Emergency Department Utilization Report

2014

AGENCY FOR HEALTH CARE ADMINISTRATION

STATE OF FLORIDA

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Introduction

The Florida Agency for Health Care Administration (Agency) initiated collection of patient records for all ambulatory visits to a hospital Emergency Department (ED), beginning with visits in January 2005. The ED database provides a detailed look at the reasons people seek care at the ED, the charges and the payers for these visits, as well as the diagnoses and procedures performed in the ED setting. This report provides information about the acuity level (the severity of the visit) for all patients where the visit did not result in an inpatient admission.

Emergency Departments provide a significant source of medical care in the state of Florida, with over eight million outpatient ED visits occurring in 2014. Over 63% of all hospital inpatient admissions in the state of Florida last year originated in an ED facility. Many ED visits are potentially preventable, meaning that access to high-quality health care in a primary care setting can prevent the need for a portion of ED visits.

This report is submitted in accordance with Section 408.062, Florida Statutes, which reads:

(1) *The agency shall conduct research, analyses, and studies relating to health care costs and access to and quality of health care services as access and quality are affected by changes in health care costs. Such research, analyses, and studies shall include, but not be limited to:*

(i) *The use of emergency department services by patient acuity level and the implication of increasing hospital cost by providing non-urgent care in emergency departments. The agency shall submit an annual report based on this monitoring and assessment to the Governor, the Speaker of the House of Representatives, the President of the Senate, and the substantive legislative committees with the first report due January 1, 2006.*

Patient Characteristics

Children, under five years of age, made nearly half of all pediatric ED visits. Forty-five percent of all pediatric ED visits were children four years old or younger (see Appendix Table 1). Children in this age group are more than twice as likely to visit ED as other pediatric age groups.

Medicaid was the principal payer for pediatric ED visits by a considerable margin, paying for 69% of all pediatric visits. Commercial payers were the second-highest payer at 19% (see Appendix Table 1).

Figure 1. Pediatric ED Visits by Sex, Race/Ethnicity, Age Group, and Payer Group
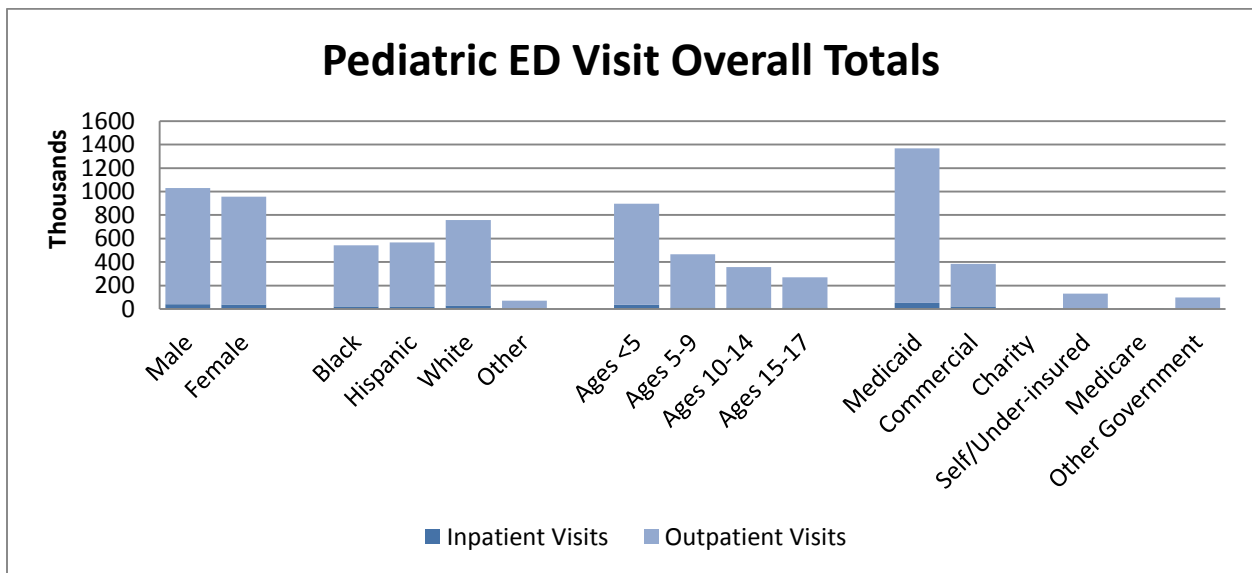
Women comprise 51% of Florida's adult population[1], but they account for 59% of all adult visits to EDs (see Appendix Table 2). Florida's adult women visit EDs at a rate of 450 visits per 1,000 population, while adult men in the state visit EDs at a rate of 325 visits per 1,000 population. Women were 38% more likely than men to visit EDs.

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[1] Source: U.S. Census Bureau, 2009-2013 5-Year American Community Survey

Volume Trends over Time

Due largely to population growth, the volume of ED visits for all payers has historically increased every year. An interesting development over the past two years has been the significant decrease in the number of visits made by patients who are self-insured or under-insured. Uninsured Florida residents made 153,347 fewer ED visits in 2014 than they did in 2012. By comparison, uninsured Florida residents made 245,375 *more* visits in 2012 than they did in 2010.

Figure 3 shows the relative share of ED visits for each payer over the past three years.

Figure 3. **Total Visits by Payer 2012-2014**
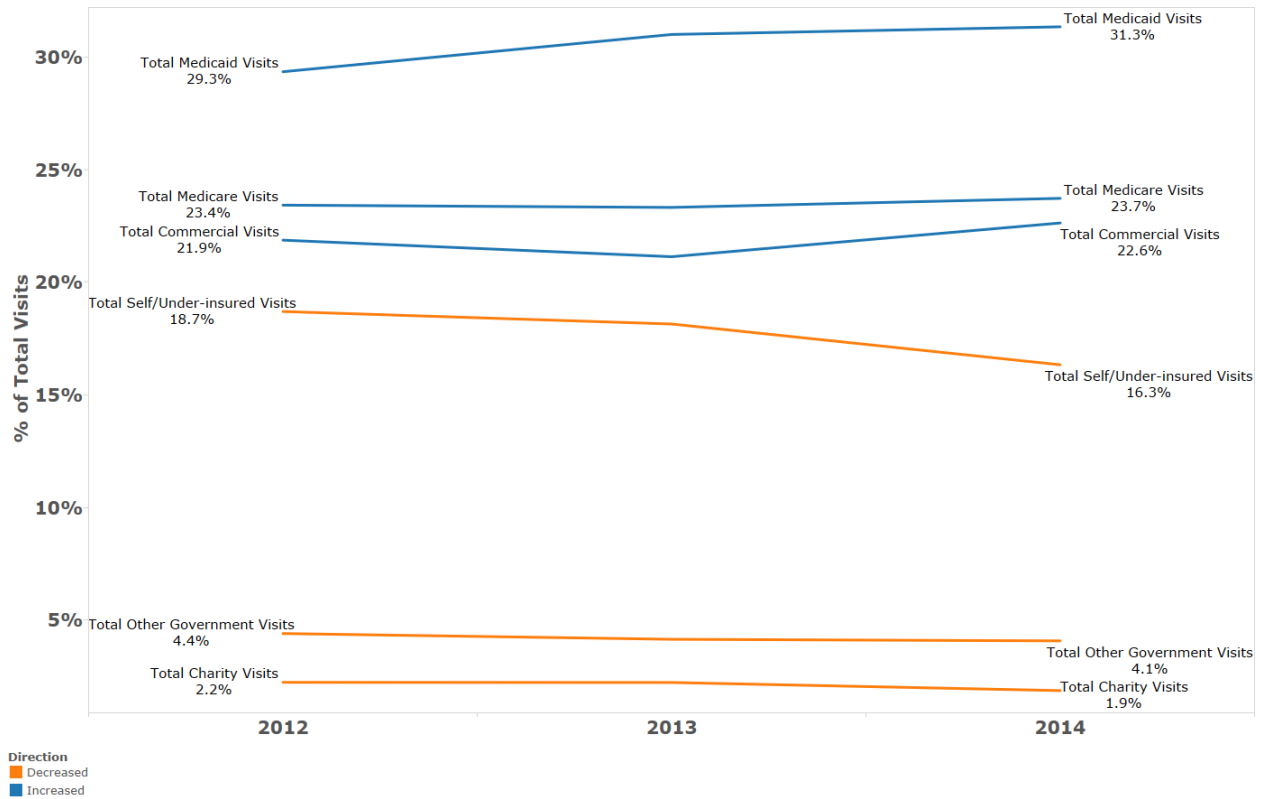
Inpatient Hospitalization

