511	2.5%	22.1%
30233N1: Transfuse Nonaut Red Blood Cells In Periph Vein Perc	6,307	2.1%	24.2%
0VTTXZZ: Resection of Prepuce External Approach	5,860	1.9%	26.1%
0SRC0J9: Replace of R Knee Jt With Synth Sub Cement Open Approach	5,557	1.8%	27.9%
0SRD0J9: Replace of L Knee Jt With Synth Sub Cement Open Approach	5,545	1.8%	29.7%
027034Z: Dilation of 1 Cor Art With Drug-Elut Intralum Perc Approach	4,226	1.4%	31.1%
0DJ08ZZ: Inspection of Upper Intestinal Tract Endo	4,203	1.4%	32.5%
0FT44ZZ: Resection of Gallbladder Percutaneous Endoscopic Approach	3,956	1.3%	33.8%
0DB68ZX: Excision of Stomach Endo Diagn	3,756	1.2%	35.0%
0BH17EZ: Insertion of Endotracheal Airway into Trachea via Opening	3,576	1.2%	36.2%
5A1D60Z: Performance of Urinary Filtration Multiple	3,205	1.0%	37.2%
5A1945Z: Respiratory Ventilation 24-96 Consecutive Hours	3,201	1.0%	38.3%
5A09357: Assistance with Respiratory Ventilation <24 Hrs CPAP	2,776	0.9%	39.2%
009U3ZX: Drainage of Spinal Canal Percutaneous Approach Diagnostic	2,715	0.9%	40.0%
0DB64Z3: Excision of Stomach Percutaneous Endoscopic Approach Vert	2,444	0.8%	40.8%
5A1935Z: Respiratory Ventilation Less Than 24 Consecutive Hours	2,213	0.7%	41.6%
5A1955Z: Respiratory Ventilation Greater Than 96 Consecutive Hours	2,155	0.7%	42.3%
0UT90ZZ: Resection of Uterus Open Approach	1,688	0.6%	42.8%
0W9G3ZZ: Drainage of Peritoneal Cavity Percutaneous Approach	1,593	0.5%	43.3%
0DTJ4ZZ: Resection of Appendix Percutaneous Endoscopic Approach	1,568	0.5%	43.9%
5A1D00Z: Performance of Urinary Filtration Single	1,478	0.5%	44.3%
0DJD8ZZ: Inspection of Lower Intestinal Tract Endo	1,445	0.5%	44.8%
5A09457: Assistance with Respiratory Ventilation 24-96 Hrs CPAP	1,443	0.5%	45.3%
5A2204Z: Restoration of Cardiac Rhythm Single	1,437	0.5%	45.8%
05HM33Z: Insert Infusion Dev in R Int Jugular Vein Perc	1,386	0.5%	46.2%
10907ZC: Drainage of Amniotic Fl Therap From Poc via Opening	1,360	0.4%	46.7%
0DB98ZX: Excision of Duodenum Endo Diagn	1,356	0.4%	47.1%
B24BZZ4: Ultrasonography of Heart With Aorta Transesophageal	1,253	0.4%	47.5%
10D07Z6: Extraction of Products of Conception Vacuum via Opening	1,239	0.4%	47.9%
0KQM0ZZ: Repair Perineum Muscle Open Approach	1,186	0.4%	48.3%
3E033VJ: Introduction of Oth Hormone Into Periph Vein Perc Approach	1,052	0.3%	48.6%
0W993ZZ: Drainage of Right Pleural Cavity Percutaneous Approach	1,046	0.3%	49.0%
All Others	156,039	51.0%	100.0%
<b>TOTAL PRIMARY PROCEDURES</b>	<b>305,873</b>	<b>100.0%</b>	

For this table above, ICD-10 procedure codes were used for the entire period. A cursory examination shows similar numbers of discharge cases from the previous year when the cases for the more detailed ICD-10 codes are aggregated. By using the top 30 procedure codes, some codes from previous years may not show on the current year listing.

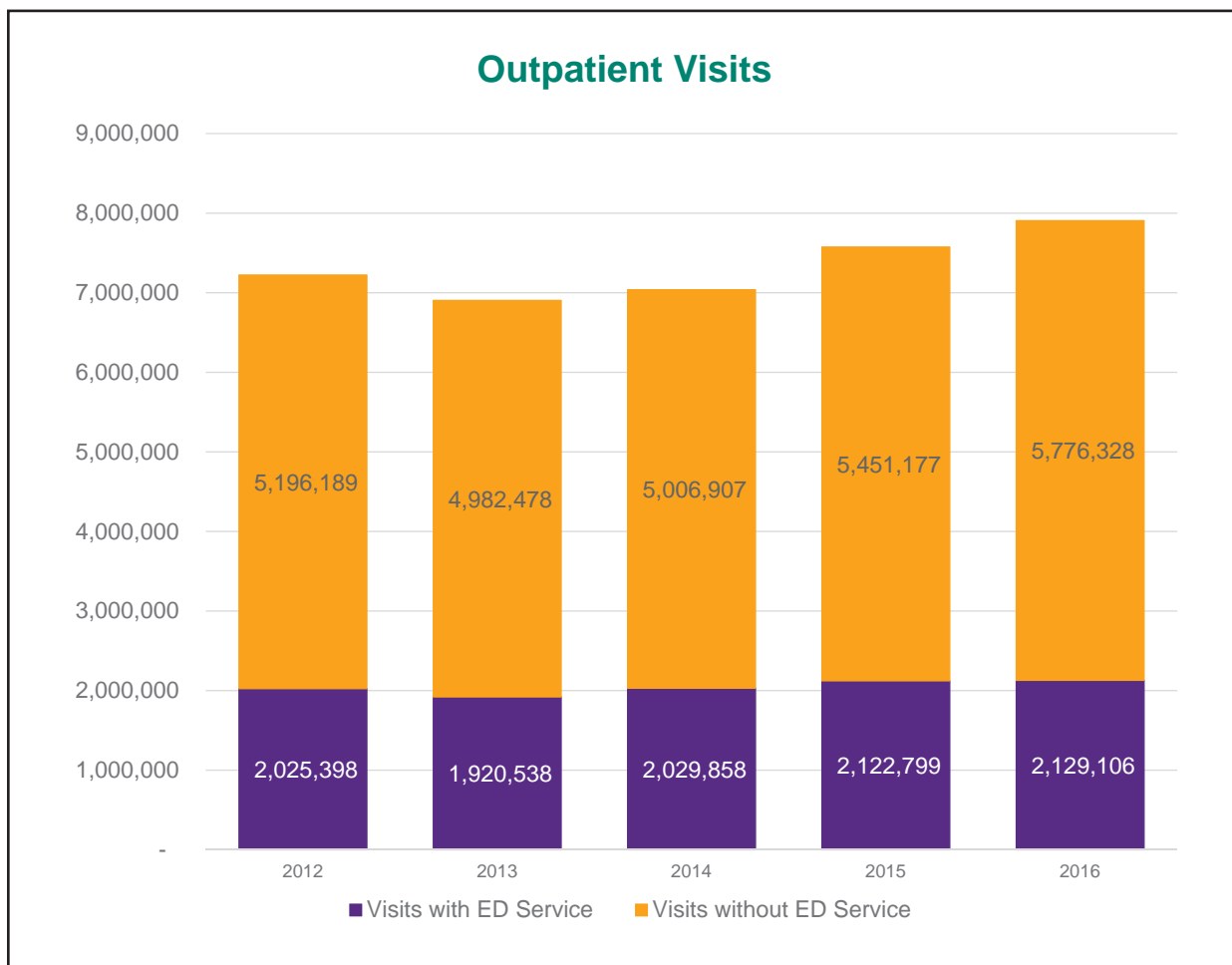
# Outpatient Utilization

## Outpatient Visits

Kentucky community hospitals provided nearly 8 million outpatient visits in 2016. Emergency department (ED) discharges (not subsequently admitted) make up an ever-smaller portion of the total. Both types of outpatient discharges had the highest number in 2016.

Year	Visits with ED	% Change from Previous Year	Visits without ED	% Change from Previous Year	Total Visits
2012	2,025,398	0.7%	5,196,189	5.7%	7,221,587
2013	1,920,538	-5.2%	4,982,478	-4.1%	6,903,016
2014	2,029,858	5.7%	5,006,907	0.5%	7,036,765
2015	2,122,799	4.6%	5,451,177	8.9%	7,573,976
2016	2,129,106	0.3%	5,776,328	6.0%	7,905,434

**Source:** KHA InfoSuite; for Visits with ED for 2012-2014, Kentucky Annual Hospital Utilization and Services Report Excludes Freestanding ED Visits



# Outpatient Surgery

Outpatient Surgery cases performed in hospital or hospital-related outpatient facilities have consistently increased, rising to an all-time high level in 2016. As in prior years, acquisition of freestanding facilities by KHA member hospitals/systems may account for some of the increases. Surgery – Digestive cases continue to be approximately one-third of total cases.

Surgery Service Line	2012	Rank	% of Total	2013	Rank	% of Total	2014	Rank	% of Total	2015	Rank	% of Total	2016	Rank	% of Total
Surgery - Digestive	208,790	1	32.8%	206,501	1	33.2%	225,678	1	33.0%	240,052	1	32.2%	252,040	1	32.6%
Surgery - Musculoskeletal	68,712	3	10.8%	71,695	2	11.5%	78,836	3	11.5%	89,299	2	12.0%	94,950	2	12.3%
Surgery - Integumentary	77,486	2	12.2%	68,313	4	11.0%	81,875	2	12.0%	88,690	3	11.9%	91,272	3	11.8%
Surgery - Nervous System	68,201	4	10.7%	69,856	3	11.2%	72,572	4	10.6%	83,941	4	11.3%	86,413	4	11.2%
Surgery - Skin Subcut and Accessory	46,769	5	7.4%	45,651	5	7.3%	53,648	5	7.8%	59,421	5	8.0%	58,310	5	7.5%
Surgery - Eye	34,420	6	5.4%	34,791	6	5.6%	36,851	6	5.4%	38,386	6	5.1%	39,045	6	5.0%
Surgery - Cardiovascular	33,996	7	5.3%	30,870	8	5.0%	33,091	8	4.8%	35,886	7	4.8%	37,611	7	4.9%
Surgery - Urinary	32,351	8	5.1%	32,876	7	5.3%	34,881	7	5.1%	35,405	8	4.7%	36,088	8	4.7%
Surgery - Female Genital	28,674	9	4.5%	26,895	9	4.3%	30,168	9	4.4%	32,524	9	4.4%	33,957	9	4.4%
Surgery - Respiratory	15,652	10	2.5%	14,683	10	2.4%	17,057	10	2.5%	18,646	10	2.5%	19,191	10	2.5%
Surgery - Auditory System	11,348	11	1.8%	10,743	11	1.7%	10,311	11	1.5%	11,635	11	1.6%	12,525	11	1.6%
Surgery - Hemic and Lymph	4,516	13	0.7%	4,241	13	0.7%	4,731	12	0.7%	6,053	12	0.8%	6,715	12	0.9%
Surgery - Male Genital	4,876	12	0.8%	4,534	12	0.7%	4,674	13	0.7%	5,105	13	0.7%	5,320	13	0.7%
Surgery - Misc Codes	15	15	0.0%	107	15	0.0%	66	15	0.0%	94	15	0.0%	203	14	0.0%
Surgery - Mediastinum & Diaphragm	349	14	0.1%	310	14	0.0%	321	14	0.0%	252	14	0.0%	9	15	0.0%
<b>TOTAL</b>	<b>636,155</b>		<b>100.0%</b>	<b>622,066</b>		<b>100.0%</b>	<b>684,760</b>		<b>100.0%</b>	<b>745,389</b>		<b>100.0%</b>	<b>773,649</b>		<b>100.0%</b>

Includes Acute, Children's, CAH and related Ambulatory Centers

## Outpatient Cases with One or More Surgical Procedures by Product Line by Area Development District

For 2016, as in years past, one of four outpatient cases with surgical procedures occur in facilities in the Kentuckiana Area Development District, followed by the Bluegrass Area Development District (19.7 percent of the total). Distribution has not change significantly from the previous year.

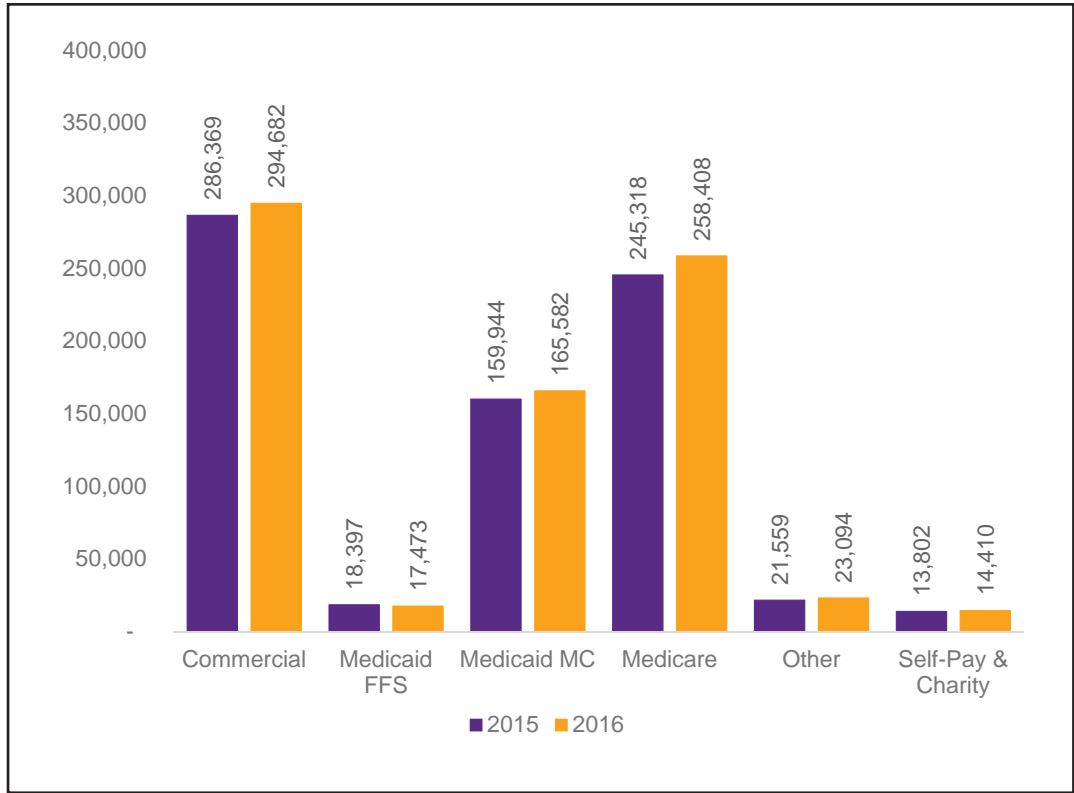
CY 2016 Hospital Area Development District	Surgery - Auditory System	Surgery - Cardiovascular	Surgery - Digestive	Surgery - Eye	Surgery - Female Genital	Surgery - Hemic and Lymph	Surgery - Integumentary	Surgery - Male Genital	Surgery - Mediastinum & Diaphragm	Surgery - Misc Codes	Surgery - Musculoskeletal	Surgery - Nervous System	Surgery - Respiratory	Surgery - Skin Subcut and Accessory	Surgery - Urinary	Grand Total
01 - Purchase	796	2,596	20,691	1,201	1,778	305	4,420	227	1	7	6,114	7,335	822	4,485	2,154	52,932
02 - Pennyrite	411	1,177	11,610	2,918	600	121	3,433	292		1	3,390	2,456	398	2,968	1,060	30,835
03 - Green River	597	1,243	8,242	451	1,874	222	3,347	255		20	2,558	2,119	940	2,991	1,807	26,666
04 - Barren River	873	1,728	18,750	1,698	2,598	186	6,072	247	1	1	6,076	2,734	1,175	3,300	1,828	47,267
05 - Lincoln Trail	497	1,144	15,194	2,763	1,674	186	5,039	217			4,246	3,596	666	2,713	2,222	40,157
06 - Kentuckiana	3,237	10,851	61,022	5,935	8,733	2,453	22,462	1,445	1	134	22,842	33,090	4,559	9,086	7,630	193,480
07 - Northern Kentucky	311	2,674	10,189	5,063	2,062	476	9,105	172	2	12	7,451	5,309	1,377	10,376	1,953	56,532
08 - Buffalo Trace	100	334	2,842	474	513	9	1,050	74			521	130	186	393	694	7,320
09 - Gateway	103	301	5,264	1,440	266	70	2,521	146			5,317	538	128	2,327	1,689	20,110
10 - FIVCO	824	2,721	16,833	3,730	1,448	210	3,165	192		1	3,109	4,422	1,134	2,295	2,155	42,239
11 - Big Sandy	1,426	1,662	10,635	2,774	2,157	182	3,300	375	2	2	10,941	1,598	1,204	3,404	2,598	42,258
12 - Kentucky River	114	720	4,265	914	544	46	2,003	165			1,372	193	389	1,046	936	12,707
13 - Cumberland Valley	499	1,113	9,763	969	1,569	202	4,024	253		3	2,951	667	513	2,616	1,516	26,658
14 - Lake Cumberland	330	849	7,616	742	795	207	3,587	165		1	1,499	2,529	494	1,913	1,324	22,051
15 - Bluegrass	2,407	8,498	49,124	7,973	7,346	1,840	17,744	1,095	4	21	16,563	19,697	5,206	8,397	6,522	152,437
<b>TOTAL</b>	<b>12,525</b>	<b>37,611</b>	<b>252,040</b>	<b>39,045</b>	<b>33,957</b>	<b>6,715</b>	<b>91,272</b>	<b>5,320</b>	<b>9</b>	<b>203</b>	<b>94,950</b>	<b>86,413</b>	<b>19,191</b>	<b>58,310</b>	<b>36,088</b>	<b>773,649</b>

