

## CHAPTER 2 HEALTHCARE FACILITIES AND SERVICES IN CONNECTICUT

As noted in Chapter 1, the Connecticut healthcare system continues to transform in response to the PPACA. With the implementation of the PPACA, the number of people in Connecticut with access to health insurance coverage increased, which, combined with the state's aging population is projected to raise demand for healthcare services. The PPACA is structured to incentivize use of cost effective care, such as outpatient services over inpatient care. Furthermore, it is intended to encourage health providers to identify and address gaps in services and to assess unmet healthcare needs of at-risk and vulnerable populations. Such aspects of the PPACA were included with the ultimate goal of reducing health disparities and improving overall community health.

While federal action has taken steps to assess the current state of health care nationally, a full set of comprehensive data is necessary to effectively evaluate the availability and accessibility of services in Connecticut. Although the Connecticut General Assembly authorized implementation of the APCD to collect and provide data on residents' healthcare encounters, as noted in Chapter 1, the APCD is currently incomplete and unavailable to DPH and other state agencies. Due to the unavailability of the APCD this review is based on acute care inpatient data and proxies for healthcare service availability and utilization. Additionally, it should be noted this review utilizes charge data rather than price or cost data, which are also unavailable. These data are not as comprehensive as a fully executed APCD.

### **SHIFTING CARE FROM INPATIENT TO OUTPATIENT SETTINGS**

In recent years, US acute care hospitals have experienced steady declines in inpatient care's share of total revenue. Among the contributing factors are decreasing overall hospital admissions, births and average daily census. Perhaps the greatest impact on inpatient revenue is the increasing trend of providing care in outpatient settings rather than traditional inpatient treatment, driven in part, by PPACA incentives and technological advancements in healthcare. In 2012, outpatient care in the US accounted for nearly 60% of hospital total revenue, compared with only 10% to 15% in the early 1990s. The ongoing shift toward outpatient care may also be attributed to changes in the competitive landscape, consumer preference and the desire to contain costs. These factors have forced hospitals to reallocate resources to align with this current trend to meet patient needs and to stay competitive.

Hospitals face increasing competition in the outpatient market as new providers enter the marketplace offering the same services but in non-traditional settings. Among these settings are urgent care centers and retail pharmacies, which offer extended hours and walk-in medical clinics capable of providing immunizations, health and wellness screenings and treatment for minor injuries. Hospitals must also increasingly compete with ambulatory surgical centers, which provide surgical treatments that do not require an overnight stay, resulting in lower costs. In order to remain competitive in terms of cost and convenience, hospitals are investing in their healthcare systems, either by partnering with these low-cost providers or making direct acquisitions to provide the same level of outpatient services.

The availability of outpatient care that was previously provided strictly in an inpatient setting is in part attributable to technological innovations. Such advancements allow for less invasive procedures, allowing for faster recovery and reduced post-treatment pain. Furthermore, patients' avoidance of an inpatient stay minimizes opportunities for their exposure to infection. Treatment in the outpatient setting requires patients to spend less time in a medical facility, allowing them to quickly return to their regular daily routines. This is especially appealing to younger, healthier patients who do not require any rehabilitation or intense post-operative treatment.

Providing treatment in outpatient settings enables cost savings. The PPACA payment and delivery models motivates hospitals to achieve cost savings. The Comprehensive Care for Joint Replacement Model, for example, mandates that 750 US hospitals are reimbursed a pre-set amount to provide the full spectrum of care -- from surgery through 90 day rehabilitation and recovery -- for hip and knee replacements. <sup>1</sup> This incentivizes hospitals to keep patients out of the inpatient setting and to take preventative measures to ensure a favorable procedure outcome, avoiding incurring additional costs. As a result, hospitals implement population management programs and initiatives, which allow staff and community-based providers to follow up with patients to ensure compliance with treatment regimens and to connect them with necessary resources. This allows for a healthier community while lowering the chance of readmission and improving patient satisfaction.

Nationwide, outpatient surgical treatments are becoming increasingly popular for certain service lines, including cardiovascular, spine/back, urology and orthopedic surgery. <sup>2</sup> Research data also indicates decreasing use-rates of inpatient utilization for Medicare covered patients, suggesting that structural changes, including increased use of outpatient settings for care delivery, may be boosting the rate of decline. As hospitals focus on maintaining competitiveness and generating revenue, the shift towards outpatient services will remain a priority.