In 2014, Florida residents made 9,789,267 ED visits with 1,732,126 (17.7 %) of those visits subsequently resulting in a hospital inpatient admission. An inpatient hospitalization resulted from 79,481 pediatric visits and 1,652,645 adult visits. Pediatric ED visits are less likely to result in inpatient hospitalization than adult visits. The inpatient hospitalization rate for pediatric visits was 4%, while the rate for adult visits was 21.2%.

Regardless of patient characteristics, the rate of pediatric ED visits resulting in inpatient hospitalization was much lower than the rate for adult ED visits (see Appendix Table 3). Charity, self-insured, and under-insured pediatric visits were less likely to be admitted for inpatient care than Medicaid, Medicare, or commercial payers for pediatric visits.

While 4.1% of pediatric visits with Medicaid, Medicare, Other Government, or Commercial principal payers resulted in inpatient hospitalization, only 1.9% of Charity, Self-insured, or Under-insured pediatric visits resulted in inpatient hospitalization. This rate is well below the statewide average of 4.0% pediatric hospitalization (see Appendix Table 3).

Figure 4. **Inpatient Hospitalization Rate for Pediatric ED Visits by Patient Characteristics**
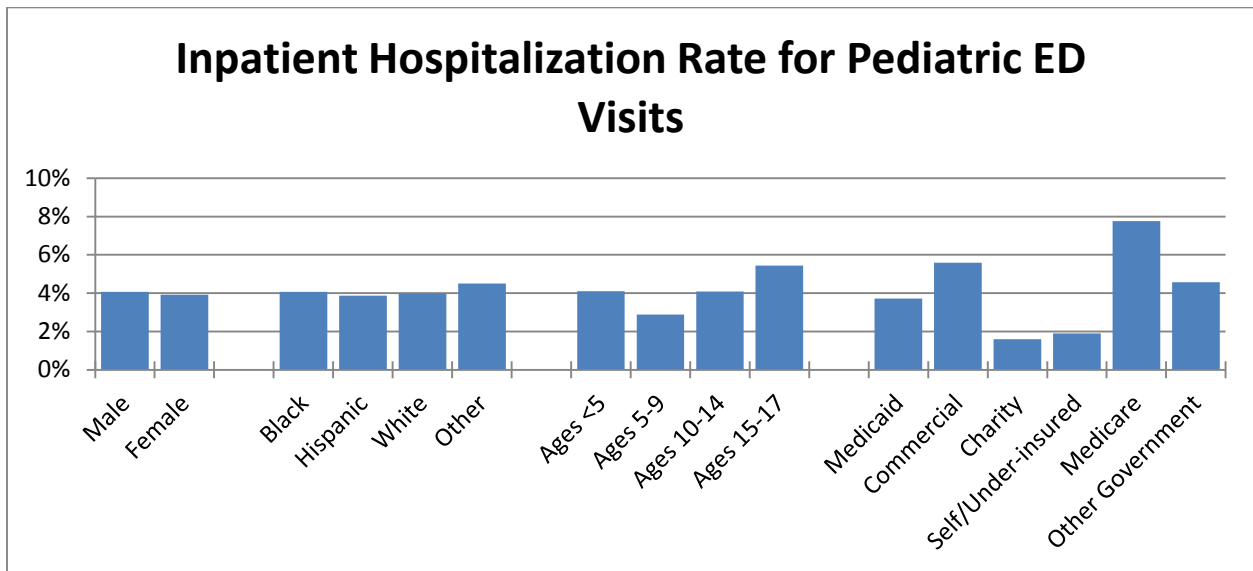
Patient age is strongly correlated with an inpatient hospitalization following an ED visit. Older patients who visit EDs are considerably more likely to be hospitalized for their conditions. This phenomenon is most likely attributable to the types of conditions that bring patients to the EDs. Nine of the top ten most common medical conditions for inpatient hospitalizations overall are also among the most common conditions for patients over 65 (see Figure 13). Visits paid by Medicare are over three times as likely to result in inpatient hospitalization as other payers, most likely due to Medicare's strong positive correlation with age (see Appendix Table 3).

Figure 5. **Inpatient Hospitalization Rate for Adult ED Visits by Patient Characteristics**
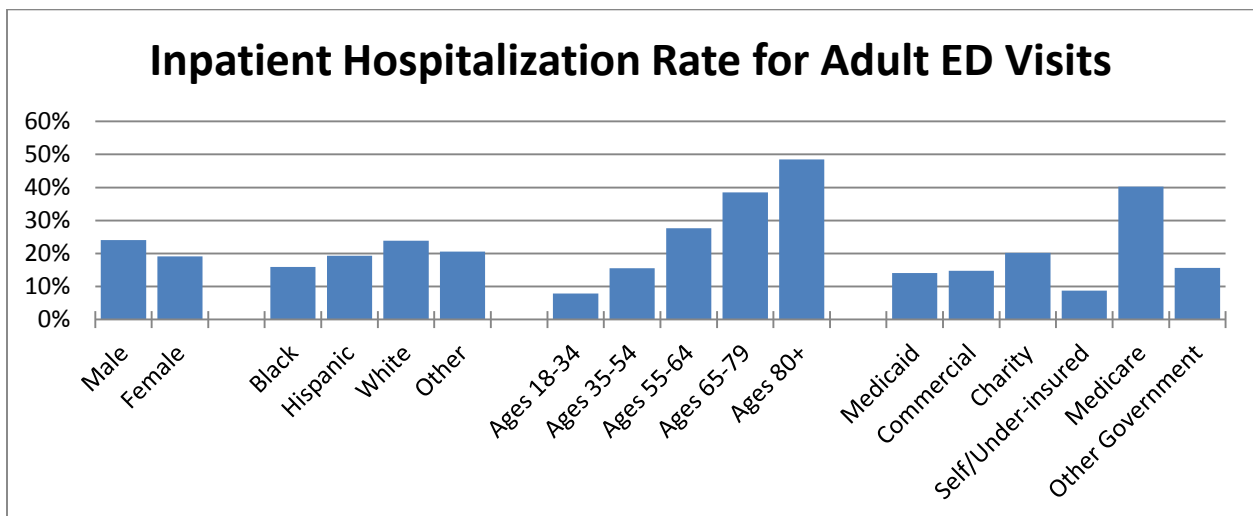
Patient Acuity