Growth in total outpatient cases with surgical procedures slowed to 3.8 percent from 2015, after an increase of 8.4 percent from 2014 to 2015. As in the previous year report, Gateway ADD and Big Sandy continued to have a high rate of growth, when compared to other ADDs, though less than the rate for the previous year. Three ADDs had decreases of at least one percent from the previous year's totals: Barren River (-4.2 percent); Lincoln Trail (-2.5 percent); and Lake Cumberland (-3.5 percent).

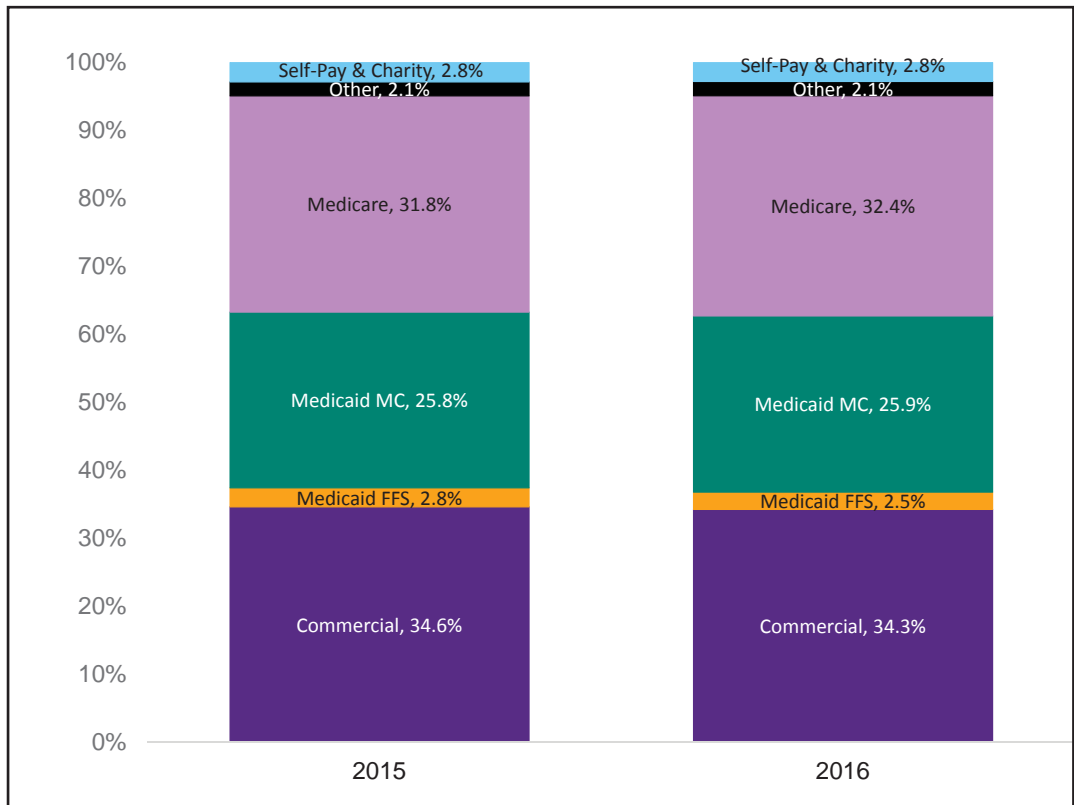
CY 2015 Hospital Area Development District	Surgery - Auditory System	Surgery - Cardiovascular	Surgery - Digestive	Surgery - Eye	Surgery - Female Genital	Surgery - Hemic and Lymph	Surgery - Integumentary	Surgery - Male Genital	Surgery - Mediastinum & Diaphragm	Surgery - Misc Codes	Surgery - Musculoskeletal	Surgery - Nervous System	Surgery - Respiratory	Surgery - Skin Subcut and Accessory	Surgery - Urinary	Grand Total
01 - Purchase	718	2,449	18,759	1,379	1,688	235	4,134	201	12	3	5,655	7,536	835	4,536	1,918	50,058
02 - Pennyrite	455	1,074	10,707	2,502	576	126	3,457	302	4	6	3,547	2,214	462	3,441	941	29,814
03 - Green River	674	1,129	8,552	428	1,836	213	3,463	234	3	15	2,487	1,960	892	2,830	1,798	26,514
04 - Barren River	960	1,830	18,208	2,212	2,215	234	6,304	290	10	1	6,419	3,131	1,589	3,731	2,202	49,336
05 - Lincoln Trail	563	1,015	14,961	2,643	1,695	142	5,188	206		4	4,414	4,766	689	2,706	2,202	41,194
06 - Kentuckiana	3,255	10,131	56,202	6,055	8,683	2,186	21,676	1,353	71	31	22,776	33,771	4,702	10,998	7,437	189,327
07 - Northern Kentucky	303	2,506	10,062	4,105	2,199	381	8,537	194	16	3	7,209	5,154	1,360	8,948	1,894	52,871
08 - Buffalo Trace	107	317	2,854	492	403	9	1,044	78		1	596	145	187	382	738	7,353
09 - Gateway	163	251	4,860	1,230	216	60	2,161	152			3,608	419	127	2,029	1,686	16,962
10 - FIVCO	610	2,709	16,213	3,347	1,303	206	3,141	208	15	5	2,975	3,983	1,043	2,547	2,153	40,458
11 - Big Sandy	879	1,574	11,051	2,604	1,708	194	3,131	331	5	2	8,188	1,619	816	3,455	2,421	37,978
12 - Kentucky River	105	554	4,432	981	549	51	1,859	150			1,260	153	392	947	963	12,396
13 - Cumberland Valley	432	920	10,215	841	1,570	135	3,930	267		2	2,966	874	508	2,641	1,533	26,834
14 - Lake Cumberland	338	743	7,792	1,101	724	240	3,636	119	16	1	1,552	2,573	544	2,183	1,286	22,848
15 - Bluegrass	2,073	8,684	45,184	8,466	7,159	1,641	17,029	1,120	100	20	15,647	15,643	4,500	8,047	6,233	141,446
<b>TOTAL</b>	<b>11,635</b>	<b>35,886</b>	<b>240,052</b>	<b>38,386</b>	<b>32,524</b>	<b>6,053</b>	<b>88,690</b>	<b>5,105</b>	<b>252</b>	<b>94</b>	<b>89,299</b>	<b>83,941</b>	<b>18,646</b>	<b>59,421</b>	<b>35,405</b>	<b>745,389</b>

## Outpatient Cases with Surgical Procedure(s) by Primary Payer

Outpatient cases with surgery saw increases in all payer groups (except Medicaid Fee for Service (FFS) cases) from 2015 to 2016.



As in previous years, distribution percentages changed only slightly between 2015 and 2016.





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## Outpatient Cases with Surgery by Facility Area Development District by Primary Payer, 2015 vs. 2016

As with other metrics, outpatient cases with surgical procedures continued the shift from Self Pay & Charity to other forms of insurance, likely Medicaid Managed Care.

### Commercial Cases

- Cases grew by 8,313 (2.9 percent)
- Five ADDs had reductions in cases. Six ADDs had increases of 500 or more cases each
- Bluegrass had the largest growth with 4,453 cases (7.7 percent), followed by Big Sandy with 1,318 cases (12.5 percent) and Gateway with 1,306 cases (32.4 percent)
- Green River had the largest decrease with -684 cases (-6.1 percent), followed by Lincoln Trail with -588 cases (-4.2 percent)

### Medicaid Fee for Service (includes out-of-state Medicaid programs)

- Cases fell by 924 (-5.0 percent)
- Eight ADDs had reductions in cases
- Purchase had the largest growth with 487 cases (56.1 percent), followed by FIVCO with 409 cases (12.4 percent)
- Kentuckiana had the largest decrease with -1,144 cases (-29.8 percent), followed by Northern Kentucky with -311 cases (-11.5 percent)

### Medicaid Managed Care

- Cases grew by 5,638 (3.5 percent)
- Nine ADDs had increases in cases
- Bluegrass had the largest growth with 3,084 cases (9.9 percent), followed by Northern Kentucky with 1,144 cases (18.2 percent)
- Barren River had the largest decrease with -823 cases (-6.4 percent), followed by Cumberland Valley with -320 cases (-3.1 percent)

### Medicare

- Cases grew by 13,090 (5.3 percent)
- Three ADDs had decreases in cases
- Kentuckiana had the largest growth with 2,800 cases (5.2 percent), followed by Bluegrass with 2,690 cases (6.2 percent) and Big Sandy with 2,312 (15.9 percent)
- Barren River had the largest decrease with -1,213 cases (-7.3 percent), followed by Lake Cumberland with -636 cases (-7.6 percent) and Lincoln Trail with -541 cases (-3.8 percent)

### Self-Pay and Charity (smallest number of total cases)

- Cases grew by 608 (4.4 percent)
- Six ADDs had decreases in cases
- Purchase had the largest growth with 256 cases (43.0 percent), followed by Barren River with 253 cases (30.1 percent)
- Buffalo Trace had the largest decrease with -35 cases (-25.4 percent), followed by Green River with -28 cases (-5.4 percent)

### Other (also small number of total cases)

- Cases grew by 1,535 (7.1 percent)
  - Five ADDs had decreases in cases
  - Kentuckiana had the largest growth with 635 cases (11.3 percent), followed by Bluegrass with 602 cases (16.6 percent)
  - Northern Kentucky had the largest decrease with -214 cases (-9.6 percent), followed by Pennyryle with -179 cases (-15.3 percent)
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## Outpatient Surgery by Payer by Facility ADD: 2016

Hospital ADD	Commercial			Medicaid FFS			Medicaid MC			Medicare			Other			Self-Pay & Charity			Grand Total		
	Visits	% of Row Total	% State Total	Visits	% of Row Total	% State Total	Visits	% of Row Total	% State Total	Visits	% of Row Total	% State Total	Visits	% of Row Total	% State Total	Visits	% of Row Total	% State Total	Visits	% of Row Total	% State Total
01 - Purchase	18,982	37.9%	6.4%	1,355	2.7%	7.8%	8,017	16.0%	4.8%	22,133	44.2%	8.6%	1,594	3.2%	6.9%	851	1.7%	5.9%	52,932	6.8%	6.8%
02 - Pennyrite	10,175	34.1%	3.5%	341	1.1%	2.0%	6,804	22.8%	4.1%	11,915	40.0%	4.6%	989	3.3%	4.3%	611	2.0%	4.2%	30,835	4.0%	4.0%
03 - Green River	10,483	39.5%	3.6%	917	3.5%	5.2%	5,952	22.4%	3.6%	8,028	30.3%	3.1%	793	3.0%	3.4%	493	1.9%	3.0%	26,666	3.4%	3.4%
04 - Barron River	17,186	34.8%	5.8%	241	0.5%	1.4%	11,982	24.3%	7.2%	15,416	31.2%	6.0%	1,426	2.9%	6.2%	1,016	2.1%	7.1%	47,267	6.1%	6.1%
05 - Lincoln Trail	13,339	32.4%	4.5%	188	0.5%	1.1%	9,808	23.8%	5.9%	13,687	33.2%	5.3%	2,511	6.1%	10.9%	624	1.5%	4.3%	40,157	5.2%	5.2%
06 - Kentuckyiana	92,282	48.7%	31.3%	2,701	1.4%	15.5%	31,703	16.7%	19.1%	56,742	30.0%	22.0%	6,225	3.3%	27.0%	3,827	2.0%	26.6%	193,480	25.0%	25.0%
07 - Northern Kentucky	21,635	40.9%	7.3%	2,405	4.5%	13.8%	9,373	17.7%	5.7%	19,074	36.1%	7.4%	2,007	3.8%	8.7%	2,038	3.9%	14.1%	56,532	7.3%	7.3%
08 - Buffalo Trace	2,385	32.4%	0.8%	179	2.4%	1.0%	2,049	27.9%	1.2%	2,371	32.2%	0.9%	233	3.2%	1.0%	103	1.4%	0.7%	7,320	0.9%	0.9%
09 - Gateway	5,340	31.5%	1.8%	142	0.8%	0.8%	5,419	31.9%	3.3%	8,646	51.0%	3.3%	275	1.6%	1.2%	288	1.7%	2.0%	20,110	2.6%	2.6%
10 - FIVCO	14,486	35.8%	4.9%	3,700	9.1%	21.2%	7,139	17.6%	4.3%	15,911	39.3%	6.2%	348	0.9%	1.5%	655	1.6%	4.5%	42,239	5.5%	5.5%
11 - Big Sandy	11,883	31.3%	4.0%	1,105	2.9%	6.3%	11,146	29.3%	6.7%	16,854	44.4%	6.5%	839	2.2%	3.6%	431	1.1%	3.0%	42,258	5.5%	5.5%
12 - Kentucky River	2,342	18.9%	0.8%	139	1.1%	0.8%	5,012	40.4%	3.0%	4,836	39.0%	1.9%	244	2.0%	1.1%	134	1.1%	0.9%	12,707	1.6%	1.6%
13 - Cumberland Valley	6,057	22.6%	2.1%	507	1.9%	2.9%	9,937	37.0%	6.0%	9,138	34.1%	3.5%	517	1.9%	2.2%	502	1.9%	3.5%	26,658	3.4%	3.4%
14 - Lake Cumberland	5,783	25.5%	2.0%	308	1.3%	1.8%	7,016	30.7%	4.2%	7,731	33.8%	3.0%	863	3.8%	3.7%	350	1.5%	2.4%	22,051	2.9%	2.9%
15 - Bluegrass	62,324	44.1%	21.1%	3,245	2.3%	18.6%	34,225	24.2%	20.7%	45,926	32.5%	17.8%	4,230	3.0%	18.3%	2,487	1.8%	17.3%	152,437	19.7%	19.7%
TOTAL	294,682	39.5%	100.0%	17,473	2.3%	100.0%	165,582	22.2%	100.0%	288,408	34.7%	100.0%	23,094	3.1%	100.0%	14,410	1.9%	100.0%	773,649	100.0%	100.0%