The majority of Connecticut hospitals, based on gross revenues, experienced gains in outpatient share from 2012 to 2015 similar to that of hospitals nationwide. Overall, the share of statewide outpatient gross revenue increased three percentage points in 2015 above 2012, reducing the inpatient share to 49% (Table 2.1). It is anticipated that this trend of increasing share of outpatient gross revenue will continue to represent a greater portion of the care provided to Connecticut's patients in future years. This shifting trend highlights the importance of obtaining and analyzing outpatient data for effective health care planning.

**Table 2.1. Hospital Gross Revenue Distribution, Connecticut, 2012 vs. 2015**

Staffed Beds <sup>1</sup>	Hospital	FY 2012		FY 2015	
		Inpatient	Outpatient	Inpatient	Outpatient
<100	Charlotte Hungerford Hospital	38%	62%	37%	63%
	Day Kimball Hospital	28%	72%	30%	70%
	Essent-Sharon Hospital	40%	60%	37%	63%
	Griffin Hospital	44%	56%	42%	58%
	Johnson Memorial Hospital	43%	57%	35%	65%
	Milford Hospital	51%	49%	53%	47%
	New Milford Hospital <sup>2</sup>	28%	72%	N/A	N/A
	Rockville General Hospital	37%	63%	33%	67%
	Windham Community Memorial Hospital	33%	67%	26%	74%
	<b>Sub-Total</b>	<b>38%</b>	<b>62%</b>	<b>37%</b>	<b>63%</b>
101-200	Bristol Hospital	37%	63%	35%	65%
	CT Children's Medical Center	59%	41%	58%	42%
	Greenwich Hospital	43%	57%	41%	59%
	John Dempsey Hospital	43%	57%	39%	61%
	Manchester Memorial Hospital	38%	62%	37%	63%
	Middlesex Hospital	45%	55%	44%	56%
	Midstate Medical Center	44%	56%	41%	59%
	Norwalk Hospital	52%	48%	49%	51%
	Saint Mary's Hospital	43%	57%	41%	59%
	Waterbury Hospital	59%	41%	55%	45%
	William W. Backus Hospital	39%	61%	34%	66%
	<b>Sub-Total</b>	<b>47%</b>	<b>53%</b>	<b>44%</b>	<b>56%</b>
201-350	Bridgeport Hospital	55%	45%	50%	50%
	Danbury Hospital	46%	54%	45%	55%
	Hospital of Saint Raphael <sup>3</sup>	65%	35%	N/A	N/A
	Lawrence and Memorial Hospital	42%	58%	37%	63%
	Stamford Hospital	37%	63%	35%	65%
	The Hospital of Central Connecticut	48%	52%	44%	56%
	<b>Sub-Total</b>	<b>49%</b>	<b>51%</b>	<b>42%</b>	<b>58%</b>
>350	Hartford Hospital	66%	34%	62%	38%
	Saint Francis Hospital and Medical Center	56%	44%	59%	41%
	Saint Vincent's Medical Center	65%	35%	63%	37%
	Yale New Haven Hospital	60%	40%	53%	47%
		<b>Sub-Total</b>	<b>61%</b>	<b>39%</b>	<b>56%</b>
	<b>Statewide</b>	<b>52%</b>	<b>48%</b>	<b>49%</b>	<b>51%</b>

Source: CT DPH Office of Health Care Access Twelve Months Actual Filing, Report 550, Fiscal Year 2012 & 2015.

<sup>1</sup> Staffed beds based on Fiscal Year 2015 (FY 2012 for Saint Raphael) HRS Report 400, excluding bassinets

<sup>2</sup> Now a Danbury Hospital campus.

<sup>3</sup> Now a Yale New Haven Hospital campus.

## **CENTERS OF EXCELLENCE**

Amid declining revenues, operational challenges and new reimbursement models resulting from the PPACA, hospitals are incorporating regionalization of core services as part of their planning and strategic goals. Hospitals regionalize through centers of excellence which standardize best practices, align physicians and staff to improve quality and to differentiate their service(s) from that of other providers.<sup>3</sup> Centers of excellence enable hospitals to contain costs by improving overall efficiency and eliminating duplicated efforts. The focus on core services also enhances quality, facilitates the coordination of care and allows hospitals to meet patients' needs while improving their satisfaction and overall experience.