The Agency for Health Care Administration's outpatient ED database includes Current Procedural Terminology, or CPT, Evaluation and Management codes, designed to categorize the acuity (severity) of a patient's diagnosis. This grouping of management codes is detailed in the Appendix. The following analysis used these CPT codes to label outpatient visits as either high acuity or low acuity visits.[2]

Pediatric visits for young children were more likely to be low acuity visits. The rate of low acuity visits for children below five years of age was nearly 75% higher than the low acuity rate for children aged 15-17 (Appendix Table 4). Low acuity rates decrease for every increase in age group for pediatric visits.

Figure 6. **Low Acuity Rate for Pediatric ED Visits by Patient Characteristics**
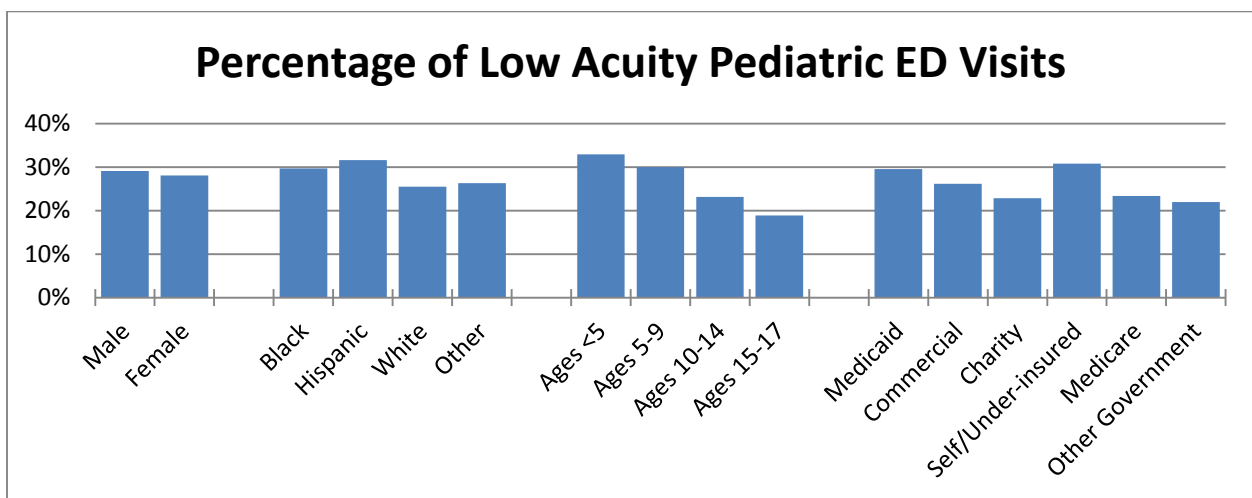
The average charges for pediatric visits increase with age. For both low and high acuity visits, the average charge for a pediatric visit was much higher for the older age groups. The average low acuity charge for ages 15-17 was 44% higher than the statewide pediatric ED visit average low acuity rate of $839. The average high acuity charge was 49% higher than the statewide average high acuity rate of $2,567 (see Appendix Table 4).

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[2] For a full definition of patient acuity, see Appendix, "Definition of Patient Acuity."

Figure 7. **Mean Charges for Pediatric ED Visits by Acuity and Patient Characteristics**

Figure 7 content: Bar chart titled "Mean Charges for Low and High Acuity Pediatric ED Visits" with Low Acuity Mean Charge and High Acuity Mean Charge bars across categories: Male, Female, Black, Hispanic, White, Other, Ages <5, Ages 5-9, Ages 10-14, Ages 15-17, Medicaid, Commercial, Charity, Self/Under-insured, Medicare, Other Government.
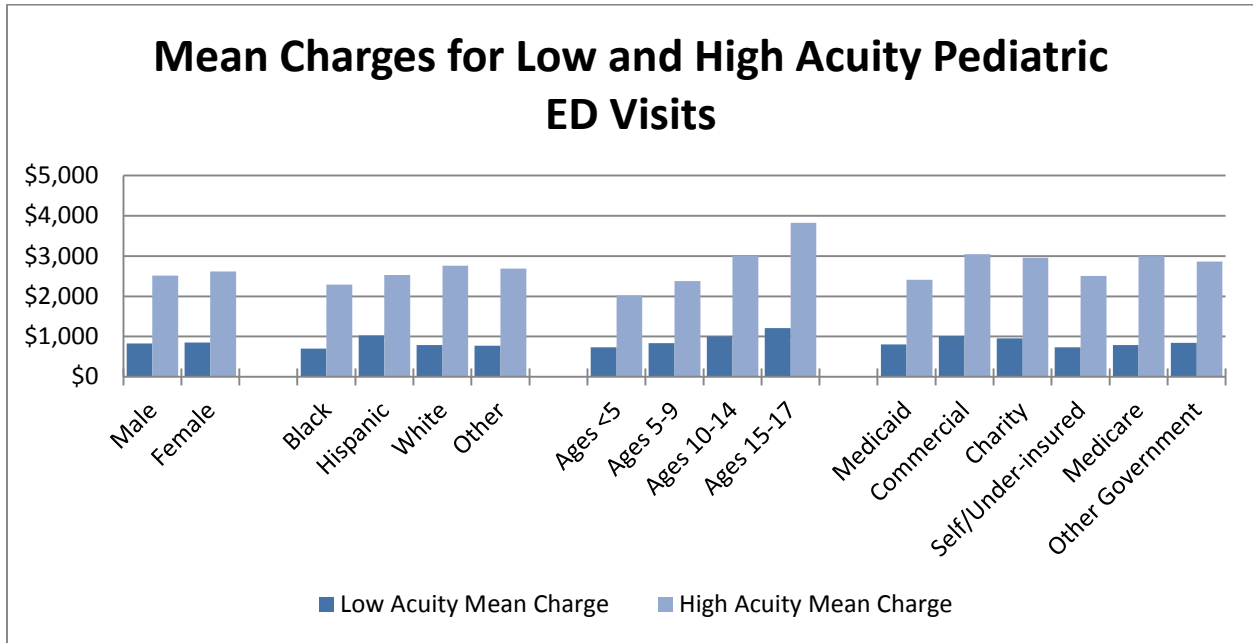
ED visits by adult Hispanic patients were substantially more likely to be low acuity visits, and these visits were significantly more costly than the average visit. The low acuity rate for Hispanic adult patients (19.2%) was 36% higher than the statewide average. The mean charge for low acuity ED visits by Hispanic adults ($2,858) was 76% higher than the statewide average for all low acuity adult ED visits ($1,620) (see Appendix Table 5).