## Outpatient Surgery by Payer by Facility ADD: 2015

Hospital ADD	Commercial			Medicaid FFS			Medicaid MC			Medicare			Other			Self-Pay & Charity			Grand Total		
	Visits	% of Row Total	% State Total	Visits	% of Row Total	% State Total	Visits	% of Row Total	% State Total	Visits	% of Row Total	% State Total	Visits	% of Row Total	% State Total	Visits	% of Row Total	% State Total	Visits	% of Row Total	% State Total
01 - Purchase	18,446	36.8%	6.4%	868	1.7%	4.7%	7,608	15.2%	4.8%	20,829	41.6%	8.5%	1,712	3.4%	7.9%	595	1.2%	4.3%	50,058	6.7%	6.7%
02 - Pennyrite	10,169	34.1%	3.6%	321	1.1%	1.7%	6,670	22.4%	4.2%	10,908	36.6%	4.4%	1,168	3.9%	5.4%	578	1.9%	4.2%	29,814	4.0%	4.0%
03 - Green River	11,167	42.1%	3.9%	974	3.7%	5.3%	5,981	22.6%	3.7%	7,204	27.2%	2.9%	667	2.9%	3.1%	521	2.0%	3.8%	26,514	3.6%	3.6%
04 - Barron River	17,495	35.5%	6.1%	187	0.4%	1.0%	12,805	26.0%	8.0%	16,629	33.7%	6.8%	1,439	2.5%	6.7%	781	1.6%	5.7%	49,336	6.6%	6.6%
05 - Lincoln Trail	13,927	33.8%	4.9%	234	0.6%	1.3%	10,048	24.4%	6.3%	14,228	34.5%	5.8%	2,136	5.2%	9.9%	621	1.5%	4.5%	41,194	5.5%	5.5%
06 - Kentuckyiana	91,256	48.2%	31.9%	3,845	2.0%	20.9%	30,910	16.3%	19.3%	53,942	28.5%	22.0%	5,592	3.0%	25.9%	3,782	2.0%	27.4%	189,327	25.4%	25.4%
07 - Northern Kentucky	20,828	39.4%	7.3%	2,716	5.1%	14.8%	7,932	15.0%	5.0%	17,223	32.6%	7.0%	2,221	4.2%	10.3%	1,951	3.7%	14.1%	52,871	7.1%	7.1%
08 - Buffalo Trace	2,362	32.1%	0.8%	150	2.0%	0.8%	2,186	29.7%	1.4%	2,318	31.5%	0.9%	199	2.7%	0.9%	138	1.9%	1.0%	7,353	1.0%	1.0%
09 - Gateway	4,034	23.8%	1.4%	168	1.0%	0.9%	4,926	29.0%	3.1%	7,277	42.9%	3.0%	264	1.6%	1.2%	293	1.7%	2.1%	16,962	2.3%	2.3%
10 - FIVCO	14,141	35.0%	4.9%	3,291	8.1%	17.9%	6,804	16.8%	4.3%	15,122	37.4%	6.2%	476	1.2%	2.2%	624	1.5%	4.5%	40,468	5.4%	5.4%
11 - Big Sandy	10,565	27.8%	3.7%	1,096	2.9%	6.0%	10,720	28.2%	6.7%	14,542	38.3%	5.9%	642	1.7%	3.0%	413	1.1%	3.0%	37,978	5.1%	5.1%
12 - Kentucky River	2,375	19.2%	0.8%	345	2.8%	1.9%	4,842	39.1%	3.0%	4,457	36.0%	1.8%	233	1.9%	1.1%	144	1.2%	1.0%	12,396	1.7%	1.7%
13 - Cumberland Valley	5,789	21.6%	2.0%	795	3.0%	4.3%	10,257	38.2%	6.4%	9,036	33.7%	3.7%	447	1.7%	2.1%	510	1.9%	3.7%	26,834	3.6%	3.6%
14 - Lake Cumberland	5,944	26.0%	2.1%	324	1.4%	1.8%	7,114	31.1%	4.4%	8,367	36.6%	3.4%	735	3.2%	3.4%	364	1.6%	2.6%	22,848	3.1%	3.1%
15 - Bluegrass	57,871	40.9%	20.2%	3,083	2.2%	16.8%	31,141	22.0%	19.5%	43,236	30.6%	17.6%	3,628	2.9%	16.8%	2,487	1.8%	18.0%	141,446	19.0%	19.0%
TOTAL	286,369	38.4%	100.0%	18,397	2.5%	100.0%	159,944	21.5%	100.0%	245,318	32.9%	100.0%	21,559	2.9%	100.0%	13,802	1.9%	100.0%	745,389	100.0%	100.0%

# Emergency Department Utilization

## Emergency Department Cases

For the period between 2015 and 2016, the number of total emergency department (ED) cases (including cases presented in the ED and subsequently admitted, as well as KHA member-owned freestanding ED centers) was fairly stable from 2015 to 2016. Total cases grew by 22,050 (0.9 percent). Emergency cases that were subsequently admitted as inpatients grew by 3,172 (1.1 percent). Emergency cases that were treated and released, including transfers and expirations) grew by 18,878 (0.8 percent). These statistics are based on the patient's ADD, not the facility's ADD.

Patient ADD	2015 IP	% ADD Total Across	% State Cases Down	2015 OP	% ADD Total Across	% State Cases Down	2015 Total	% State Cases Down	2016 IP	% ADD Total Across	% State Cases Down	2016 OP	% ADD Total Across	% State Cases Down	2016 Total	% State Cases Down
01 - Purchase	13,706	12.1%	4.6%	99,254	87.9%	4.4%	112,960	4.4%	13,235	11.6%	4.4%	101,151	88.4%	4.4%	114,386	4.4%
02 - Pennyrite	10,616	10.3%	3.6%	92,743	89.7%	4.1%	103,359	4.1%	10,733	10.7%	3.6%	89,980	89.3%	3.9%	100,713	3.9%
03 - Green River	13,399	11.8%	4.5%	99,697	88.2%	4.4%	113,096	4.4%	13,634	11.7%	4.5%	102,497	88.3%	4.5%	116,131	4.5%
04 - Barren River	14,752	9.0%	4.9%	148,670	91.0%	6.5%	163,422	6.5%	14,222	9.0%	4.7%	143,190	91.0%	6.2%	157,412	6.2%
05 - Lincoln Trail	14,921	10.3%	5.0%	129,758	89.7%	5.7%	144,679	5.7%	14,938	10.2%	5.0%	132,058	89.8%	5.8%	146,996	5.8%
06 - Kentuckiana	64,796	13.0%	21.7%	433,974	87.0%	19.1%	498,770	19.1%	66,001	13.0%	21.9%	442,918	87.0%	19.3%	508,919	19.3%
07 - Northern Kentucky	28,918	13.9%	9.7%	178,393	86.1%	7.8%	207,311	7.8%	28,633	13.9%	9.5%	177,029	86.1%	7.7%	205,662	7.7%
08 - Buffalo Trace	3,115	10.3%	1.0%	27,095	89.7%	1.2%	30,210	1.2%	3,132	10.4%	1.0%	27,099	89.6%	1.2%	30,231	1.2%
09 - Gateway	5,290	10.4%	1.8%	45,750	89.6%	2.0%	51,040	2.0%	5,596	10.2%	1.9%	49,081	89.8%	2.1%	54,677	2.1%
10 - FIVCO	11,498	14.5%	3.9%	67,556	85.5%	3.0%	79,054	3.0%	12,280	15.5%	4.1%	66,767	84.5%	2.9%	79,047	2.9%
11 - Big Sandy	12,446	10.6%	4.2%	104,958	89.4%	4.6%	117,404	4.6%	12,841	11.2%	4.3%	102,315	88.8%	4.5%	115,156	4.5%
12 - Kentucky River	11,946	14.2%	4.0%	72,038	85.8%	3.2%	83,984	3.2%	11,538	14.1%	3.8%	70,108	85.9%	3.1%	81,646	3.1%
13 - Cumberland Valley	19,408	10.6%	6.5%	162,882	89.4%	7.2%	182,290	7.2%	19,240	10.5%	6.4%	163,798	89.5%	7.1%	183,038	7.1%
14 - Lake Cumberland	11,787	9.3%	3.9%	114,790	90.7%	5.0%	126,577	5.0%	11,698	9.1%	3.9%	116,412	90.9%	5.1%	128,110	5.1%
15 - Bluegrass	44,827	10.4%	15.0%	388,255	89.6%	17.1%	433,082	17.1%	45,571	10.4%	15.1%	394,095	89.6%	17.2%	439,666	17.2%
99 - Out of State	17,154	13.6%	5.7%	109,407	86.4%	4.8%	126,561	4.8%	18,459	13.8%	6.1%	115,600	86.2%	5.0%	134,059	5.0%
Total	298,579	11.6%	100.0%	2,275,220	88.4%	100.0%	2,573,799	100.0%	301,751	11.6%	100.0%	2,294,098	88.4%	100.0%	2,595,849	100.0%

Six ADDs had decreases, with five each having decreases of more than 1,000 cases. Barren River had the largest decrease (-6,010 cases or -3.7 percent). Three other ADDs had decreases of 2,000 cases or more. Kentuckiana had the largest overall increases in cases (10,149 or 2.0 percent), followed by Bluegrass (7,498 or 5.9 percent). Cases from out-of-state grew by 7,498 (5.9 percent).

## Emergency Services Cases by Primary Payer

Primary Payer	2015 IP	% ADD Total Across	% State Cases Down	2015 OP	% ADD Total Across	% State Cases Down	2015 Total	% State Cases Down	2016 IP	% ADD Total Across	% State Cases Down	2016 OP	% ADD Total Across	% State Cases Down	2016 Total	% State Cases Down
Commercial	56,373	8.8%	18.9%	586,388	91.2%	25.8%	642,761	25.0%	54,655	8.6%	18.1%	578,350	91.4%	25.2%	633,005	24.4%
Medicaid FFS	11,080	10.6%	3.7%	93,823	89.4%	4.1%	104,903	4.1%	10,548	10.8%	3.5%	87,390	89.2%	3.8%	97,938	3.8%
Medicaid MC	60,905	6.0%	20.4%	953,908	94.0%	41.9%	1,014,813	39.4%	61,950	6.0%	20.5%	966,100	94.0%	42.1%	1,028,050	39.6%
Medicare	160,445	26.7%	53.7%	440,904	73.3%	19.4%	601,349	23.4%	164,128	26.4%	54.4%	457,440	73.6%	19.9%	621,568	23.9%
Other	4,339	6.8%	1.5%	59,352	93.2%	2.6%	63,691	2.5%	5,047	7.3%	1.7%	64,273	92.7%	2.8%	69,320	2.7%
Self-Pay & Charity	5,437	3.7%	1.8%	140,845	96.3%	6.2%	146,282	5.7%	5,423	3.7%	1.8%	140,545	96.3%	6.1%	145,968	5.6%
Total	298,579	11.6%	100.0%	2,275,220	88.4%	100.0%	2,573,799	100.0%	301,751	11.6%	100.0%	2,294,098	88.4%	100.0%	2,595,849	100.0%

Commercial cases decreased in 2016, after growth from the previous year. The largest growth came in Medicare cases and Medicaid Managed Care cases. For Medicaid cases in total, the net increase was 6,272 cases.

## Changes in Emergency Services Cases by Primary Payer

Primary Payer	IPED Change from 2015 to 2016	%	OPED Change from 2015 to 2016	%	Total Change from 2015 to 2016	%
Commercial	(1,718)	-3.0%	(8,038)	-1.4%	(9,756)	-1.5%
Medicaid FFS	(532)	-4.8%	(6,433)	-6.9%	(6,965)	-6.6%
Medicaid MC	1,045	1.7%	12,192	1.3%	13,237	1.3%
Medicare	3,683	2.3%	16,536	3.8%	20,219	3.4%
Other	708	16.3%	4,921	8.3%	5,629	8.8%
Self-Pay & Charity	(14)	-0.3%	(300)	-0.2%	(314)	-0.2%
Total	3,172	1.1%	18,878	0.8%	22,050	0.9%

## Discharge Diagnoses for Inpatient Cases with Emergency Department Services

Even with the coding changes from ICD-9 to ICD-10, the top primary diagnoses for inpatient cases with ED were similar to cases in 2015, with unspecified sepsis again at the top, followed by the same or similar diagnoses from previous years.

As in previous years, the top 46 diagnosis codes make up 44.6 percent of the total.