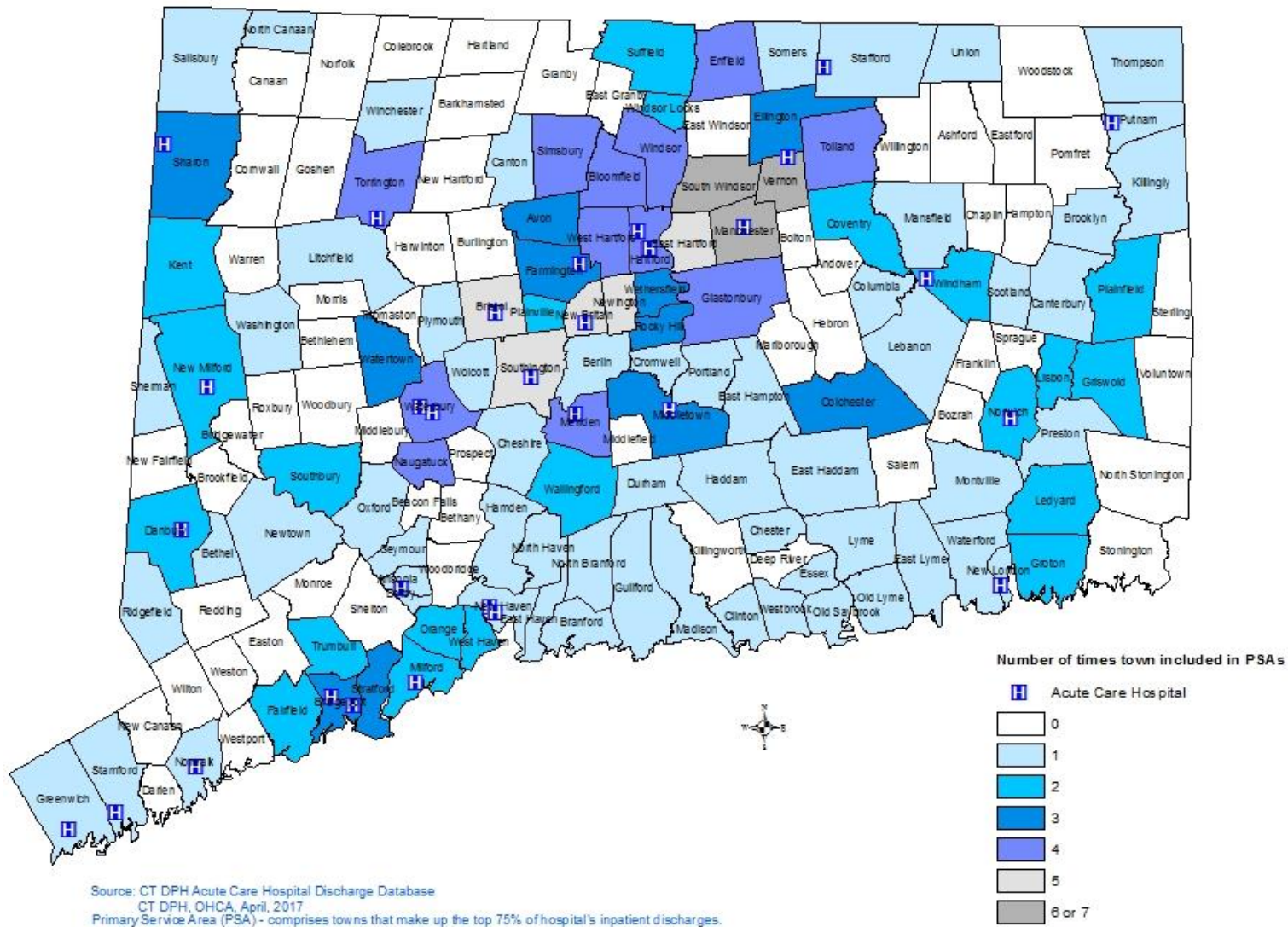
The decision to regionalize should be based on demand for services. For example, a center of excellence focused on spinal care: Despite being located in a remote area, the center was successful due to the extensive number of individuals seeking care, as spinal pain can originate from multiple health conditions including genetics, tumors, work-related injuries, personal injuries, sports injuries, and car accidents. The array of people seeking care at the center enabled it to become a noted destination. Furthermore, the hospital system benefitted from an influx of patients who continued their care with the system for conditions unrelated to spinal treatment. Centers of excellence for other specialty fields and chronic diseases have also achieved superior results as the centers focus on all the various stages of treatment and provide the opportunity to collect data helpful in making informative decisions and improving outcomes. Other fields of care that are the focus of centers of excellence include orthopedics, diabetes, cardiovascular and cancer treatment.<sup>4</sup>