Figure 8. **Low Acuity Rate for Adult ED Visits by Patient Characteristics**

Figure 8 content: Bar chart titled "Percentage of Low Acuity Adult ED Visits" across categories: Male, Female, Black, Hispanic, White, Other, Ages 18-34, Ages 35-54, Ages 55-64, Ages 65-79, Ages 80+, Medicaid, Commercial, Charity, Self/Under-insured, Medicare, Other Government.
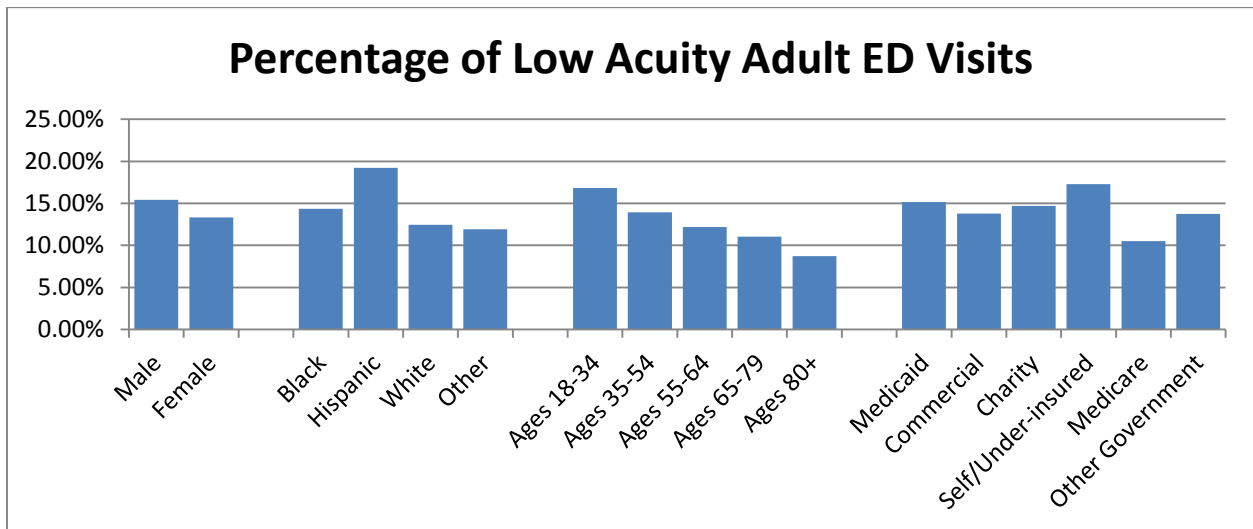
The average charges for adult visits also increased with age. For both low and high acuity visits, the average charge increased with age. Low acuity visits for patients above 80 years of age were over twice as costly as low acuity visits for the youngest adults. High acuity visits for patients over 80 years of age cost 67% more than high acuity visits for patients aged 18-34 (see Appendix Table 5).

Figure 9. **Mean Charges for Adult ED Visits by Acuity and Patient Characteristics**
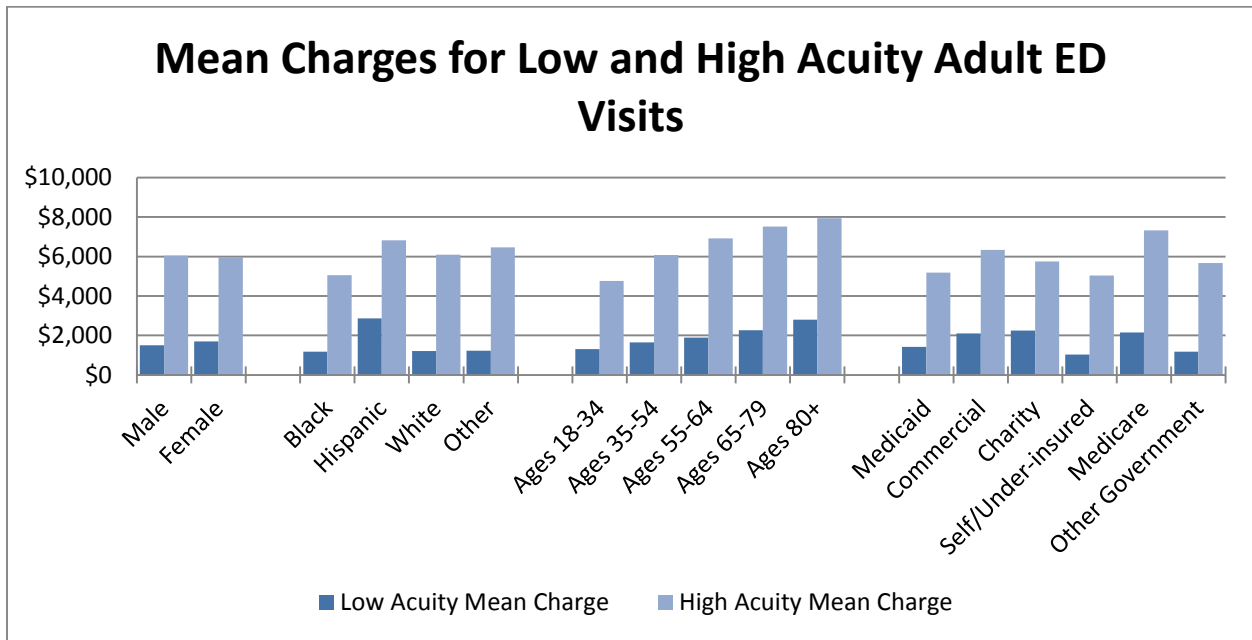
Acuity Trends over Time

The number of ED visits per capita in Florida has increased markedly in the past decade[3]. ED visits per 1,000 population have risen 32% since 2005. However, the portion of those visits considered low acuity has been reduced by nearly 50% in that same timeframe. Although EDs are seeing more patients, the vast majority of visits are considered high acuity visits.

As seen in Figure 10 below, the low acuity rate for ED visits has decreased steadily since 2005, while the percentage of Floridians who lack health insurance has remained relatively unchanged. These two trends are not necessarily related, although uninsured patients are more likely to make low acuity visits to EDs than other types of patients (see Figure 8).

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[3] Unless otherwise noted, all analysis in this report examines the full dataset of ED visits in 2014. In order to maintain comparability with previous years' reports, the "Acuity Trends over Time" section examines only visits made by Florida residents.