Diagnosis Code	2016 Cases	% of Total	Cumulative %
A419: Sepsis Unspecified Organism	21,543	7.0%	7.0%
J189: Pneumonia Unspecified Organism	10,898	3.6%	10.6%
J441: Chronic Obstructive Pulmonary Disease w (Acute) Exacerbation	10,171	3.3%	13.9%
N179: Acute Kidney Failure Unspecified	8,022	2.6%	16.5%
I214: Non-St Elevation (Nstemi) Myocardial Infarction	5,952	1.9%	18.5%
N390: Urinary Tract Infection Site Not Specified	4,696	1.5%	20.0%
I639: Cerebral Infarction Unspecified	3,965	1.3%	21.3%
I5033: Acute on Chronic Diastolic (Congestive) Heart Failure	3,824	1.2%	22.5%
I5023: Acute on Chronic Systolic (Congestive) Heart Failure	3,548	1.2%	23.7%
J9621: Acute and Chronic Respiratory Failure with Hypoxia	3,263	1.1%	24.8%
J9601: Acute Respiratory Failure With Hypoxia	2,936	1.0%	25.7%
J440: Chronic Obstructive Pulmon Disease w Acute Lower Resp Infct	2,621	0.9%	26.6%
F332: Major Depressv Disorder Recurrent Severe w/o Psych Features	2,554	0.8%	27.4%
E1010: Type 1 Diabetes Mellitus with Ketoacidosis without Coma	2,369	0.8%	28.2%
I4891: Unspecified Atrial Fibrillation	2,344	0.8%	28.9%
I480: Paroxysmal Atrial Fibrillation	2,190	0.7%	29.7%
K5660: Unspecified Intestinal Obstruction	2,182	0.7%	30.4%
I2699: Other Pulmonary Embolism Without Acute Cor Pulmonale	2,140	0.7%	31.1%
J690: Pneumonitis Due to Inhalation of Food and Vomit	2,108	0.7%	31.8%
K859: Acute Pancreatitis Unspecified	2,070	0.7%	32.4%
F329: Major Depressive Disorder Single Episode Unspecified	2,060	0.7%	33.1%
K922: Gastrointestinal Hemorrhage Unspecified	1,991	0.6%	33.8%
J9622: Acute and Chronic Respiratory Failure with Hypercapnia	1,842	0.6%	34.4%
K529: Noninfective Gastroenteritis and Colitis Unspecified	1,819	0.6%	34.9%
I5043: Acute on Chronic Combined Systolic and Diastolic Hrt Fail	1,772	0.6%	35.5%
I130: Hyp Hrt & Chr Kdny Dis w Hrt Fail and Stg 1-4/Unsp Chr Kdny	1,726	0.6%	36.1%
L03116: Cellulitis of Left Lower Limb	1,711	0.6%	36.6%
A047: Enterocolitis Due to Clostridium Difficile	1,511	0.5%	37.1%
I25110: Athscl Heart Disease of Native Cor Art w Unstable Ang Pctrs	1,492	0.5%	37.6%
L03115: Cellulitis of Right Lower Limb	1,462	0.5%	38.1%
R55: Syncope and Collapse	1,447	0.5%	38.6%
A4151: Sepsis Due to Escherichia Coli [E. Coli]	1,394	0.5%	39.0%
E860: Dehydration	1,373	0.4%	39.5%
E860: Accidental Poisoning by Alcohol Nec	1,373	0.4%	39.9%
R079: Chest Pain Unspecified	1,356	0.4%	40.4%
G459: Transient Cerebral Ischemic Attack Unspecified	1,350	0.4%	40.8%
R0789: Other Chest Pain	1,260	0.4%	41.2%
E871: Hypo-Osmolality and Hyponatremia	1,246	0.4%	41.6%
E871: Foreign Object Left in Body During Procedure	1,246	0.4%	42.0%
F10239: Alcohol Dependence with Withdrawal Unspecified	1,216	0.4%	42.4%
T814XXA: Infection Following a Procedure Initial Encounter	1,173	0.4%	42.8%
I110: Hypertensive Heart Disease with Heart Failure	1,136	0.4%	43.2%
E1310: Oth Diabetes Mellitus with Ketoacidosis without Coma	1,126	0.4%	43.6%
F39: Unspecified Mood [Affective] Disorder	1,033	0.3%	43.9%
K8000: Calculus of Gallbladder w Acute Cholecyst w/o Obstruction	1,024	0.3%	44.2%
K5732: Dvtrcli of Lg Int w/o Perforation or Abscess w/o Bleeding	1,009	0.3%	44.6%
All Others	169,930	55.4%	100.0%
TOTAL	306,474	100.0%	

## Discharge Diagnoses for Outpatient Cases with Emergency Department Services

The top 39 diagnosis codes for outpatient cases with emergency services made up 33.4 percent of the total. As with the inpatient cases, the top primary diagnosis codes are similar in nature, centering on chest pain, respiratory and urinary diagnoses and cardiac diagnoses.

Diagnosis Code	2016 Cases	% of Total	Cumulative %
R0789: Other Chest Pain	56,882	2.5%	2.5%
J069: Acute Upper Respiratory Infection Unspecified	48,225	2.1%	4.5%
N390: Urinary Tract Infection Site Not Specified	45,799	2.0%	6.5%
R079: Chest Pain Unspecified	43,618	1.9%	8.4%
R109: Unspecified Abdominal Pain	33,519	1.5%	9.9%
J209: Acute Bronchitis Unspecified	28,654	1.2%	11.1%
R51: Headache	28,074	1.2%	12.3%
M545: Low Back Pain	27,351	1.2%	13.5%
J029: Acute Pharyngitis Unspecified	26,457	1.1%	14.7%
R112: Nausea With Vomiting Unspecified	25,671	1.1%	15.8%
J020: Streptococcal Pharyngitis	22,261	1.0%	16.7%
K529: Noninfective Gastroenteritis and Colitis Unspecified	22,093	1.0%	17.7%
R55: Syncope and Collapse	20,806	0.9%	18.6%
J441: Chronic Obstructive Pulmonary Disease w (Acute) Exacerbation	19,384	0.8%	19.4%
S39012A: Strain of Muscle Fascia and Tendon of Lower Back Init	19,005	0.8%	20.2%
S161XXA: Strain of Muscle Fascia and Tendon at Neck Level Init	18,583	0.8%	21.1%
J189: Pneumonia Unspecified Organism	17,993	0.8%	21.8%
I10: Essential (Primary) Hypertension	17,900	0.8%	22.6%
B349: Viral Infection Unspecified	17,289	0.7%	23.4%
S0990XA: Unspecified Injury of Head Initial Encounter	16,386	0.7%	24.1%
K5900: Constipation Unspecified	15,802	0.7%	24.7%
J40: Bronchitis Not Specified as Acute or Chronic	15,078	0.7%	25.4%
R509: Fever Unspecified	14,987	0.6%	26.0%
G43909: Migraine Unsp Not Intractable without Status Migrainosus	14,841	0.6%	26.7%
R42: Dizziness and Giddiness	14,807	0.6%	27.3%
R1013: Epigastric Pain	12,882	0.6%	27.9%
R1031: Right Lower Quadrant Pain	10,876	0.5%	28.4%
R1084: Generalized Abdominal Pain	10,768	0.5%	28.8%
S0181XA: Laceration w/o Foreign Body of Oth Part of Head Init Encntr	10,635	0.5%	29.3%
F419: Anxiety Disorder Unspecified	10,258	0.4%	29.7%
R1011: Right Upper Quadrant Pain	9,865	0.4%	30.2%
N201: Calculus of Ureter	9,684	0.4%	30.6%
R1110: Vomiting Unspecified	9,575	0.4%	31.0%
R21: Rash and Other Nonspecific Skin Eruption	9,287	0.4%	31.4%
J111: Flu Due to Unidentified Influenza Virus w Oth Resp Manifest	9,139	0.4%	31.8%
E860: Dehydration	9,116	0.4%	32.2%
E860: Accidental Poisoning by Alcohol Nec	9,116	0.4%	32.6%
R197: Diarrhea Unspecified	9,110	0.4%	33.0%
K088: Other Specified Disorders of Teeth and Supporting Structures	9,100	0.4%	33.4%
All Others	1,539,716	66.6%	100.0%
TOTAL	2,310,592	100.0%	

# Inpatient Psychiatric Utilization

Comparison of psychiatric beds by facility type shows only small changes in bed compliment and small changes in the percentage of beds in operation over the five-year period. For all but one year, distinct part psychiatric beds in acute care hospitals have exceeded 80 percent, with the highest percentage occurring in 2016. For beds in free-standing facilities, the percentage in operation also tops 80 percent, with a small decline over the five-year period. The total beds for the four commonwealth psychiatric facilities, including the Kentucky State Penitentiary in Lyon County, has fluctuated slightly during the same period. However, their beds in operation are below 50 percent, with the lowest portion in 2015 and 2016.

Year	Acute Distinct Part Beds	Beds in Operation	% in Operation	Freestanding Beds	Beds in Operation	% in Operation	State Beds	Beds in Operation	% in Operation	Total Beds	Beds in Operation	% in Operation
2012	1,073	863	80.4%	1,112	942	84.7%	784	384	49.0%	2,969	2,189	73.7%
2013	1,070	816	76.3%	1,112	942	84.7%	784	382	48.7%	2,966	2,140	72.2%
2014	950	796	83.8%	1,112	920	82.7%	784	382	48.7%	2,846	2,098	73.7%
2015	977	838	85.8%	1,112	910	81.8%	784	302	38.5%	2,893	2,050	70.9%
2016	1,009	878	87.0%	1,112	919	82.6%	784	302	38.5%	2,905	2,099	72.3%

The remainder of this section deals only with discharge data submitted to KHA. While not every facility has licensed psychiatric beds, there may be instances of discharges from other types of facilities, based on the final discharge diagnosis of the patient and final MS-DRG assignment for the case. For the five-year period, inpatient psychiatric cases have increased by 4,120 (12.1 percent), with the growth rate slowing from the previous five-year trend. As noted in the previous edition of this publication, cases from 2012 through 2014 had remained essentially stable.

Year	Acute & Children's			Critical Access			Freestanding Psych			All Other			Total		
	Discharges	Discharge Days	ALOS	Discharges	Discharge Days	ALOS	Discharges	Discharge Days	ALOS	Discharges	Discharge Days	ALOS	Discharges	Discharge Days	ALOS
2012	20,814	123,098	5.9	93	312	3.4	13,223	169,471	12.8	1	9	9.0	34,131	292,890	8.6
2013	20,481	120,816	5.9	98	354	3.6	12,543	145,821	11.6	5	84	16.8	33,127	267,075	8.1
2014	21,312	117,440	5.5	66	245	3.7	12,420	127,238	10.2	3	33	11.0	33,801	244,956	7.2
2015	22,092	128,252	5.8	62	230	3.7	14,408	145,545	10.1	79	1,483	18.8	36,641	275,510	7.5
2016	22,091	129,548	5.9	32	106	3.3	15,781	165,209	10.5	347	5,673	16.3	38,251	300,536	7.9

Psychiatric discharge cases rose to the highest level in the last five years, rebounding from a low in 2014. This was a growth of 7,646 cases (2.6 percent). During that same time period, there was a reduction in average length of stay through 2014, with a slight rise through 2016. Differences in average length of stay between private psychiatric hospitals compared to acute care facilities are due to the differences in the mix of patients served in these respective facilities.

Year	Acute & Children's		Critical Access		Freestanding Psych		All Other	
	Discharges	% of All Facility Types	Discharges	% of All Facility Types	Discharges	% of All Facility Types	Discharges	% of All Facility Types
2012	20,814	61.0%	93	0.3%	13,223	38.7%	1	0.0%
2013	20,481	61.8%	98	0.3%	12,543	37.9%	5	0.0%
2014	21,312	63.1%	66	0.2%	12,420	36.7%	3	0.0%
2015	22,092	60.3%	62	0.2%	14,408	39.3%	79	0.2%
2016	22,091	57.8%	32	0.1%	15,781	41.3%	347	0.9%

Private freestanding psychiatric hospitals and psychiatric units in acute care hospitals both treat patients of all ages. However, adults with Medicaid coverage can only be treated in acute care facilities, as Medicaid is federally prohibited from paying for adult care in a freestanding psychiatric hospital. Therefore, the majority of beds in private hospitals are reserved for child and adolescent treatment and a smaller percentage of adults with private insurance.

The table below illustrates the total cases, discharge days and average length of stay for discharges by the patient's Area Development District (ADD) of residence. It is expected that ADDs with larger populations would produce a higher number of discharges.

Patient ADD	2012				2013				2014				2015				2016			
	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges
01 - Purchase	1,275	7,870	6.2	3.7%	1,328	8,773	6.6	4.0%	1,327	8,226	6.2	3.9%	1,630	11,324	6.9	4.4%	1,611	11,736	7.3	4.2%
02 - Pennyrite	1,130	15,179	13.4	3.3%	1,104	12,500	11.3	3.3%	1,143	12,028	10.5	3.4%	1,162	13,543	11.7	3.2%	1,488	15,174	10.2	3.9%
03 - Green River	1,342	8,306	6.2	3.9%	1,358	9,699	7.1	4.1%	1,366	7,260	5.3	4.0%	1,549	9,510	6.1	4.2%	1,653	11,901	7.2	4.3%
04 - Barren River	1,318	9,478	7.2	3.9%	1,364	11,372	8.3	4.1%	1,373	10,572	7.7	4.1%	1,266	10,219	8.1	3.5%	1,345	12,082	9.0	3.5%
05 - Lincoln Trail	2,083	22,225	10.7	6.1%	2,111	21,923	10.4	6.4%	1,887	17,209	9.1	5.6%	1,975	17,475	8.8	5.4%	2,101	19,132	9.1	5.5%
06 - Kentuckiana	7,993	88,792	11.1	23.4%	7,261	64,745	8.9	21.9%	7,054	56,024	7.9	20.9%	8,634	67,947	7.9	23.6%	9,469	81,512	8.6	24.8%
07 - Northern Kentucky	3,058	17,817	5.8	9.0%	3,218	16,974	5.3	9.7%	3,503	16,569	4.7	10.4%	3,523	17,849	5.1	9.6%	3,377	17,501	5.2	8.8%
08 - Buffalo Trace	308	1,747	5.7	0.9%	286	1,717	6.0	0.9%	289	1,869	6.5	0.9%	321	2,216	6.9	0.9%	297	1,896	6.4	0.8%
09 - Gateway	498	2,650	5.3	1.5%	607	3,804	6.3	1.8%	606	4,428	7.3	1.8%	603	4,678	7.8	1.6%	666	4,468	6.7	1.7%
10 - FIVCO	975	6,479	6.6	2.9%	1,057	6,650	6.3	3.2%	1,054	6,040	5.7	3.1%	1,104	7,028	6.4	3.0%	1,237	7,912	6.4	3.2%
11 - Big Sandy	1,465	12,147	8.3	4.3%	1,362	13,584	10.0	4.1%	1,554	12,431	8.0	4.6%	1,517	14,501	9.6	4.1%	1,336	11,099	8.3	3.5%
12 - Kentucky River	1,608	11,764	7.3	4.7%	1,589	13,232	8.3	4.8%	1,540	10,754	7.0	4.6%	1,461	12,950	8.9	4.0%	1,228	12,748	10.4	3.2%
13 - Cumberland Valley	3,162	25,974	8.2	9.3%	2,757	24,081	8.7	8.3%	2,927	21,403	7.3	8.7%	3,126	22,086	7.1	8.5%	3,179	23,823	7.5	8.3%
14 - Lake Cumberland	1,549	11,850	7.7	4.5%	1,546	11,587	7.5	4.7%	1,618	11,897	7.4	4.8%	1,389	9,736	7.0	3.8%	1,509	11,542	7.6	3.9%
15 - Bluegrass	4,317	34,222	7.9	12.6%	3,998	28,282	7.1	12.1%	4,171	29,443	7.1	12.3%	4,834	34,354	7.1	13.2%	5,031	35,450	7.0	13.2%
99 - Out of State	2,050	16,390	8.0	6.0%	2,181	18,152	8.3	6.6%	2,389	18,803	7.9	7.1%	2,547	20,094	7.9	7.0%	2,724	22,560	8.3	7.1%
TOTAL	34,131	292,890	8.6	100.0%	33,127	267,075	8.1	100.0%	33,801	244,956	7.2	100.0%	36,641	275,510	7.5	100.0%	38,251	300,536	7.9	100.0%

Examining the rate of psychiatric discharges by total population, there is some notable variation between patients based on their ADD of residence. The use rate per 1,000 population for Cumberland Valley more than doubled between 2013 and 2014 and has continued to increase, albeit at a slower rate.