The CON program's emphasis on sharing resources and maintaining quality of care has facilitated Connecticut hospitals' efforts in keeping with this nationwide efforts to develop centers of excellence and to regionalize core services. With CON approval, the state's two largest hospital systems, Yale New Haven Health Services Corporation and Hartford Healthcare Corporation, each established a center of excellence: The Smilow Cancer Center in New Haven<sup>5</sup> and the Bone & Joint Institute for musculoskeletal disorders and orthopedic injuries in Hartford.<sup>6</sup> Other examples of centers of excellence in Connecticut include: Connecticut Children's Pain and Palliative Medicine division, recognized by the American Pain Society<sup>7</sup>; and Fairfield County Bariatrics, which performs bariatric surgery at Norwalk Hospital, St. Vincent's Medical Center in Bridgeport and Griffin Hospital in Derby, each of which is an accredited comprehensive center.<sup>8</sup>

## **AVAILABILITY OF ACUTE CARE HOSPITAL SERVICES**

The below review of the availability and utilization of acute care hospital services in Connecticut is based on acute care inpatient data. Figure 2.1 below depicts the location of acute care hospitals and their reach, defined as the number of times a Connecticut town is included in a hospital primary service area (PSA). The majority of Connecticut towns are included in at least one hospital's PSA. Fifty-eight towns (shaded in white), predominantly rural, are not included in any Connecticut hospital's PSA. While residents of these towns are served by a hospital of their choice, it may also mean they have to travel relatively longer distances to access hospital care or have unmet healthcare needs that may not be covered or addressed by a hospital CHNA and implementation plan.

**Figure 2.1. Map of Connecticut Towns included in a Hospital Primary Service Area**



## Chapter 1 ACUTE CARE, OUTPATIENT SURGERY AND MEDICAL IMAGING, UTILIZATION AND TRENDS

Connecticut's hospitals provide inpatient acute care and outpatient services that include emergency care, ambulatory surgery and imaging services. This section focuses on hospital inpatient acute care, emergency department services, outpatient surgery encounters and medical imaging, as this data is currently available to OHCA.

### ACUTE CARE UTILIZATION PATTERNS

#### Leading Cause of Hospitalizations

The leading cause of hospitalization continues to vary by age and gender (Table 3.1). The leading causes of hospitalizations for all ages are heart-related for males and digestive system-related (i.e., hernia/intestinal obstruction, colitis/enteritis, diverticula of intestine) for females. Mental health is the leading cause of hospitalization for persons 5 to 44 years of age for both genders.

**Table 3.1. Leading Cause of Hospitalization and Rate per 100,000 Population, Connecticut, 2014**

Gender	Age Group <sup>1,2,3</sup>						
	0-4	5-14	15-24	25-44	45-64	65+	All ages
Males	Respiratory (1,265.9)	Mental (346.8)	Mental (966.0)	Mental (1,262.3)	Mental (1,392.3)	Heart (4,989.1)	Heart (973.2)
Females	Respiratory (834.2)	Mental (363.1)	Mental (1,062.9)	Mental (952.7)	Digestive (1,127.2)	Heart (3,914.0)	Digestive (859.7)

Source: Connecticut Department of Public Health, Hospital Discharge Tables, 2014, Table H-1 and H-1-All Ages.

<sup>1</sup> Diagnostic categories are based on International Classification of Diseases, 9th Revision, Clinical Modification, except for conditions related to pregnancy and childbirth, which are based on diagnosis related groups (MS-DRGs 765-782).

<sup>2</sup> First-listed diagnosis codes, except for "amputation with diabetes." First-listed procedure code 84.1 (amputation of lower limb), together with first-listed diagnosis code 249-250 (diabetes mellitus).

<sup>3</sup> Connecticut population groupings were based on estimates for the July 1, 2014 US resident population from the Vintage 2014 postcensal series by year, county, age, sex, race, and Hispanic origin, prepared under a collaborative arrangement with the US Census Bureau, [http://www.cdc.gov/nchs/nvss/bridged\\_race.htm](http://www.cdc.gov/nchs/nvss/bridged_race.htm). Backus, K, Mueller, LM (2015) State-level Bridged Race Estimates for Connecticut, 2014, Connecticut Department of Public Health, Office of Healthcare Quality, Statistics, Analysis & Reporting, Hartford, CT. Rates are per 100,000 population.

Denominators were for total population (males plus females), except for female breast cancer (female population only) and prostate cancer and hyperplasia of prostate (male only). Bridged estimates were used to assign individuals to a single race even if they reported more than one.

As in prior years, the leading cause of hospitalization continues to vary by race and ethnicity (Table 3.2). Heart disease is leading cause of hospitalizations for White non-Hispanics, mental disorders for Black non-Hispanics and for Hispanics as well.