Figure 10. **Number of ED Visits Per Capita over Time by Acuity Level**

Per Capita Acuity Trends, 2005-2014

Legend: Low Acuity per 1000 — High Acuity per 1000 — Total visits per 1000
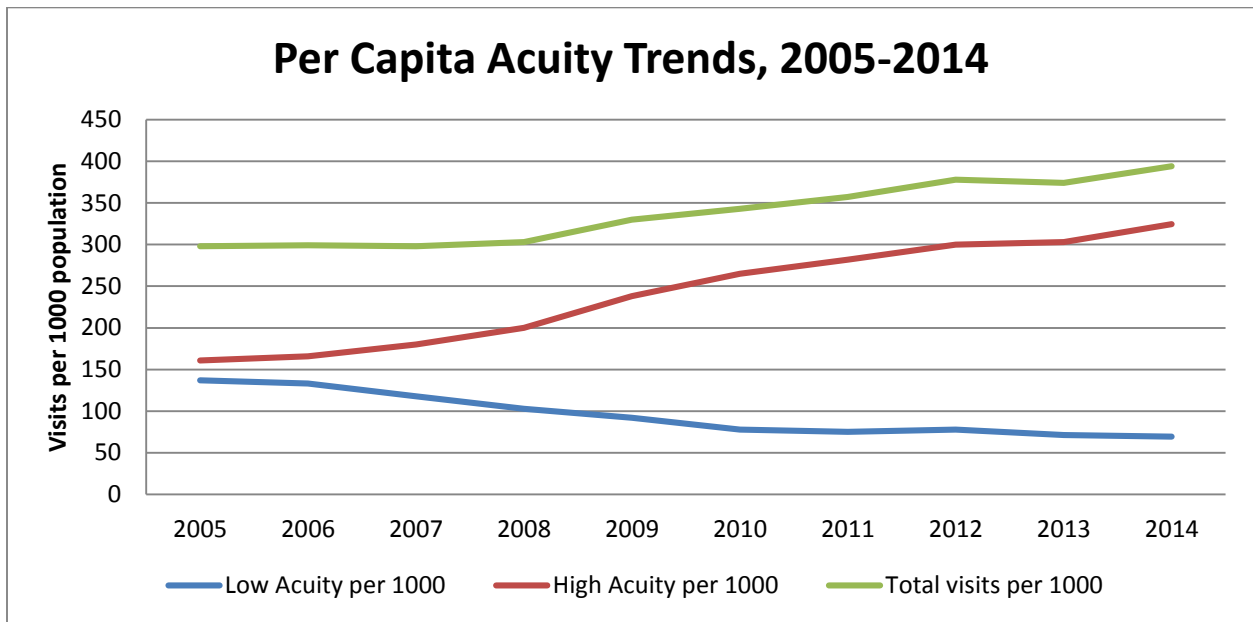
Figure 11. **Percentage of Visits Considered Low Acuity Compared to Uninsured Rate**

Low Acuity and Uninsured Trends, 2005-2014

Legend: Low Acuity Rate — Uninsured Rate
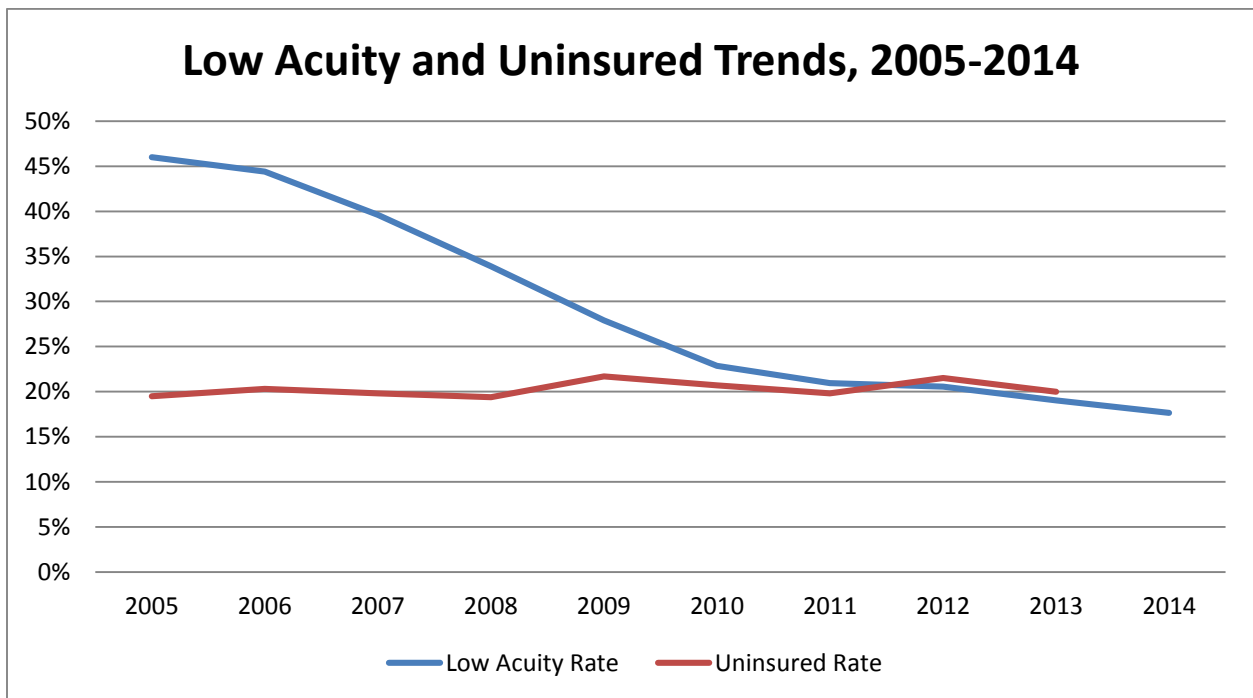
Top Medical Conditions

The following tables show the most commonly diagnosed medical conditions for both outpatient ED visits (Figure 12) and ED visits requiring inpatient hospitalization (Figure 13). The tables also show the average charge for each condition.

Figure 12. **Top Ten Most Common Medical Conditions for Outpatient ED Visits**

Outpatient Diagnosis	Percentage of ED Visits	Mean Charges
Other upper respiratory infections	5.7	$1,816
Abdominal pain	4.9	$8,093
Sprains and strains	4.8	$3,374
Superficial injury; contusion	4.6	$3,754
Nonspecific chest pain	3.6	$11,490
Spondylosis; intervertebral disc disorders; other back problems	3.4	$4,035
Skin and subcutaneous tissue infections	2.8	$2,291
Urinary tract infections	2.7	$5,354
Other injuries and conditions due to external causes	2.6	$4,739
Headache; including migraine	2.5	$5,234

Figure 13. **Top Ten Most Common Medical Conditions for Inpatient Hospitalizations**

Inpatient Diagnosis	Percentage of Hospitalizations	Mean Charges
Septicemia (except in labor)	4.8	$95,635
Congestive heart failure; non-hypertensive	3.6	$50,640
Pneumonia (except that caused by tuberculosis or Sexually Transmitted Diseases (STD)	3.4	$47,404
Chronic obstructive pulmonary disease and bronchiectasis	3.1	$39,161
Cardiac dysrhythmias	3.0	$44,423
Skin and subcutaneous tissue infections	2.7	$33,650
Urinary tract infections	2.6	$33,416
Mood disorders	2.6	$18,550
Acute cerebrovascular disease	2.3	$73,619
Acute myocardial infarction	2.3	$100,663

Geographic Variation in ED Use

Figure 14 shows the number of Emergency Department visits per 1,000 people in each county in Florida[4] (see Appendix Tables 6-7 for details). Visits are classified by the county of residence for each patient, not the county in which the facility is located. If a patient lives in Wakulla County but visits an ED in neighboring Leon County, for example, the visit is classified as a Wakulla County visit.