Patient ADD	2012			2013			2014			2015			2016		
	Total Population	Discharges	Rate / 1000	Total Population	Discharges	Rate / 1000	Total Population	Discharges	Rate / 1000	Total Population	Discharges	Rate / 1000	Total Population	Discharges	Rate / 1000
01 - Purchase	196,163	1,275	6.4997	196,049	1,328	6.7738	195,934	1,327	6.7727	195,819	1,630	8.3240	195,986	1,611	8.2200
02 - Pennyrite	218,369	1,130	5.1747	217,900	1,104	5.0665	217,432	1,143	5.2568	216,964	1,162	5.3557	216,882	1,488	6.8609
03 - Green River	214,606	1,342	6.2533	215,172	1,358	6.3112	215,739	1,366	6.3317	216,306	1,549	7.1612	216,683	1,653	7.6286
04 - Barren River	288,898	1,318	4.5622	291,249	1,364	4.6833	293,601	1,373	4.6764	295,952	1,266	4.2777	298,418	1,345	4.5071
05 - Lincoln Trail	270,029	2,083	7.7140	270,485	2,111	7.8045	270,941	1,887	6.9646	271,397	1,975	7.2772	273,132	2,101	7.6922
06 - Kentuckiana	973,501	7,993	8.2106	980,705	7,261	7.4039	987,910	7,054	7.1403	995,115	8,634	8.6764	1,003,361	9,469	9.4373
07 - Northern Kentucky	444,796	3,058	6.8751	447,871	3,218	7.1851	450,945	3,503	7.7681	454,020	3,523	7.7596	457,263	3,377	7.3853
08 - Buffalo Trace	56,238	308	5.4768	56,117	286	5.0965	55,997	289	5.1610	55,877	321	5.7448	55,817	297	5.3210
09 - Gateway	82,336	498	6.0484	82,677	607	7.3418	83,019	606	7.2995	83,361	603	7.2336	83,854	666	7.9423
10 - FIVCO	136,708	975	7.1320	136,120	1,057	7.7652	135,532	1,054	7.7768	134,944	1,104	8.1812	134,663	1,237	9.1859
11 - Big Sandy	151,591	1,465	9.6642	150,340	1,362	9.0595	149,089	1,554	10.4233	147,838	1,517	10.2612	146,834	1,336	9.0987
12 - Kentucky River	112,476	1,608	14.2963	111,334	1,589	14.2724	110,191	1,540	13.9758	109,048	1,461	13.3978	108,199	1,228	11.3495
13 - Cumberland Valley	235,691	3,162	13.4159	235,227	2,757	11.7206	234,764	2,927	12.4679	234,300	3,126	13.3419	233,789	3,179	13.5977
14 - Lake Cumberland	207,547	1,549	7.4634	207,693	1,546	7.4437	207,838	1,618	7.7849	207,984	1,389	6.6784	208,354	1,509	7.2425
15 - Bluegrass	784,709	4,317	5.5014	791,862	3,998	5.0489	799,014	4,171	5.2202	806,167	4,834	5.9963	813,531	5,031	6.1842

For the five-year period, inpatient psychiatric cases have increased by 4,120 (12.1 percent). Cases from 2012 through 2014 had remained mostly stable. In 2015, cases increased by 2,840 (8.4 percent). In 2016, cases again increased by 1,610 (4.4 percent), a much lower growth rate than the previous year.

Patient Age Group	2012				2013				2014				2015				2016			
	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges
A - Age 0-5	244	2,760	11.3	0.7%	191	1,787	9.4	0.6%	177	1,239	7.0	0.5%	189	1,930	10.2	0.5%	225	2,274	10.1	0.6%
B - Age 6-17	8,522	121,570	14.3	25.0%	7,996	98,765	12.4	24.1%	8,480	85,090	10.0	25.1%	9,736	100,642	10.3	26.6%	10,188	118,197	11.6	26.6%
C - Age 18-24	3,732	25,083	6.7	10.9%	3,475	21,716	6.2	10.5%	3,527	21,393	6.1	10.4%	4,158	24,745	6.0	11.3%	4,157	25,453	6.1	10.9%
D - Age 25-34	5,138	31,375	6.1	15.1%	4,866	29,348	6.0	14.7%	4,966	26,823	5.4	14.7%	5,413	29,918	5.5	14.8%	5,994	32,692	5.5	15.7%
E - Age 35-44	5,472	33,107	6.1	16.0%	5,315	31,348	5.9	16.0%	5,249	28,243	5.4	15.5%	5,536	30,442	5.5	15.1%	5,627	30,574	5.4	14.7%
F - Age 45-54	5,080	32,553	6.4	14.9%	5,145	33,291	6.5	15.5%	5,155	30,851	6.0	15.3%	5,168	32,262	6.2	14.1%	5,318	34,190	6.4	13.9%
G - Age 55-64	2,946	22,476	7.6	8.6%	3,006	23,954	8.0	9.1%	3,047	22,502	7.4	9.0%	3,164	23,991	7.6	8.6%	3,459	26,530	7.7	9.0%
H - Age 65-74	1,523	12,743	8.4	4.5%	1,618	14,410	8.9	4.9%	1,676	15,401	9.2	5.0%	1,714	16,953	9.9	4.7%	1,771	16,973	9.6	4.6%
I - Age 75-84	959	7,724	8.1	2.8%	999	8,599	8.6	3.0%	1,025	9,432	9.2	3.0%	1,045	10,409	10.0	2.9%	1,038	9,793	9.4	2.7%
J - Age 85+	515	3,499	6.8	1.5%	516	3,857	7.5	1.6%	499	3,982	8.0	1.5%	518	4,218	8.1	1.4%	474	3,860	8.1	1.2%
Total	34,131	292,890	8.6	100.0%	33,127	267,075	8.1	100.0%	33,801	244,956	7.2	100.0%	36,641	275,510	7.5	100.0%	38,251	300,536	7.9	100.0%

In 2016, the patient age mix of cases did not change significantly from previous years. For discharge case changes between CY 2014 and CY 2015, the highest increases occurred in Age 6-17 (1,256 or 14.8 percent) and Age 18-24 (631 or 17.9 percent). The following year, discharge cases increased in Age 25-34 (581 or 10.7 percent) and Age 6-17 (452 or 4.6 percent). During this same period, cases for Age 85+ declined by 44 cases (-8.5 percent).

For children and adolescents, freestanding facilities are the primary facility type for service. For 2016 cases discharged from freestanding facilities, just over half were cases in the Age 6-17 category, as in the previous year. These discharges made up 82.5 percent of discharges for this age group.

Patient Age Group	Freestanding Psych					All Other Hospitals				
	Discharges	Discharge Days	ALOS	% Total Discharges for Age Group	% All Ages	Discharges	Discharge Days	ALOS	% Total Discharges for Age Group	% All Ages
A - Age 0-5	185	1,866	10.1	82.2%	1.2%	40	408	10.2	17.8%	0.2%
B - Age 6-17	8,408	107,861	12.8	82.5%	53.3%	1,780	10,336	5.8	17.5%	7.9%
C - Age 18-24	1,457	12,398	8.5	35.0%	9.2%	2,700	13,055	4.8	65.0%	12.0%
D - Age 25-34	1,636	10,917	6.7	27.3%	10.4%	4,358	21,775	5	72.7%	19.4%
E - Age 35-44	1,466	9,509	6.5	26.1%	9.3%	4,161	21,065	5.1	73.9%	18.5%
F - Age 45-54	1,275	8,702	6.8	24.0%	8.1%	4,043	25,488	6.3	76.0%	18.0%
G - Age 55-64	687	6,167	9	19.9%	4.4%	2,772	20,363	7.3	80.1%	12.3%
H - Age 65-74	370	4,016	10.9	20.9%	2.3%	1,401	12,957	9.2	79.1%	6.2%
I - Age 75-84	210	2,695	12.8	20.2%	1.3%	828	7,098	8.6	79.8%	3.7%
J - Age 85+	87	1,078	12.4	18.4%	0.6%	387	2,782	7.2	81.6%	1.7%
TOTAL	15,781	165,209	10.5	41.3%	100.0%	22,470	135,327	6	58.7%	100.0%

### Psychiatric Discharges by Payer Groups

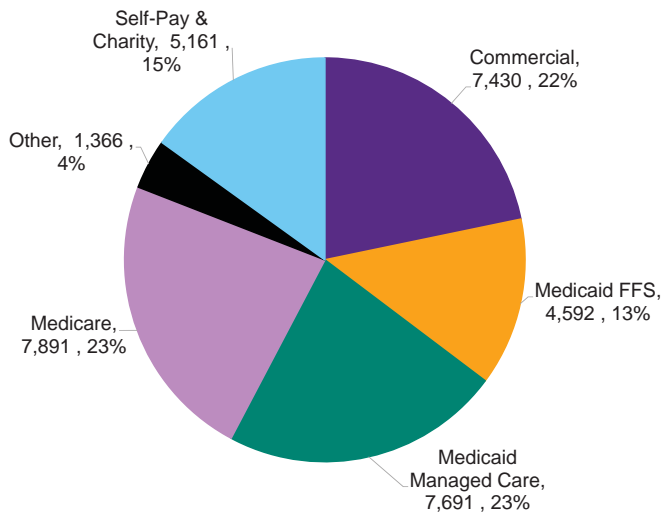
Medicaid recipients were the largest user group of inpatient psychiatric services in 2016 (49.9 percent, down slightly from 2015). Medicaid increased by 562 cases (3.0 percent) in 2016, after a large increase in 2015. All other payer groups had increases, with Commercial being the largest of these with 602 cases (8.0 percent).

Primary Payer	2012				2013				2014				2015				2016			
	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges
Commercial	7,430	49,132	6.6	21.8%	6,947	43,380	6.2	21.0%	7,313	41,850	5.7	21.6%	7,524	46,334	6.2	20.5%	8,126	49,959	6.1	21.2%
Medicaid FFS	4,592	65,216	14.2	13.5%	2,237	19,851	8.9	6.8%	2,905	22,501	7.7	8.6%	2,827	22,480	8.0	7.7%	2,559	24,626	9.6	6.7%
Medicaid MC	7,691	70,628	9.2	22.5%	8,631	88,541	10.3	26.1%	12,339	89,983	7.3	36.5%	15,683	114,012	7.3	42.8%	16,513	128,508	7.8	43.2%
Medicare	7,891	60,707	7.7	23.1%	8,353	67,160	8.0	25.2%	8,344	65,393	7.8	24.7%	8,225	69,300	8.4	22.4%	8,542	71,507	8.4	22.3%
Other	1,366	20,513	15.0	4.0%	1,541	21,043	13.7	4.7%	1,352	17,417	12.9	4.0%	1,373	18,373	13.4	3.7%	1,480	20,154	13.6	3.9%
Self-Pay & Charity	5,161	26,694	5.2	15.1%	5,418	27,100	5.0	16.4%	1,548	7,812	5.0	4.6%	1,009	5,011	5.0	2.8%	1,031	5,782	5.6	2.7%
TOTAL	34,131	292,890	8.6	100.0%	33,127	267,075	8.1	100.0%	33,801	244,956	7.2	100.0%	36,641	275,510	7.5	100.0%	38,251	300,536	7.9	100.0%

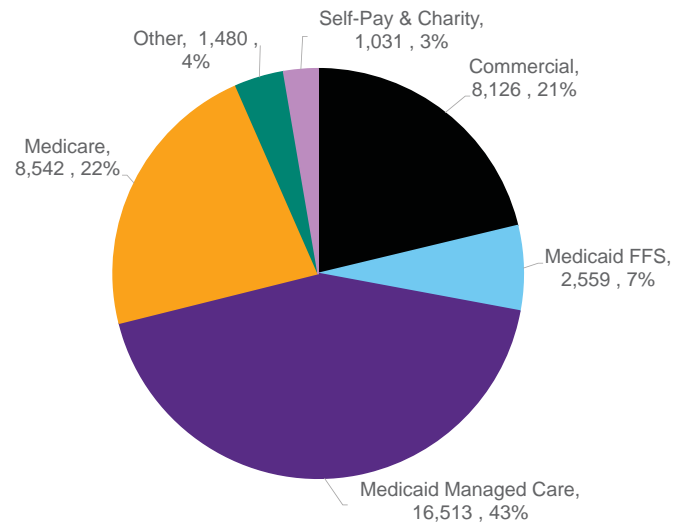


As in the previous year, four of 10 discharge cases came from freestanding facilities. Again, freestanding facilities had a higher percentage of their cases from Commercial and Medicaid Managed Care payers than Distinct Part Acute units. Distinct Part Acute units had a higher mix of Medicare cases and Self-Pay & Charity cases, the latter being in smaller numbers.

**Psychiatric Discharges by Payer: 2012**



**Psychiatric Discharges by Payer: 2016**



**Psychiatric Utilization by Primary Payer by Facility Type: 2016**

Primary Payer	Freestanding Psych					All Other Hospitals				
	Discharges	Discharge Days	ALOS	% Total Discharges for Payer Group	% State Total Discharges (row)	Discharges	Discharge Days	ALOS	% Total Discharges for Payer Group	% State Total Discharges (row)
Commercial	3,338	25,535	7.6	41.1%	21.2%	4,788	24,424	5.1	58.9%	21.3%
Medicaid FFS	668	12,655	18.9	26.1%	4.2%	1,891	11,971	6.3	73.9%	8.4%
Medicaid MC	8,262	84,700	10.3	50.0%	52.4%	8,251	43,808	5.3	50.0%	36.7%
Medicare	2,005	21,425	10.7	23.5%	12.7%	6,537	50,082	7.7	76.5%	29.1%
Other	1,146	17,982	15.7	77.4%	7.3%	334	2,172	6.5	22.6%	1.5%
Self-Pay & Charity	362	2,912	8.0	35.1%	2.3%	669	2,870	4.3	64.9%	3.0%
<b>TOTAL</b>	<b>15,781</b>	<b>165,209</b>	<b>10.5</b>	<b>41.3%</b>	<b>100.0%</b>	<b>22,470</b>	<b>135,327</b>	<b>6.0</b>	<b>58.7%</b>	<b>100.0%</b>

## Inpatient Chemical Dependency Utilization

As with psychiatric cases, Commonwealth of Kentucky facilities are not included in the KHA dataset for chemical dependency. In 2016, chemical dependency discharges were up by 1,354 cases (10.4 percent) from 2015, when cases had increased by 2,358 (22.2 percent). Discharge cases were at their highest level compared to the last four years. Acute and Children's facilities again saw an increase from the previous year (718 cases or 10.4 percent).