**Table 3.2. Leading Cause of Hospitalization and Rate per 100,000 Population, by Race/Ethnicity, Connecticut, 2014**

Diagnostic Group (ICD-9 CM Code) <sup>2,3</sup>	White non-Hispanic <sup>1</sup>			Black non-Hispanic <sup>1</sup>			Hispanic <sup>1</sup>		
	Rank	No. <sup>4</sup>	Rate <sup>5</sup>	Rank	No. <sup>1</sup>	Rate <sup>5</sup>	Rank	No. <sup>4</sup>	Rate <sup>5</sup>
Disease of the heart (391-392.0, 393-398, 402, 404, 410-416, 420-429)	1	27,914	730.6	4	3,413	1046.5	5	2,437	828.2
Mental disorders (290-319)	5	21,216	831.6	1	4,413	1143.8	1	4,489	864.1
Diseases of the digestive system (520-579)	2	25,945	809.5	2	4,044	1158.2	2	4,125	1046.6
Diseases of the respiratory system (460-519)	3	22,700	656.5	3	3,992	1152.6	3	3,484	932.7

Source: Connecticut Department of Public Health, Hospital Discharge Tables, 2014, Table H-2.

<sup>1</sup>The three racial and ethnic categories used here are mutually exclusive. Discharge records of persons of Asian, American Indian, Alaska Native, Hawaiian, or other Pacific Islander race when reported along with non-Hispanic ethnicity are not included due to small numbers.

<sup>2</sup> Diagnostic categories are based on International Classification of Diseases, 9th Revision, Clinical Modification, except for conditions related to pregnancy and childbirth, which are based on diagnosis related groups (MS-DRGs 765-782).

<sup>3</sup> First-listed diagnosis codes, except for "amputation with diabetes". First-listed procedure code 84.1 (amputation of lower limb), together with first-listed diagnosis code 249-250 (diabetes mellitus).

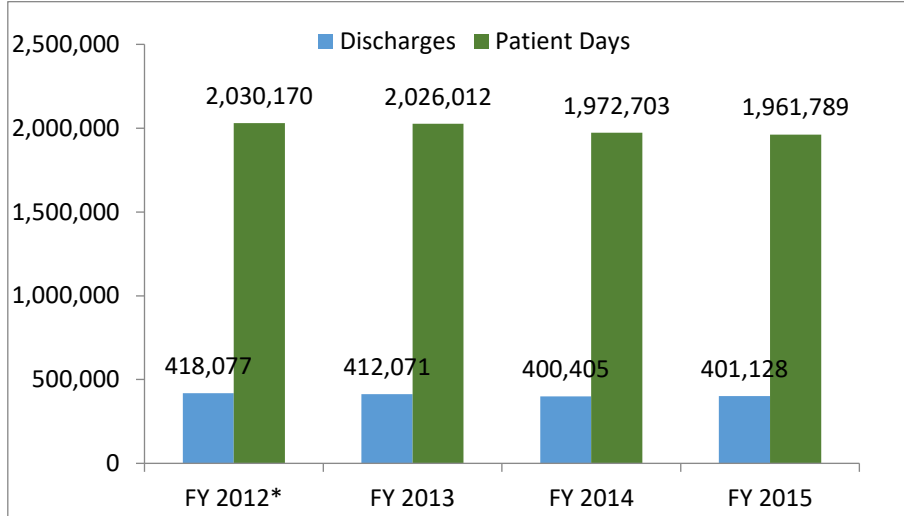
<sup>4</sup> Numbers of discharges represent events, not unique persons hospitalized

<sup>5</sup> Connecticut population groupings were based on estimates for the July 1, 2014 US resident population from the Vintage 2014 postcensal series by year, county, age, sex, race, and Hispanic origin, prepared under a collaborative arrangement with the US Census Bureau, [http://www.cdc.gov/nchs/nvss/bridged\\_race.htm](http://www.cdc.gov/nchs/nvss/bridged_race.htm). Backus, K, Mueller, LM (2015) State-level Bridged Race Estimates for Connecticut, 2014, Connecticut Department of Public Health, Office of Healthcare Quality, Statistics, Analysis & Reporting, Hartford, CT. Rates are per 100,000 population. Denominators were for total population (males plus females), except for female breast cancer (female population only) and prostate cancer and hyperplasia of prostate (male only). Bridged estimates were used to assign individuals to a single race even if they reported more than one

### Acute Care Discharges and Patient Days

Acute care inpatient utilization has declined slightly (Figure 3.3). Between FY 2012 and 2015, acute care discharges and patient days decreased 4% and 3%, respectively. The average hospital stay remains 4.9 days.

**Figure 1.1. Acute Care Discharges and Patient Days, FY 2012-FY 2015**



Source: CT DPH Office of Health Care Access Acute Care Hospital Discharge Database.