Frequency of visit is inversely correlated with a county's median household income[5] (R^2=0.43). Residents of lower-income counties (10th percentile of median income or below) average 590 visits per 1,000 population, while residents of higher-income counties (90th percentile of median income or above) average 424 visits per 1,000 population.

Figure 14. ED Visits per 1,000 People by County

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[4] Population estimates: http://edr.state.fl.us/Content/population-demographics/data/index.cfm
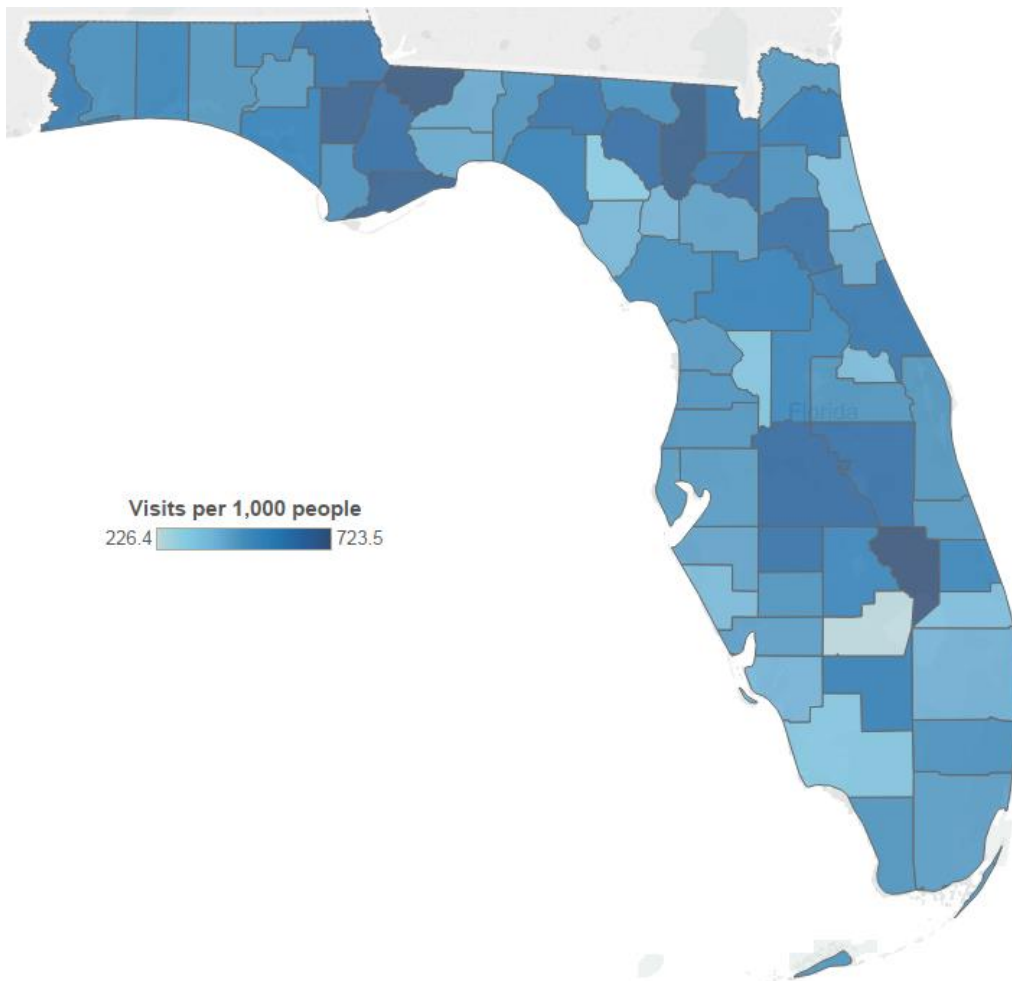
[5] Median household income estimates from the U.S. Census Bureau American Communities Survey.

Appendix

Table 1: **Pediatric ED Visits by Patient Characteristics**

Sex	Pediatric Inpatient Visits	Pediatric Outpatient Visits	Pediatric Total Visits	Pediatric %
Male	42,032	988,900	1,030,932	51.9%
Female	37,448	919,505	956,953	48.1%
Race/Ethnicity	**Pediatric Inpatient Visits**	**Pediatric Outpatient Visits**	**Pediatric Total Visits**	**Pediatric %**
Black	22,061	520,152	542,213	28.0%
Hispanic	21,946	544,154	566,100	29.2%
White	30,162	727,085	757,247	39.1%
Other	3,161	67,090	70,251	3.6%
Age Group	**Pediatric Inpatient Visits**	**Pediatric Outpatient Visits**	**Pediatric Total Visits**	**Pediatric %**
Ages <5	36,782	859,349	896,131	45.1%
Ages 5-9	13,439	451,462	464,901	23.4%
Ages 10-14	14,577	342,457	357,034	18.0%
Ages 15-17	14,683	255,138	269,821	13.6%
Payer Group	**Pediatric Inpatient Visits**	**Pediatric Outpatient Visits**	**Pediatric Total Visits**	**Pediatric %**
Medicaid	50,844	1,316,813	1,367,657	68.8%
Commercial	21,427	361,821	383,248	19.3%
Charity	98	6,052	6,150	0.3%
Self/Under-insured	2,483	127,929	130,412	6.6%
Medicare	126	1,496	1,622	0.1%
Other Government	4,503	93,970	98,473	5.0%
OVERALL	**79,481**	**1,908,406**	**1,987,887**	

Table 2: **Adult ED Visits by Patient Characteristics**

Sex	Adult Inpatient Visits	Adult Outpatient Visits	Adult Total Visits	Adult %
Male	777,710	2,449,123	3,226,833	41.4%
Female	874,935	3,699,602	4,574,537	58.6%
Race/Ethnicity	**Adult Inpatient Visits**	**Adult Outpatient Visits**	**Adult Total Visits**	**Adult %**
Black	271,471	1,434,403	1,705,874	22.4%
Hispanic	263,312	1,100,166	1,363,478	17.9%
White	1,043,165	3,326,134	4,369,299	57.4%
Other	34,704	134,244	168,948	2.2%
Age Group	**Adult Inpatient Visits**	**Adult Outpatient Visits**	**Adult Total Visits**	**Adult %**
Ages 18-34	199,053	2,337,785	2,536,838	32.5%
Ages 35-54	366,345	1,987,477	2,353,822	30.2%
Ages 55-64	276,807	724,724	1,001,531	12.8%
Ages 65-79	445,355	711,340	1,156,695	14.8%
Ages 80+	365,085	387,409	752,494	9.6%
Payer Group	**Adult Inpatient Visits**	**Adult Outpatient Visits**	**Adult Total Visits**	**Adult %**
Medicaid	224,329	1,374,005	1,598,334	20.5%
Commercial	277,318	1,606,702	1,884,020	24.2%
Charity	35,753	141,091	176,844	2.3%
Self/Under-insured	131,218	1,375,986	1,507,204	19.3%
Medicare	936,510	1,391,325	2,327,835	29.8%
Other Government	47,517	257,179	304,696	3.9%
OVERALL	**1,652,645**	**6,148,735**	**7,801,380**	