Year	Acute & Children's			Critical Access			Freestanding Psych			All Other			Total		
	Cases	Discharge Days	ALOS	Cases	Discharge Days	ALOS	Cases	Discharge Days	ALOS	Cases	Discharge Days	ALOS	Cases	Discharge Days	ALOS
2012	6,115	22,536	3.7	71	199	2.8	4,536	52,762	11.6	1	6	6.0	10,723	75,503	7.0
2013	6,654	25,513	3.8	69	160	2.3	4,752	49,038	10.3	-	-	-	11,475	74,711	6.5
2014	6,060	23,447	3.9	177	572	3.2	4,364	47,401	10.9	1	28	28.0	10,602	71,448	6.7
2015	6,882	27,080	3.9	207	631	3.0	5,871	59,030	10.1	-	-	-	12,960	86,741	6.7
2016	7,600	30,230	4.0	158	453	2.9	6,555	68,317	10.4	1	7	7.0	14,314	99,007	6.9

Acute and Children's facilities still have the small majority of all chemical dependency discharges. Freestanding Psychiatric facilities have maintained their share of cases after a 4.1 percent increase in 2015.

Year	Acute & Children's		Critical Access		Freestanding Psych		All Other	
	Cases	% of All Facility Types	Cases	% of All Facility Types	Cases	% of All Facility Types	Cases	% of All Facility Types
2012	6,115	57.0%	71	0.7%	4,536	42.3%	1	0.0%
2013	6,654	58.0%	69	0.6%	4,752	41.4%	-	0.0%
2014	6,060	57.2%	177	1.7%	4,364	41.2%	1	0.0%
2015	6,882	53.1%	207	1.6%	5,871	45.3%	-	0.0%
2016	7,600	53.1%	158	1.1%	6,555	45.8%	1	0.0%

As in the previous year, over 81 percent of chemical dependency discharges were sent home from Acute/Children's Hospitals. Psychiatric hospitals had a three percent higher rate of discharge where the patient left against medical advice (AMA).

Discharge Status	Acute Care Hospital / Children's Hospital	% of Total	Critical Access Hospital	% of Total	Psychiatric Hospital	% of Total	Rehabilitation Hospital	% of Total	Total	% of Total
Home	6,220	81.8%	116	73.4%	4,269	65.1%	1	100.0%	10,606	74.1%
Cancer Center or Children's Hospital	35	0.5%		0.0%	1,393	21.3%			1,428	10.0%
Left AMA	677	8.9%	18	11.4%	733	11.2%			1,428	10.0%
Psychiatric Facility or Unit	144	1.9%	2	1.3%	119	1.8%			265	1.9%
STACH	155	2.0%	1	0.6%	28	0.4%			184	1.3%
Rehab Facility or Unit	100	1.3%	15	9.5%	2	0.0%			117	0.8%
Skilled Nursing Facility	95	1.3%	1	0.6%	1	0.0%			97	0.7%
Home Health	74	1.0%	1	0.6%	1	0.0%			76	0.5%
Other	55	0.7%	3	1.9%	2	0.0%			60	0.4%
Hospice	11	0.1%							11	0.1%
Expired	11	0.1%							11	0.1%
Misc Health Care Institution	10	0.1%							10	0.1%
LTAC Hospital	3	0.0%			4	0.1%			7	0.0%
Intermediate Care (ICF)	3	0.0%			3	0.0%			6	0.0%
Federal Facility	4	0.1%							4	0.0%
Swing Bed Facility	1	0.0%	1	0.6%					2	0.0%
Critical Access Hospital	2	0.0%							2	0.0%
<b>TOTAL</b>	<b>7,600</b>	<b>100.0%</b>	<b>158</b>	<b>100.0%</b>	<b>6,555</b>	<b>100.0%</b>	<b>1</b>	<b>100.0%</b>	<b>14,314</b>	<b>100.0%</b>

# Chemical Dependency by Area Development District (ADD)

Total chemical dependency discharges increased again in 2016, by 1,354 cases (10.4 percent). Average Length of Stay overall grew by 0.2 days.

In 2016, twelve of fifteen Area Development Districts had increases in discharges from the previous year, with Bluegrass ADD having the highest (380 or 18.6 percent), followed by Kentuckiana ADD (370 or 9.4 percent). Kentucky River ADD had the largest decrease in cases (74 or -11.7 percent).

Patient ADD	2012					2013					2014					2015					2016				
	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	
01 - Purchase	131	1,182	9.0	1.2%	142	1,555	11.0	1.2%	145	1,226	8.5	1.4%	110	1,031	9.4	0.8%	181	1,466	8.1	1.3%	181	1,466	8.1	1.3%	
02 - Pennyrite	333	5,873	17.6	3.1%	222	2,356	10.6	1.9%	208	2,361	11.4	2.0%	180	1,761	9.8	1.4%	254	2,890	11.4	1.8%	254	2,890	11.4	1.8%	
03 - Green River	349	2,090	6.0	3.3%	302	2,573	8.5	2.6%	253	2,127	8.4	2.4%	314	3,208	10.2	2.4%	445	4,250	9.6	3.1%	445	4,250	9.6	3.1%	
04 - Barren River	328	2,851	8.7	3.1%	286	2,684	9.4	2.5%	310	2,928	9.4	2.9%	342	3,635	10.6	2.6%	367	4,734	12.9	2.6%	367	4,734	12.9	2.6%	
05 - Lincoln Trail	528	5,048	9.6	4.9%	544	5,126	9.4	4.7%	523	5,742	11.0	4.9%	618	5,149	8.3	4.8%	628	6,627	10.6	4.4%	628	6,627	10.6	4.4%	
06 - Kentuckiana	2,677	15,162	5.7	25.0%	3,158	16,595	5.3	27.5%	2,822	15,691	5.6	26.6%	3,924	22,295	5.7	30.3%	4,294	25,518	5.9	30.0%	4,294	25,518	5.9	30.0%	
07 - Northern Kentucky	1,388	7,192	5.2	12.9%	1,667	8,240	4.9	14.5%	1,178	6,138	5.2	11.1%	1,429	7,124	5.0	11.0%	1,597	8,039	5.1	11.2%	1,597	8,039	5.1	11.2%	
08 - Buffalo Trace	81	383	4.7	0.8%	71	373	5.3	0.6%	58	344	5.9	0.5%	75	475	6.3	0.6%	98	708	7.2	0.7%	98	708	7.2	0.7%	
09 - Gateway	132	730	5.5	1.2%	135	676	5.0	1.2%	83	530	6.4	0.8%	91	630	6.9	0.7%	125	732	5.9	0.9%	125	732	5.9	0.9%	
10 - FIVCO	345	1,220	3.5	3.2%	319	1,225	3.8	2.8%	280	1,158	4.1	2.6%	231	1,141	4.9	1.8%	374	1,709	4.6	2.6%	374	1,709	4.6	2.6%	
11 - Big Sandy	292	1,559	5.3	1.7%	273	1,698	6.2	2.4%	193	1,109	5.7	1.8%	210	1,153	5.5	1.6%	238	1,278	5.4	1.7%	238	1,278	5.4	1.7%	
12 - Kentucky River	294	1,462	5.0	2.7%	323	1,673	5.2	2.8%	497	1,685	3.4	4.7%	631	2,072	3.3	4.9%	557	1,922	3.5	3.9%	557	1,922	3.5	3.9%	
13 - Cumberland Valley	538	3,575	6.6	5.0%	552	3,419	6.2	4.8%	651	3,615	5.6	6.1%	822	5,319	6.5	6.3%	778	4,843	6.2	5.4%	778	4,843	6.2	5.4%	
14 - Lake Cumberland	223	1,755	7.9	2.1%	171	1,478	8.6	1.5%	260	1,771	6.8	2.5%	320	2,143	6.7	2.5%	298	2,920	9.8	2.1%	298	2,920	9.8	2.1%	
15 - Bluegrass	1,543	10,131	6.6	14.4%	1,620	10,472	6.5	14.1%	1,561	9,807	6.3	14.7%	2,038	12,737	6.2	15.7%	2,418	14,661	6.1	16.9%	2,418	14,661	6.1	16.9%	
99 - Out of State	1,541	15,290	9.9	14.4%	1,690	14,568	8.6	14.7%	1,580	15,216	9.6	14.9%	1,625	16,868	10.4	12.5%	1,662	16,650	10.0	11.6%	1,662	16,650	10.0	11.6%	
TOTAL	10,723	75,503	7.0	100.0%	11,475	74,711	6.5	100.0%	10,602	71,448	6.7	100.0%	12,960	86,741	6.7	100.0%	14,314	99,007	6.9	100.0%	14,314	99,007	6.9	100.0%	

## Chemical Dependency Utilization per 1,000 Population

Patient ADD	2012	2013	2014	2015	2016
01 - Purchase	0.6678	0.7243	0.7400	0.5617	0.9235
02 - Pennyrite	1.5249	1.0188	0.9566	0.8296	1.1711
03 - Green River	1.6262	1.4035	1.1727	1.4516	2.0537
04 - Barren River	1.1353	0.9820	1.0559	1.1556	1.2298
05 - Lincoln Trail	1.9553	2.0112	1.9303	2.2771	2.2993
06 - Kentuckiana	2.7499	3.2201	2.8565	3.9433	4.2796
07 - Northern Kentucky	3.1205	3.7221	2.6123	3.1474	3.4925
08 - Buffalo Trace	1.4403	1.2652	1.0358	1.3422	1.7557
09 - Gateway	1.6032	1.6329	0.9998	1.0916	1.4907
10 - FIVCO	2.5236	2.3435	2.0659	1.7118	2.7773
11 - Big Sandy	1.9262	1.8159	1.2945	1.4205	1.6209
12 - Kentucky River	2.6139	2.9012	4.5104	5.7864	5.1479
13 - Cumberland Valley	2.2827	2.3467	2.7730	3.5083	3.3278
14 - Lake Cumberland	1.0745	0.8233	1.2510	1.5386	1.4303
15 - Bluegrass	1.9663	2.0458	1.9537	2.5280	2.9722
TOTAL KENTUCKIANS	2.0994	2.2285	2.0468	2.5615	2.8452

As in 2015, nearly half of the discharges occurred in the age group 25-44 (50.4 percent), still fairly stable since 2012. The largest growth in cases occurred in the Age 25-34 group, at 549 (17.3 percent), followed by Age 35-44, at 324 cases (10.2 percent). The rise in this age group was one-third of the rise for the previous year.

Patient Age Group	2012				2013				2014				2015				2016			
	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges
A - Age 0-5	1	1	1.0	0.0%	1	6	6.0	0.0%	1	9	9.0	0.0%	2	12	6.0	0.0%	1	1	1.0	0.0%
B - Age 6-17	518	13,120	25.3	4.8%	423	13,127	31.0	3.7%	377	10,979	29.1	3.6%	507	15,169	29.9	3.9%	653	20,045	30.7	4.6%
C - Age 18-24	1,494	9,387	6.3	13.9%	1,436	6,818	4.7	12.5%	1,039	5,579	5.4	9.8%	1,273	7,336	5.8	9.8%	1,256	7,875	6.3	8.8%
D - Age 25-34	2,652	15,640	5.9	24.7%	2,869	14,471	5.0	25.0%	2,628	12,609	4.8	24.8%	3,168	14,676	4.6	24.4%	3,717	17,591	4.7	26.0%
E - Age 35-44	2,356	14,051	6.0	22.0%	2,614	14,183	5.4	22.8%	2,375	13,479	5.7	22.4%	3,168	17,761	5.6	24.4%	3,492	19,142	5.5	24.4%
F - Age 45-54	2,175	12,864	5.9	20.3%	2,436	14,794	6.1	21.2%	2,381	15,325	6.4	22.5%	2,743	16,704	6.1	21.2%	2,959	18,439	6.2	20.7%
G - Age 55-64	1,055	7,091	6.7	9.8%	1,194	7,652	6.4	10.4%	1,271	8,698	6.8	12.0%	1,579	10,899	6.9	12.2%	1,704	11,229	6.6	11.9%
H - Age 65-74	352	2,689	7.6	3.3%	386	2,862	7.4	3.4%	423	4,047	9.6	4.0%	427	3,457	8.1	3.3%	449	4,009	8.9	3.1%
I - Age 75-84	97	577	5.9	0.9%	89	636	7.1	0.8%	93	656	7.1	0.9%	74	570	7.7	0.6%	77	646	8.4	0.5%
J - Age 85+	23	83	3.6	0.2%	27	162	6.0	0.2%	14	67	4.8	0.1%	19	157	8.3	0.1%	6	30	5.0	0.0%
TOTAL	10,723	75,503	7.0	100.0%	11,475	74,711	6.5	100.0%	10,602	71,448	6.7	100.0%	12,960	86,741	6.7	100.0%	14,314	99,007	6.9	100.0%

As in 2015, Freestanding Psychiatry facilities were the overwhelming source of care for chemical dependency for patients age 6-17. All other hospital types again were the majority providers for patients age 75+, with 77.1 percent of the total cases.

Medicaid recipients were the largest user group of inpatient chemical dependency services in 2016 (41,509 inpatient days, 41.9 percent of total days and 7,162 discharges; 50.0 percent of all discharges). All payers except Other had increases in length of stay from 2015 to 2016.

Medicaid Managed Care had the largest increase in cases (938 or 17.5 percent), followed by Self Pay & Charity cases (+251 or 47.5 percent). Only Medicare had a decrease in total cases (-46 or -1.7 percent).