\*Revised from 2014 Supplement

### Acute Care Discharges by Primary Coverage

Declining acute care utilization is attributable to declines in discharges covered by commercial insurance and the uninsured (Table 2.4). Due to PPACA health insurance coverage expansion, there were fewer uninsured discharges and there was a corresponding increase in utilization by those with Medicaid coverage. Also, declining utilization may be partially attributable to other factors, such as measures related to reducing unscheduled 30-day readmissions and increased care coordination. Regardless, more than two-thirds of patients discharged from acute care hospitals have government-based insurance for primary coverage.

**Table 3.3. Acute Care Discharges by Primary Coverage, Connecticut, FY 2013-FY 2015**

Payer	FY 2013	FY 2014	FY 2015	FY 2015 Share	Change FY 13-15	Change FY 14-15
Medicare	173,037	166,499	168,519	42%	-3%	1%
Commercial	132,077	126,682	124,335	31%	-6%	-2%
Medicaid	95,548	95,798	98,059	24%	3%	2%
Uninsured*	8,510	8,455	7,030	2%	-17%	-17%
Other Public	2,899	2,971	3,185	1%	10%	7%
<b>Total</b>	<b>412,071</b>	<b>400,405</b>	<b>401,128</b>	<b>100%</b>	<b>-3%</b>	<b>0%</b>

Source: CT DPH Office of Health Care Access Acute Care Hospital Discharge Database.

\*Includes self-pay, no charge and other.



## Hospital Utilization by Service Line

Declining acute care utilization occurred among nine of 14 inpatient service lines (Table 3.4). Behavioral health, respiratory and medical/surgical cardiac care inpatient service lines experienced the largest declines. Medicine remains the service line with the largest number of discharges and patient days, and continues to grow. The continual decline in general/other surgery may be an indication of the shifting of inpatient surgery to outpatient settings.

**Table 3.4. Hospital Utilization by Service Line, Discharges and Patient Days, Connecticut, FY 2013-FY 2015**

Service	FY 2013		FY 2014		FY 2015		FY 2013-2015 % chg	
	D-chrgs	P-Days	D-chrgs	P-Days	D-chrgs	P-Days	D-chrgs	P-Days
Cardiac Med/Surg	52,016	233,453	46,952	217,550	45,494	212,370	-12.54%	-9.03%
Cancer Care Med/Surg	10,406	64,518	10,069	61,728	9,894	62,077	-4.92%	-3.78%
Neurology Med/Surg	26,837	151,793	26,076	146,061	26,357	142,880	-1.79%	-5.87%
Renal Med/Surg	20,486	95,665	20,042	91,857	19,947	92,169	-2.63%	-3.65%
Women's Health	44,374	128,453	43,922	126,176	43,378	125,482	-2.24%	-2.31%
Orthopedic Med/Surg	25,656	102,558	26,667	104,981	26,828	100,697	4.57%	-1.81%
Respiratory	35,753	179,376	32,760	161,070	32,707	157,099	-8.52%	-12.42%
Medicine	89,241	427,867	88,480	427,817	91,077	439,463	2.06%	2.71%
General/Other Surgery	30,965	205,068	28,950	197,957	28,562	193,350	-7.76%	-5.71%
Newborn	37,864	147,126	38,652	148,398	38,715	148,525	2.25%	0.95%
Trauma Med/Surg	32,234	259,951	32,139	260,633	32,303	258,466	0.21%	-0.57%
Behavioral Health	570	1,772	463	1,673	410	1,548	-28.07%	-12.64%
Ophthalmology	5329	27,180	4890	25,532	5100	26,478	-4.30%	-2.58%
Dental	326	1,190	330	1,233	344	1,128	5.52%	-5.21%
Other <sup>1</sup>	14	42	13	37	12	57	NA	NA
<b>Total<sup>1</sup></b>	<b>412,071</b>	<b>2,026,012</b>	<b>400,401</b>	<b>1,972,685</b>	<b>401,128</b>	<b>1,961,789</b>	<b>-2.66%</b>	<b>-3.17%</b>

Source: CT DPH Office of Health Care Access Acute Care Hospital Discharge Database.

<sup>1</sup> Uncategorized or system missing.

## Utilization by Service Line and Hospital System

Despite declining inpatient volumes and hospital mergers and acquisitions, there were no significant volume shifts among hospitals and/or systems within inpatient service lines between 2013 and 2015 (Table 3.5). Consequently, market shares of inpatient services within systems, individual hospitals, and statewide remained constant. Overall, Yale New Haven Health Services Corporation (32%) and Hartford Healthcare (20%) accounted for more than one-half of utilization for 14 inpatient acute care service lines in 2015.