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Table 3: **Inpatient Hospitalization Rate by Patient Characteristics**

Sex	Pediatric %		Adult %
Male	4.1%		24.1%
Female	3.9%		19.1%
Race	**Pediatric %**		**Adult %**
Black	4.1%		15.9%
Hispanic	3.9%		19.3%
White	4.0%		23.9%
Other	4.5%		20.5%
Age Group	**Pediatric %**		**Adult %**
Ages <5	4.1%	Ages 18-34	7.8%
Ages 5-9	2.9%	Ages 35-54	15.6%
Ages 10-14	4.1%	Ages 55-64	27.6%
Ages 15-17	5.4%	Ages 65-79	38.5%
		Ages 80+	48.5%
Payer Group	**Pediatric %**		**Adult %**
Medicaid	3.7%		14.0%
Commercial	5.6%		14.7%
Charity	1.6%		20.2%
Self/Under-insured	1.9%		8.7%
Medicare	7.8%		40.2%
Other Government	4.6%		15.6%
All ED Visits	**4.0%**		**21.2%**

Table 4: Pediatric Acuity Rates and Mean Charges

Sex	Pediatric Low Acuity	Pediatric Outpatient Visits	Acuity Rate	Low Acuity Mean Charge	High Acuity Mean Charge
Male	287,705	988,900	29.09%	$830	$2,516
Female	258,112	919,505	28.07%	$849	$2,621
Race	Pediatric Low Acuity	Pediatric Outpatient Visits	Acuity Rate	Low Acuity Mean Charge	High Acuity Mean Charge
Black	154,260	520,152	29.66%	$700	$2,289
Hispanic	171,932	544,154	31.60%	$1,023	$2,529
White	185,370	727,085	25.49%	$791	$2,757
Other	17,638	67,090	26.29%	$772	$2,685
Age Group	Pediatric Low Acuity	Pediatric Outpatient Visits	Acuity Rate	Low Acuity Mean Charge	High Acuity Mean Charge
Ages <5	283,135	859,349	32.95%	$731	$2,017
Ages 5-9	135,220	451,462	29.95%	$836	$2,377
Ages 10-14	79,266	342,457	23.15%	$1,003	$3,003
Ages 15-17	48,196	255,138	18.89%	$1,212	$3,824
Payer Group	Pediatric Low Acuity	Pediatric Outpatient Visits	Acuity Rate	Low Acuity Mean Charge	High Acuity Mean Charge
Medicaid	389,128	1,316,813	29.55%	$807	$2,407
Commercial	94,692	361,821	26.17%	$1,014	$3,047
Charity	1,385	6,052	22.88%	$953	$2,960
Self/Under-insured	39,427	127,929	30.82%	$731	$2,507
Medicare	350	1,496	23.40%	$785	$2,998
Other Government	20,676	93,970	22.00%	$842	$2,862
All Pediatric Visits	**545,658**	**1,908,081**	**28.60%**	**$839**	**$2,567**

Table 5: Adult Acuity Rates and Mean Charges

Sex	Adult Low Acuity	Adult Outpatient Visits	Acuity Rate	Low Acuity Mean Charge	High Acuity Mean Charge
Male	377,759	2,449,123	15.42%	$1,509	$6,053
Female	493,204	3,699,602	13.33%	$1,706	$5,960
Race	Adult Low Acuity	Adult Outpatient Visits	Acuity Rate	Low Acuity Mean Charge	High Acuity Mean Charge
Black	205,834	1,434,403	14.35%	$1,172	$5,060
Hispanic	211,415	1,100,166	19.22%	$2,858	$6,816
White	413,591	3,326,134	12.43%	$1,219	$6,095
Other	15,986	134,244	11.91%	$1,225	$6,468
Age Group	Adult Low Acuity	Adult Outpatient Visits	Acuity Rate	Low Acuity Mean Charge	High Acuity Mean Charge
Ages 18-34	393,303	2,337,785	16.82%	$1,314	$4,763
Ages 35-54	277,087	1,987,477	13.94%	$1,642	$6,072
Ages 55-64	88,349	724,724	12.19%	$1,884	$6,923
Ages 65-79	78,473	711,340	11.03%	$2,273	$7,521
Ages 80+	33,753	387,409	8.71%	$2,807	$7,948
Payer	Adult Low Acuity	Adult Outpatient Visits	Acuity Rate	Low Acuity Mean Charge	High Acuity Mean Charge
Medicaid	208,376	1,374,005	15.17%	$1,429	$5,181
Commercial	221,422	1,606,702	13.78%	$2,099	$6,331
Charity	20,751	141,091	14.71%	$2,251	$5,749
Self/Under-insured	238,016	1,375,986	17.30%	$1,030	$5,032
Medicare	146,059	1,391,325	10.50%	$2,155	$7,323
Other Government	35,306	257,179	13.73%	$1,184	$5,667
All Adult Visits	**869,930**	**6,146,288**	**14.15%**	**$1,620**	**$5,996**

Table 6: **ED Visits per 1,000 Population by County**

County Name	Visits per 1,000	County Name	Visits per 1,000
Alachua	447.4	Lee	399.2
Baker	586.9	Leon	424.6
Bay	555.5	Levy	511.6
Bradford	649.2	Liberty	630.0
Brevard	476.8	Madison	603.3
Broward	488.3	Manatee	438.7
Calhoun	684.5	Marion	561.0
Charlotte	452.1	Martin	365.7
Citrus	468.6	Miami-Dade	451.6
Clay	492.3	Monroe	474.3
Collier	337.6	Nassau	464.0
Columbia	694.2	Okaloosa	545.8
DeSoto	480.7	Okeechobee	723.5
Dixie	391.7	Orange	478.1
Duval	571.0	Osceola	621.4
Escambia	585.0	Palm Beach	408.7
Flagler	431.4	Pasco	471.2
Franklin	672.3	Pinellas	454.6
Gadsden	712.3	Polk	642.0
Gilchrist	402.8	Putnam	627.6
Glades	226.4	Santa Rosa	505.6
Gulf	493.9	Sarasota	375.1
Hamilton	511.5	Seminole	372.1
Hardee	614.7	St. Johns	369.2
Hendry	565.4	St. Lucie	539.3
Hernando	485.2	Sumter	339.5
Highlands	543.5	Suwannee	634.0
Hillsborough	458.4	Taylor	562.5
Holmes	518.4	Union	610.4
Indian River	469.0	Volusia	595.6
Jackson	605.9	Wakulla	424.5
Jefferson	485.4	Walton	476.9
Lafayette	312.8	Washington	460.5
Lake	535.8	**Statewide Average**	**479.0**

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Table 7: ED Visits per 1,000 Population by Visits