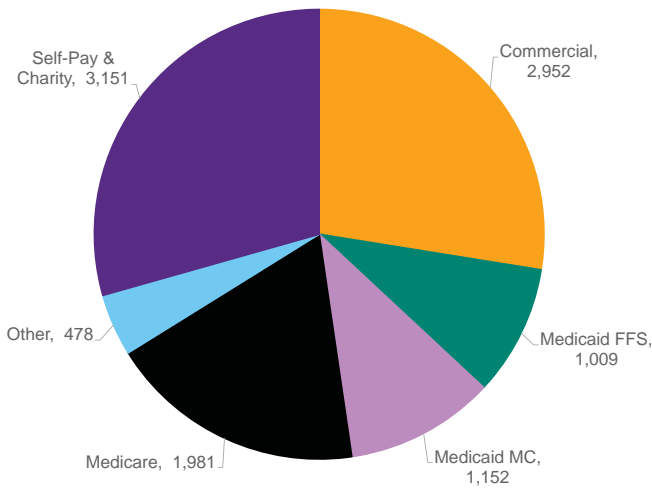
Patient Age Group	Freestanding Psych				All Other Hospitals			
	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges
A - Age 0-5	-	-	-	0.0%	1	1	1.0	100.0%
B - Age 6-17	631	19,959	31.6	96.6%	22	86	3.9	3.4%
C - Age 18-24	704	6,036	8.6	56.1%	552	1,839	3.3	43.9%
D - Age 25-34	1,701	10,625	6.2	45.8%	2,016	6,966	3.5	54.2%
E - Age 35-44	1,463	11,530	7.9	41.9%	2,029	7,612	3.8	58.1%
F - Age 45-54	1,208	11,121	9.2	40.8%	1,751	7,318	4.2	59.2%
G - Age 55-64	654	6,420	9.8	38.4%	1,050	4,809	4.6	61.6%
H - Age 65-74	175	2,334	13.3	39.0%	274	1,675	6.1	61.0%
I - Age 75-84	18	291	16.2	23.4%	59	355	6.0	76.6%
J - Age 85+	1	1	1.0	16.7%	5	29	5.8	83.3%
TOTAL	6,555	68,317	10.4	45.8%	7,759	30,690	4.0	54.2%

Primary Payer	2012				2013				2014				2015				2016			
	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges
Commercial	2,952	14,496	4.9	27.5%	2,762	13,976	5.1	24.1%	2,715	13,344	4.9	25.6%	3,042	18,988	6.2	23.5%	3,185	21,690	6.8	22.3%
Medicaid FFS	1,009	9,818	9.7	9.4%	508	2,066	4.1	4.4%	801	3,154	3.9	7.6%	869	3,593	4.1	6.7%	874	3,702	4.2	6.1%
Medicaid MC	1,152	11,919	10.3	10.7%	1,215	14,318	11.8	10.6%	3,159	19,732	6.2	29.8%	5,350	30,768	5.8	41.3%	6,288	37,807	6.0	43.9%
Medicare	1,981	16,583	8.4	18.5%	2,510	24,172	9.6	21.9%	2,583	26,507	10.3	24.4%	2,782	27,268	9.8	21.5%	2,736	27,670	10.1	19.1%
Other	478	9,432	19.7	4.5%	412	5,500	13.3	3.6%	372	5,016	13.5	3.5%	389	4,035	10.4	3.0%	452	4,537	10.0	3.2%
Self-Pay & Charity	3,151	13,255	4.2	29.4%	4,068	14,679	3.6	35.5%	972	3,695	3.8	9.2%	528	2,089	4.0	4.1%	779	3,601	4.6	5.4%
TOTAL	10,723	75,503	7.0	100.0%	11,475	74,711	6.5	100.0%	10,602	71,448	6.7	100.0%	12,960	86,741	6.7	100.0%	14,314	99,007	6.9	100.0%

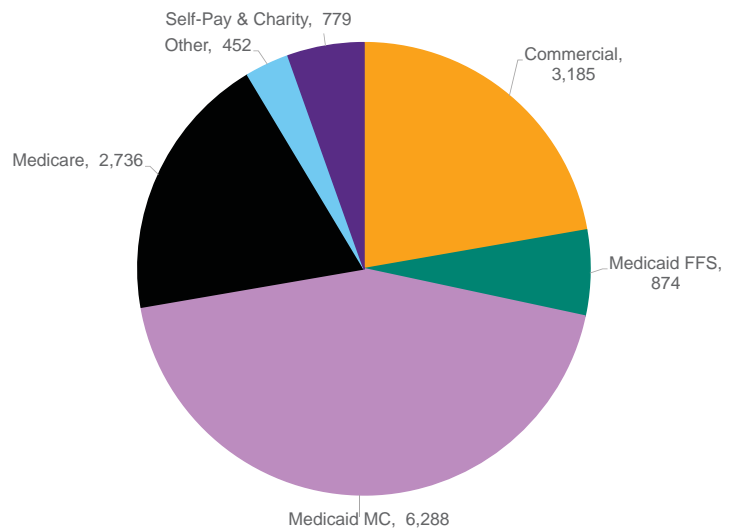
As in 2015, just over 45 percent of total inpatient chemical dependency cases were discharged from freestanding psychiatric facilities in 2016. Freestanding facilities had a higher percentage of their cases from Commercial and Medicare payers than Distinct Part Acute Units. Distinct Part Acute units had a higher mix of Medicaid cases and Self-Pay & Charity cases, being 3.2 times higher in number than Freestanding facilities.

Primary Payer	Freestanding Psych					All Other Hospitals					All Discharges			
	Discharges	Discharge Days	ALOS	% Down	% State Total Discharges (Percent Across)	Discharges	Discharge Days	ALOS	% Down	% State Total Discharges (Percent Across)	Discharges	Discharge Days	ALOS	% Down
Commercial	1,839	16,522	9.0	28.1%	57.7%	1,346	5,168	3.8	17.3%	42.3%	3,185	21,690	6.8	22.3%
Medicaid FFS	209	883	4.2	3.2%	23.9%	665	2,819	4.2	8.6%	76.1%	874	3,702	4.2	6.1%
Medicaid MC	2,496	24,356	9.8	38.1%	39.7%	3,792	13,451	3.5	48.9%	60.3%	6,288	37,807	6	43.9%
Medicare	1,502	21,471	14.3	22.9%	54.9%	1,234	6,199	5.0	15.9%	45.1%	2,736	27,670	10.1	19.1%
Other	325	4,080	12.6	5.0%	71.9%	127	457	3.6	1.6%	28.1%	452	4,537	10	3.2%
Self-Pay & Charity	184	1,005	5.5	2.8%	23.6%	595	2,596	4.4	7.7%	76.4%	779	3,601	4.6	5.4%
TOTAL	6,555	68,317	10.4	100.0%	45.8%	7,759	30,690	4.0	100.0%	54.2%	14,314	99,007	6.9	100.0%

**Chemical Dependency Discharges: 2012**



**Chemical Dependency Discharges: 2016**



# Freestanding Inpatient Rehabilitation Facilities

There have been no significant changes in licensed freestanding rehabilitation beds during the last five years. Beds in operation have dropped by 44 beds in 2016. The KHA Claims Dataset cannot distinguish between acute rehab patients beginning in the fourth quarter of 2015, so this portion of the study includes only Freestanding Rehabilitation facilities' reports to the KHA Claims Data collection.

For the first time in the last five years, discharge cases have declined from the previous year. In addition, the average length of stay fell below 13, to the lowest value in the last five years. This translates into a reduction in licensed bed occupancy. However, occupancy for beds in operation grew to the highest level in the last five years.

As in past years, cases for Freestanding Inpatient Rehabilitation facilities come primarily from the Area Development Districts (ADDs) in which they are located (eighty percent), as shown in the table below. Kentuckiana ADD and Northern Kentucky ADD have a significantly higher dependency on out-of-state patients.

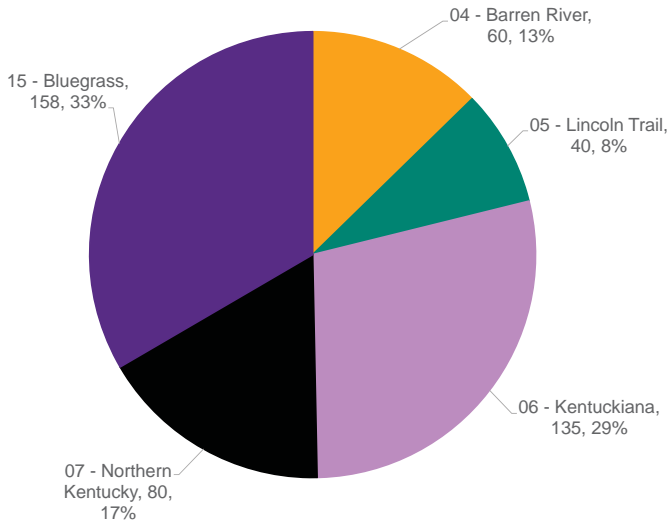
Year	All Licensed Beds		All Beds in Operation		Freestanding Licensed Beds		Freestanding Beds in Operation		% Freestanding to Total Licensed Beds		Freestanding Total Discharge		Freestanding ALOS		Licensed Occupancy		Beds in Operation Occupancy %	
	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016	Discharges	Days	ALOS	2012	2013	2014	2015	2016
	717	717	717	717	717	473	473	417	417	66.0%	7,975	104,077	13.1	60.3%	68.4%			
	643	643	643	643	643	473	473	417	417	66.0%	7,823	100,633	12.9	58.3%	66.1%			
	643	643	643	643	643	473	473	417	417	66.0%	8,580	113,737	13.3	65.9%	74.7%			
	599	599	599	599	599	473	473	425	425	66.0%	8,855	116,694	13.2	67.6%	75.2%			
	408	408	408	408	408	473	473	408	408	66.0%	8,815	113,223	12.8	65.6%	76.0%			

Source: CHFS Annual Hospital Utilization and Service Reports; Discharge Statistics from KHA Claims Data

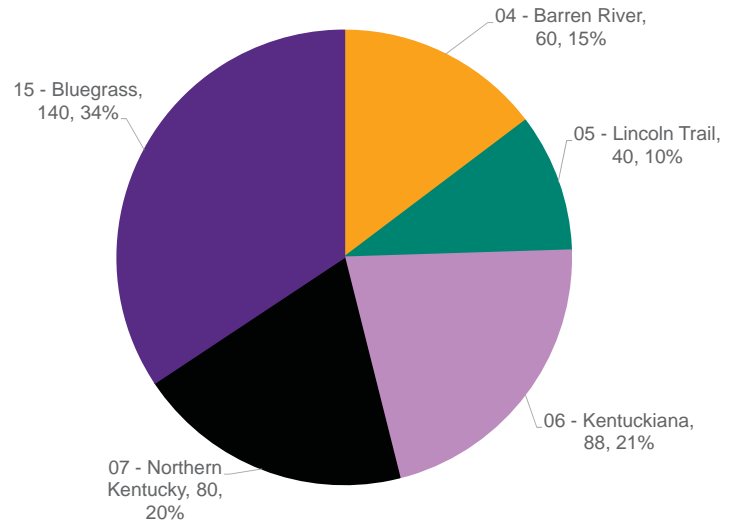
Patient ADD	04 - Barren River				05 - Lincoln Trail				06 - Kentuckiana				07 - Northern Kentucky				15 - Bluegrass				All Freestanding Facilities				
	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	
01 - Purchase	3	26	8.7	0.2%																					
02 - Pennyrite	59	888	15.1	4.2%																					
03 - Green River	15	256	17.1	1.1%	1	14	14.0	0.1%	34	499	14.7	2.0%													
04 - Barren River	1,224	15,117	12.4	87.5%	58	709	12.2	7.5%	37	753	20.4	2.1%													
05 - Lincoln Trail	39	502	12.9	2.8%	590	6,761	11.5	76.1%	176	2,754	15.6	10.2%													
06 - Kentuckiana	8	198	24.8	0.6%	25	297	11.9	3.2%	1,202	17,184	14.3	69.6%	1	17	17.0	0.0%	18	249	15.6	0.6%	1,252	17,945	14.3	14.2%	
07 - Northern Kentucky				0.0%	1	23	23.0	0.1%	17	337	19.8	1.0%	2,244	25,338	11.3	93.0%	18	221	12.3	0.7%	2,280	25,919	11.4	25.9%	
08 - Buffalo Trace									1	9	9.0	0.1%	40	415	10.4	1.7%	59	821	13.9	2.4%	100	1,245	12.5	1.1%	
09 - Gateway									2	20	10.0	0.1%	1	15	15.0	0.0%	102	1,387	13.6	4.1%	105	1,422	13.5	1.2%	
10 - FIVCO									7	201	28.7	0.4%					29	373	12.9	1.2%	36	574	15.9	0.4%	
11 - Big Sandy	1	16	16.0	0.1%					4	47	11.8	0.2%	1	27	27.0	0.0%	68	859	12.6	2.7%	74	949	12.8	0.8%	
12 - Kentucky River									5	54	10.8	0.3%	1	28	28.0	0.0%	98	1,298	13.2	3.9%	104	1,380	13.3	1.2%	
13 - Cumberland Valley									6	137	22.8	0.3%	4	77	19.3	0.2%	148	2,221	15.0	5.9%	160	2,467	15.4	1.8%	
14 - Lake Cumberland									32	500	15.6	1.9%	2	25	12.5	0.1%	107	1,473	13.8	4.3%	274	3,624	13.2	3.1%	
15 - Bluegrass									2	18	9.0	0.1%	1	17	17.0	0.1%	22	312	14.2	1.3%	15	204	13.6	0.6%	
99 - Out of State	7	64	9.1	0.5%	5	52	10.4	0.6%	157	2,527	16.1	9.1%	103	1,349	13.1	4.3%	30	442	14.7	1.2%	1,842	24,073	13.1	20.9%	
TOTAL	1,399	17,642	12.6	100.0%	775	8,974	11.6	100.0%	1,726	25,803	14.9	100.0%	2,412	27,495	11.4	100.0%	2,503	33,309	13.3	100.0%	8,815	113,223	12.8	100.0%	

As in past years, the majority of Freestanding Physical Rehabilitation beds, licensed and in operation, were located in the three most populated regions of the Commonwealth. Two of those three border a large, adjacent out-of-state population.

**Licensed Beds: 2016**



**Beds in Operation: 2016**



As in past years, the largest majority of cases are for patients age 55 and older. This percentage has remained somewhat stable during the last three calendar years, after a slight dip in 2013.

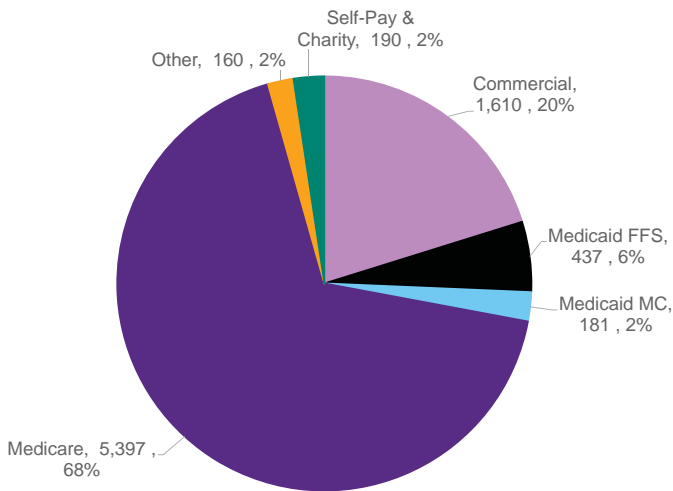
Patient Age Group	2012				2013				2014				2015				2016			
	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges
A - Age 0-5	34	584	17.2	0.4%	28	448	16.0	0.4%	36	963	26.8	0.4%	66	1,780	27.0	0.7%	45	792	17.6	0.5%
B - Age 6-17	84	1,347	16.0	1.1%	91	1,429	15.7	1.2%	124	2,297	18.5	1.4%	120	2,063	17.2	1.4%	126	2,244	17.8	1.4%
C - Age 18-24	130	2,223	17.1	1.6%	134	2,654	19.8	1.7%	151	2,664	17.6	1.8%	166	2,816	17.0	1.9%	165	2,432	14.7	1.9%
D - Age 25-34	180	2,984	16.6	2.3%	175	3,039	17.4	2.2%	229	3,803	16.6	2.7%	267	4,026	15.1	3.0%	308	4,644	15.1	3.5%
E - Age 35-44	312	5,093	16.3	3.9%	306	4,978	16.3	3.9%	367	6,420	17.5	4.3%	426	6,253	14.7	4.8%	434	5,976	13.8	4.9%
F - Age 45-54	722	10,172	14.1	9.1%	776	11,147	14.4	9.9%	937	13,021	13.9	10.9%	1,008	13,111	13.0	11.4%	1,003	12,741	12.7	11.4%
G - Age 55-64	1,532	20,227	13.2	19.2%	1,487	18,991	12.8	19.0%	1,770	23,420	13.2	20.6%	1,906	24,555	12.9	21.5%	1,887	23,740	12.6	21.4%
H - Age 65-74	2,049	25,131	12.3	25.7%	1,868	22,685	12.1	23.9%	2,012	24,800	12.3	23.4%	2,067	26,323	12.7	23.3%	2,076	25,710	12.4	23.6%
I - Age 75-84	1,951	24,195	12.4	24.5%	1,969	23,544	12.0	25.2%	1,872	23,322	12.5	21.8%	1,831	23,164	12.7	20.7%	1,801	22,848	12.7	20.4%
J - Age 85+	981	12,121	12.4	12.3%	989	11,718	11.8	12.6%	1,082	13,027	12.0	12.6%	998	12,603	12.6	11.3%	970	12,096	12.5	11.0%
<b>TOTAL</b>	<b>7,975</b>	<b>104,077</b>	<b>13.1</b>	<b>100.0%</b>	<b>7,823</b>	<b>100,633</b>	<b>12.9</b>	<b>100.0%</b>	<b>8,580</b>	<b>113,737</b>	<b>13.3</b>	<b>100.0%</b>	<b>8,855</b>	<b>116,694</b>	<b>13.2</b>	<b>100.0%</b>	<b>8,815</b>	<b>113,223</b>	<b>12.8</b>	<b>100.0%</b>

Medicare continues to be the dominant payer for these services, declining steadily since 2013, with Commercial being the second largest payer group.