**Table 3.5. Hospital Systems Percent of Inpatient Discharges and Patient Days by Service Line, FY 2013 vs. FY 2015**

Service Line	Hospital System	Inpatient Discharges					Patient Days				
		FY 2013	FY 2015	% Change	% Share of Service Line		FY 2013	FY 2015	% Change	% Share of Service Line	
					FY 2013	FY 2015				FY 2013	FY 2015
All	Eastern Connecticut Health Network Inc	11,861	10,747	-9	3	3	58,864	50,009	-15	3	3
	Western Connecticut Health Network Inc	33,357	33,354	0	8	8	158,169	161,926	2	8	8
	Hartford Healthcare Corporation	85,046	81,258	-4	21	20	418,617	396,167	-5	21	20
	Yale New Haven Health Services Corporation	126,088	126,566	0	31	32	637,830	636,722	0	31	32
	Trinity Health New England Inc	47,333	46,609	-2	11	12	228,060	218,602	-4	11	11
	Ascension Health	20,454	18,247	-11	5	5	121,263	110,807	-9	6	6
	Essent Healthcare Inc	2,877	2,464	-14	1	1	12,331	11,028	-11	1	1
	Individual hospitals	85,041	81,871	-4	21	20	390,836	376,471	-4	19	19
	<b>Total</b>	<b>412,057</b>	<b>401,116</b>	<b>-3</b>	<b>100</b>	<b>100</b>	<b>2,025,970</b>	<b>1,961,732</b>	<b>-3</b>	<b>100</b>	<b>100</b>
Cardiac Med/Surg	Eastern Connecticut Health Network Inc	998	756	-24	2	2	4,254	3,159	-26	2	1
	Western Connecticut Health Network Inc	3,997	3,865	-3	8	8	16,351	16,946	4	7	8
	Hartford Healthcare Corporation	11,770	9,708	-18	23	21	56,627	48,574	-14	24	23
	Yale New Haven Health Services Corporation	15,564	13,803	-11	30	30	71,787	66,931	-7	31	32
	Trinity Health New England Inc.	6,893	6,212	-10	13	14	33,335	30,604	-8	14	14
	Ascension Health	3,004	2,453	-18	6	5	14,541	11,793	-19	6	6
	Essent Healthcare Inc.	295	283	-4	1	1	848	901	6	0	0
	Individual hospitals	9,495	8,414	-11	18	18	35,710	33,462	-6	15	16
	<b>Total</b>	<b>52,016</b>	<b>45,494</b>	<b>-13</b>	<b>100</b>	<b>100</b>	<b>233,453</b>	<b>212,370</b>	<b>-9</b>	<b>100</b>	<b>100</b>
Cancer Med/Surg	Eastern Connecticut Health Network Inc.	218	146	-33	2	1	1,238	778	-37	2	1
	Western Connecticut Health Network Inc.	729	752	3	7	8	4,131	4,792	16	6	8
	Hartford Healthcare Corporation	2,136	1,946	-9	21	20	13,544	12,534	-7	21	20
	Yale New Haven Health Services Corporation	4,106	3,902	-5	39	39	27,266	25,812	-5	42	42
	Trinity Health New England Inc.	1,028	946	-8	10	10	6,272	5,762	-8	10	9
	Ascension Health	542	477	-12	5	5	3,481	3,142	-10	5	5
	Essent Healthcare Inc.	32	28	-13	0	0	168	114	-32	0	0
	Individual hospitals	1,615	1,697	5	16	17	8,418	9,143	9	13	15
	<b>Total</b>	<b>10,406</b>	<b>9,894</b>	<b>-5</b>	<b>100</b>	<b>100</b>	<b>64,518</b>	<b>62,077</b>	<b>-4</b>	<b>100</b>	<b>100</b>