County Name	Visits per 1,000	County Name	Visits per 1,000
Okeechobee	723.5	Jefferson	485.4
Gadsden	712.3	Hernando	485.2
Columbia	694.2	DeSoto	480.7
Calhoun	684.5	Orange	478.1
Franklin	672.3	Walton	476.9
Bradford	649.2	Brevard	476.8
Polk	642.0	Monroe	474.3
Suwannee	634.0	Pasco	471.2
Liberty	630.0	Indian River	469.0
Putnam	627.6	Citrus	468.6
Osceola	621.4	Nassau	464.0
Hardee	614.7	Washington	460.5
Union	610.4	Hillsborough	458.4
Jackson	605.9	Pinellas	454.6
Madison	603.3	Charlotte	452.1
Volusia	595.6	Miami-Dade	451.6
Baker	586.9	Alachua	447.4
Escambia	585.0	Manatee	438.7
Duval	571.0	Flagler	431.4
Hendry	565.4	Leon	424.6
Taylor	562.5	Wakulla	424.5
Marion	561.0	Palm Beach	408.7
Bay	555.5	Gilchrist	402.8
Okaloosa	545.8	Lee	399.2
Highlands	543.5	Dixie	391.7
St. Lucie	539.3	Sarasota	375.1
Lake	535.8	Seminole	372.1
Holmes	518.4	St. Johns	369.2
Levy	511.6	Martin	365.7
Hamilton	511.5	Sumter	339.5
Santa Rosa	505.6	Collier	337.6
Gulf	493.9	Lafayette	312.8
Clay	492.3	Glades	226.4
Broward	488.3	**Statewide Average**	**479.0**

Definition of Patient Acuity

Emergency Departments use the following codes to report evaluation and management services. There is no distinction between new and established patients in the ED.

Low Acuity

99281 - Emergency department visit for the evaluation and management of a patient, which requires these three key components: a problem focused history; a problem focused examination; and a straightforward medical decision-making. Counseling and/or coordination of care with other providers or agencies are provided consistent with the nature of the problem(s) and the patient's and/or family's needs. Usually the presenting problems(s) are self-limited or minor.

99282 - Emergency department visit for the evaluation and management of a patient, which requires these three key components: an expanded problem focused history; an expanded problem focused examination; medical decision making of low complexity. Counseling and/or coordination of care with other providers or agencies are provided consistent with the nature of the problem(s) and the patient's and/or family's needs. Usually the presenting problem(s) are of low to moderate severity.
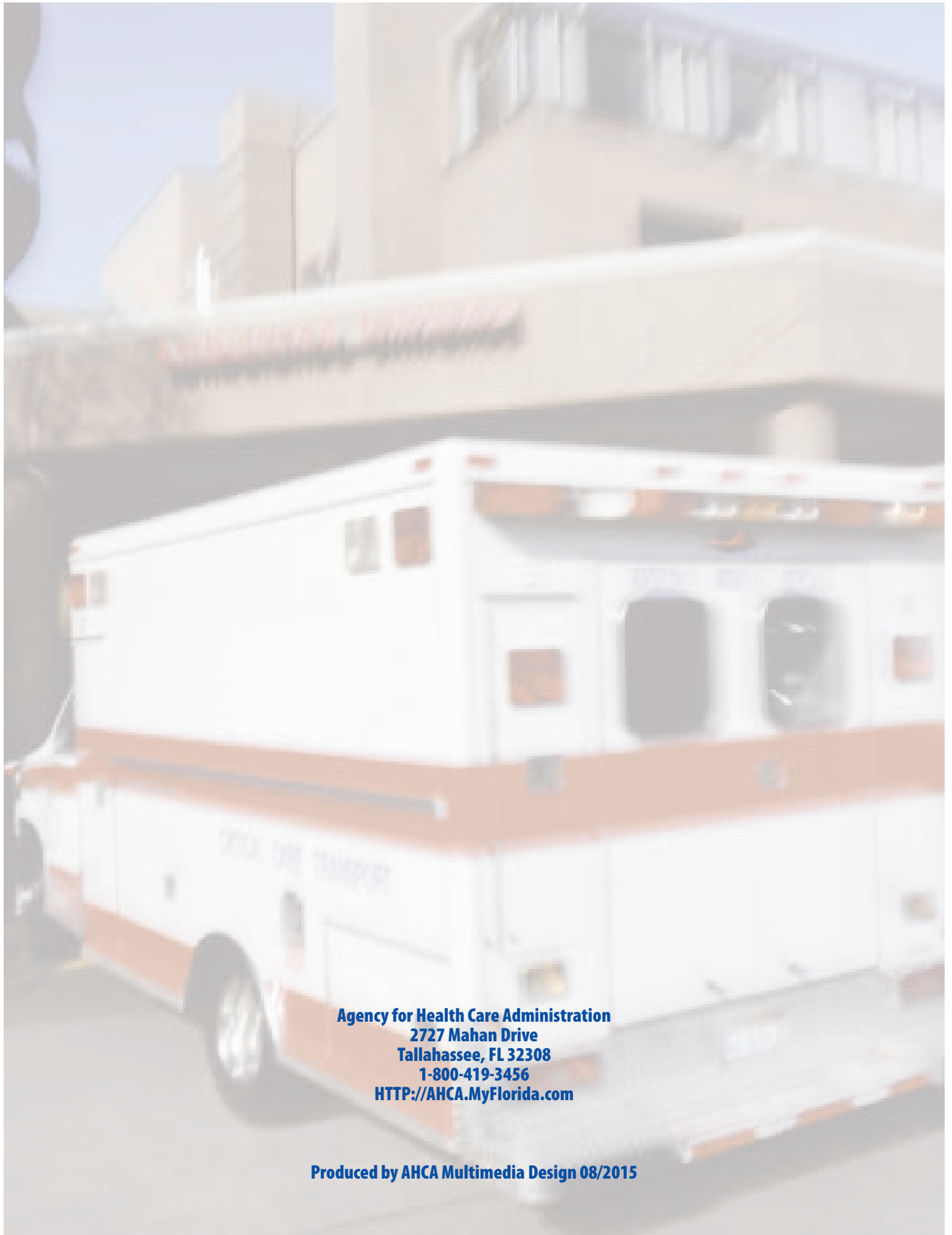
High Acuity

99283 - Emergency department visit for the evaluation and management of a patient, which requires these three key components: an expanded problem focused history; an expanded problem focused examination; medical decision making of moderate complexity. Counseling and/or coordination of care with other providers or agencies are provided consistent with the nature of the problem(s) and the patient's and/or family's needs. Usually the presenting problem(s) are of moderate severity.

99284 - Emergency department visit for the evaluation and management of a patient, which requires these three key components: a detailed history; a detailed examination; medical decision making of moderate complexity.

Counseling and/or coordination of care with other providers or agencies are provided consistent with the nature of the problem(s) and the patient's and/or family's needs. Usually, the presenting problems are of high severity and require urgent evaluation by the physician but do not pose an immediate significant threat to life or physiologic function.

99285 - Emergency department visit for the evaluation and management of a patient, which requires these three key components within the constraints imposed by the urgency of the patient's clinical condition and/or mental status: a comprehensive history; a comprehensive examination; medical decision-making of high complexity. Counseling and/or coordination of care with other providers or agencies are provided consistent with the nature of the problem(s) and the patient's and/or family's needs. Usually, the presenting problems(s) are of high severity and pose an immediate threat to life or physiologic function.