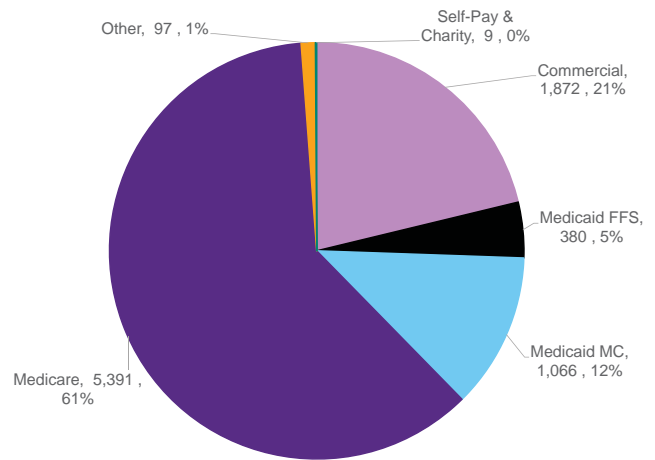
Primary Payer	2012				2013				2014				2015				2016			
	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges
Commercial	1,610	22,681	14.1	20.2%	1,729	24,687	14.3	22.1%	1,877	26,427	14.1	21.9%	1,915	27,429	14.3	21.6%	1,872	26,081	13.9	21.2%
Medicaid FFS	437	7,871	18.0	5.5%	428	7,918	18.5	5.5%	529	9,218	17.4	6.2%	339	5,078	15.0	3.8%	380	5,189	13.7	4.3%
Medicaid MC	181	2,246	12.4	2.3%	189	2,271	12.0	2.4%	581	8,762	15.1	6.8%	971	13,621	14.0	11.0%	1,066	14,408	13.5	12.1%
Medicare	5,397	66,028	12.2	67.7%	5,347	63,739	11.9	68.3%	5,478	66,470	12.1	63.8%	5,537	68,941	12.5	62.5%	5,391	66,077	12.3	61.2%
Other	160	2,225	13.9	2.0%	94	1,437	15.3	1.2%	103	2,720	26.4	1.2%	89	1,563	17.6	1.0%	97	1,336	13.8	1.1%
Self-Pay & Charity	190	3,026	15.9	2.4%	36	581	16.1	0.5%	12	140	11.7	0.1%	4	62	15.5	0.0%	9	132	14.7	0.1%
<b>TOTAL</b>	<b>7,975</b>	<b>104,077</b>	<b>13.1</b>	<b>100.0%</b>	<b>7,823</b>	<b>100,633</b>	<b>12.9</b>	<b>100.0%</b>	<b>8,580</b>	<b>113,737</b>	<b>13.3</b>	<b>100.0%</b>	<b>8,855</b>	<b>116,694</b>	<b>13.2</b>	<b>100.0%</b>	<b>8,815</b>	<b>113,223</b>	<b>12.8</b>	<b>100.0%</b>

A significant increase in Medicaid Managed Care cases occurred during this comparison period. There was a shift of -57 cases for Medicaid Fee for Service, with a large growth of +885 cases for Medicaid Managed Care.”

### Rehabilitation Discharges: 2012



### Rehabilitation Discharges: 2016

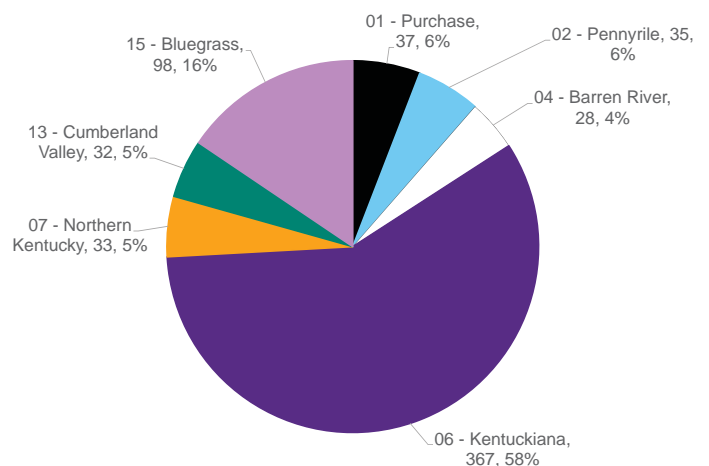


## Long-Term Acute Care Hospital (LTACH)

LTACH beds have seen an uptick in utilization, which began in 2014 with the addition of facilities in Madisonville and Paducah. Correspondingly, total discharges grew during that period, likely reflecting the more convenient location for patients who need this service. In 2015, only 37 discharge cases originated from the Purchase and Pennyrile ADDs. In 2016, this number increased to 201 discharge cases, possibly indicating the previous unmet need for those regions.

Year	Beds in Operation	Total Discharges	Total Discharge Days	Licensed Occupancy %
2012	546	2,599	86,361	43.3%
2013	546	2,516	85,203	42.8%
2014	618	2,734	94,951	42.1%
2015	630	2,868	97,217	42.3%
2016	630	2,956	95,905	41.7%

### LTACH Beds by ADD





## Inpatient LTACH Beds by Type

Patient ADD	01 - Purchase			02 - Pennyrite			04 - Barren River			06 - Kentucky			07 - Northern Kentucky			13 - Cumberland Valley			15 - Bluegrass					
	Discharges	Discharge Days	ALOS	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges	Discharges	Discharge Days	ALOS	% State Total Discharges		
01 - Purchase	59	1,672	28.3	64.8%	1	50	50.0	0.9%	14	364	26.0	6.4%	1	19	19.0	0.1%	1	83	83.0	0.1%				
02 - Pennyrite	17	461	27.1	18.7%	97	2,768	28.5	82.9%	18	489	27.2	15.4%	5	508	46.2	0.9%								
03 - Green River					1	5	5.0	0.9%	169	4,457	26.4	77.2%	29	1,204	41.5	2.3%	1	27	27.0	0.3%				
04 - Barren River					12	464	38.7	5.5%					4	106	26.5	1.6%	1	53	53.0	0.3%	5	180	36.0	0.7%
05 - Lincoln Trail													9	389	43.2	0.7%					2	51	25.5	0.3%
06 - Kentucky													8	219	27.4	3.2%					3	67	22.3	0.4%
07 - Northern Kentucky													3	130	43.3	0.2%					19	695	36.6	2.6%
08 - Buffalo Trace													7	336	48.0	0.6%					38	1,223	32.2	5.1%
09 - Gateway													10	475	47.5	0.8%					9	210	23.3	1.2%
10 - FIVCO													14	858	61.3	1.1%					31	853	27.5	4.2%
11 - Big Sandy													17	509	29.9	5.7%					40	1,272	31.8	5.4%
12 - Kentucky River													235	7,211	30.7	78.9%					59	1,549	26.3	8.0%
13 - Cumberland Valley													1	43	43.0	0.4%					39	1,235	31.7	13.1%
14 - Lake Cumberland													24	958	39.9	1.9%					4	127	31.8	1.3%
15 - Bluegrass	15	397	26.5	16.5%	4	73	18.3	1.8%	11	256	23.3	5.0%	29	1,088	37.5	11.6%	1	53	53.0	0.3%	484	13,761	28.4	65.4%
99 - Out of State	91	2,530	27.8	100.0%	117	3,312	28.3	100.0%	219	5,877	26.8	100.0%	249	7,143	28.7	100.0%	298	9,215	30.9	100.0%	740	21,178	28.6	100.0%
TOTAL																								

## Inpatient LTACH Beds by Patient Age Group

Similar to the age distribution of freestanding rehabilitation cases, the majority of cases are still Age 55+ (70.5 percent), however, that group represented 76.6 percent in 2012. The distribution for patients age 18-45 has continued to grow during the same period.

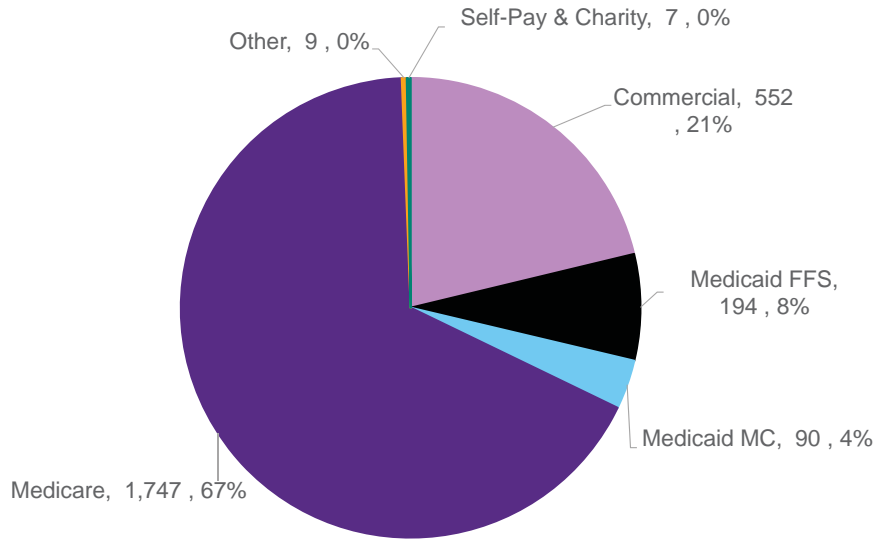
Patient Age Group	2012			2013			2014			2015			2016							
	Discharges	Discharge Days	ALOS	Discharges	Discharge Days	ALOS	% Total Discharges	Discharges	Discharge Days	ALOS	Discharges	Discharge Days	ALOS	% Total Discharges	Discharges	Discharge Days	ALOS	% Total Discharges		
A - Age 0-5				1	12	12.0	0.0%													
C - Age 18-24	18	502	27.9	0.7%	26	871	33.5	1.0%	29	1,168	40.3	1.1%	23	1,128	49.0	0.8%	21	794	37.8	0.7%
D - Age 25-34	86	2,785	32.4	3.3%	61	2,452	40.2	2.4%	77	2,525	32.8	2.8%	96	3,032	31.6	3.3%	128	3,625	28.3	4.3%
E - Age 35-44	153	5,008	32.7	5.9%	156	5,359	34.4	6.2%	184	5,177	28.1	6.7%	215	7,445	34.6	7.5%	243	7,933	32.6	8.2%
F - Age 45-54	352	11,955	34.0	13.5%	352	11,616	33.0	14.0%	385	13,071	34.0	14.1%	449	15,773	35.1	15.7%	479	15,232	31.8	16.2%
G - Age 55-64	652	22,928	35.2	25.1%	625	21,213	33.9	24.8%	655	23,824	36.4	24.0%	730	25,778	35.3	25.5%	722	25,168	34.9	24.4%
H - Age 65-74	685	23,162	33.8	26.4%	710	25,139	35.4	28.2%	743	27,231	36.7	27.2%	742	24,659	33.2	25.9%	770	25,659	33.3	26.0%
I - Age 75-84	513	15,946	31.1	19.7%	446	14,507	32.5	17.7%	483	16,168	33.5	17.7%	473	15,281	32.3	16.5%	472	14,482	30.7	16.0%
J - Age 85+	140	4,075	29.1	5.4%	139	4,034	29.0	5.5%	178	5,787	32.5	6.5%	140	4,121	29.4	4.9%	121	3,012	24.9	4.1%
TOTAL	2,599	86,361	33.2	100.0%	2,516	85,203	33.9	100.0%	2,734	94,951	34.7	100.0%	2,868	97,217	33.9	100.0%	2,956	95,905	32.4	100.0%

The percentage of discharge cases where Medicare was the payer has declined three percentage points since 2012. Conversely, Medicaid Managed Care cases have grown from 3.5 percent of the total cases in 2012 to 15.1 percent of the total cases in 2016. Self-Pay & Charity cases are not significant to the mix.

### Inpatient LTACH Beds by Primary Payer Group

Patient Primary Payer	2012				2013				2014				2015				2016			
	Discharges	Discharge Days	ALOS	% Total Discharges	Discharges	Discharge Days	ALOS	% Total Discharges	Discharges	Discharge Days	ALOS	% Total Discharges	Discharges	Discharge Days	ALOS	% Total Discharges	Discharges	Discharge Days	ALOS	% Total Discharges
Commercial	552	20,383	36.9	21.2%	443	15,871	35.8	17.6%	385	15,605	40.5	14.1%	458	18,276	39.9	16.0%	454	16,538	36.4	15.4%
Medicaid FFS	194	9,506	49.0	7.5%	154	8,867	57.6	6.1%	178	10,547	59.3	6.5%	136	6,355	46.7	4.7%	149	6,727	45.1	5.0%
Medicaid MC	90	3,370	37.4	3.5%	130	5,205	40.0	5.2%	264	8,445	32.0	9.7%	327	11,510	35.2	11.4%	445	13,158	29.6	15.1%
Medicare	1,747	52,355	30.0	67.2%	1,753	53,260	30.4	69.7%	1,881	58,893	31.3	68.8%	1,919	59,991	31.3	66.9%	1,892	58,242	30.8	64.0%
Other	9	305	33.9	0.3%	29	1,420	49.0	1.2%	23	1,385	60.2	0.8%	28	1,085	38.8	1.0%	15	1,239	82.6	0.5%
Self-Pay & Charity	7	442	63.1	0.3%	7	580	82.9	0.3%	3	76	25.3	0.1%	3	76	25.3	0.1%	1	1	1.0	0.0%
<b>TOTAL</b>	<b>2,599</b>	<b>86,361</b>	<b>33.2</b>	<b>100.0%</b>	<b>2,516</b>	<b>85,203</b>	<b>33.9</b>	<b>100.0%</b>	<b>2,734</b>	<b>94,951</b>	<b>34.7</b>	<b>100.0%</b>	<b>2,868</b>	<b>97,217</b>	<b>33.9</b>	<b>100.0%</b>	<b>2,956</b>	<b>95,905</b>	<b>32.4</b>	<b>100.0%</b>

LTACH Discharges: 2012



LTACH Discharges: 2016