Service Line	Hospital System	Inpatient Discharges					Patient Days				
		FY 2013	FY 2015	% Change	% Share of Service Line		FY 2013	FY 2015	% Change	% Share of Service Line	
					FY 2013	FY 2015				FY 2013	FY 2015
Neurology Med/Surg	Eastern Connecticut Health Network Inc.	579	444	-23	2	2	2,484	1,490	-40	2	1
	Western Connecticut Health Network Inc.	2,215	2,363	7	8	9	11,456	13,150	15	8	9
	Hartford Healthcare Corporation	5,438	5,242	-4	20	20	32,502	30,054	-8	21	21
	Yale New Haven Health Services Corporation	8,498	8,717	3	32	33	52,412	51,791	-1	35	36
	Trinity Health New England Inc.	3,221	3,245	1	12	12	15,804	15,339	-3	10	11
	Ascension Health	1,322	1,225	-7	5	5	7,568	7,386	-2	5	5
	Essent Healthcare Inc.	306	203	-34	1	1	2,233	1,615	-28	1	1
	Individual hospitals	5,258	4,918	-6	20	19	27,334	22,055	-19	18	15
	<b>Total</b>	<b>26,837</b>	<b>26,357</b>	<b>-2</b>	<b>100</b>	<b>100</b>	<b>151,793</b>	<b>142,880</b>	<b>-6</b>	<b>100</b>	<b>100</b>
Renal Med/Surg	Eastern Connecticut Health Network Inc.	654	551	-16	3	3	2,850	2,295	-19	3	2
	Western Connecticut Health Network Inc.	1,419	1,487	5	7	7	6,566	7,865	20	7	9
	Hartford Healthcare Corporation	4,873	4,491	-8	24	23	21,036	20,313	-3	22	22
	Yale New Haven Health Services Corporation	6,094	6,206	2	30	31	30,560	29,298	-4	32	32
	Trinity Health New England Inc.	2,236	2,237	0	11	11	11,325	10,600	-6	12	12
	Ascension Health	1,093	890	-19	5	4	5,662	4,982	-12	6	5
	Essent Healthcare Inc.	136	105	-23	1	1	525	402	-23	1	0
	Individual hospitals	3,981	3,980	0	19	20	17,141	16,414	-4	18	18
	<b>Total</b>	<b>20,486</b>	<b>19,947</b>	<b>-3</b>	<b>100</b>	<b>100</b>	<b>95,665</b>	<b>92,169</b>	<b>-4</b>	<b>100</b>	<b>100</b>
Women's Health	Eastern Connecticut Health Network Inc.	1,286	1,463	14	3	3	3,515	3,913	11	3	3
	Western Connecticut Health Network Inc.	3,913	3,796	-3	9	9	11,173	10,954	-2	9	9
	Hartford Healthcare Corporation	9,094	8,742	-4	20	20	25,162	24,171	-4	20	19
	Yale New Haven Health Services Corporation	14,534	14,770	2	33	34	43,767	44,477	2	34	35
	Trinity Health New England Inc.	5,070	4,709	-7	11	11	14,541	13,604	-6	11	11
	Ascension Health	1,327	1,271	-4	3	3	3,426	3,351	-2	3	3
	Essent Healthcare Inc.	304	283	-7	1	1	750	722	-4	1	1
	Individual hospitals	8,846	8,344	-6	20	19	26,119	24,290	-7	20	19
	<b>Total</b>	<b>44,374</b>	<b>43,378</b>	<b>-2</b>	<b>100</b>	<b>100</b>	<b>128,453</b>	<b>125,482</b>	<b>-2</b>	<b>100</b>	<b>100</b>

Service Line	Hospital System	Inpatient Discharges					Patient Days				
		FY 2013	FY 2015	% Change	% Share of Service Line		FY 2013	FY 2015	% Change	% Share of Service Line	
					FY 2013	FY 2015				FY 2013	FY 2015
Orthopedic Med/Surg	Eastern Connecticut Health Network Inc.	620	557	-10	2	2	2,729	2,099	-23	3	2
	Western Connecticut Health Network Inc.	2,388	2,488	4	9	9	10,161	10,476	3	10	10
	Hartford Healthcare Corporation	5,174	5,334	3	20	20	21,303	20,077	-6	21	20
	Yale New Haven Health Services Corporation	7,186	7,625	6	28	28	29,108	30,470	5	28	30
	Trinity Health New England Inc.	3,833	4,155	8	15	15	13,781	12,474	-9	13	12
	Ascension Health	1,071	922	-14	4	3	4,998	4,516	-10	5	4
	Essent Healthcare Inc.	120	144	20	0	1	514	614	19	1	1
	Individual hospitals	5,264	5,603	6	21	21	19,964	19,971	0	19	20
	<b>Total</b>	<b>25,656</b>	<b>26,828</b>	<b>5</b>	<b>100</b>	<b>100</b>	<b>102,558</b>	<b>100,697</b>	<b>-2</b>	<b>100</b>	<b>100</b>
Respiratory	Eastern Connecticut Health Network Inc.	1,177	927	-21	3	3	6,792	4,320	-36	4	3
	Western Connecticut Health Network Inc.	3,173	2,707	-15	9	8	17,168	13,933	-19	10	9
	Hartford Healthcare Corporation	6,686	6,075	-9	19	19	34,278	31,265	-9	19	20
	Yale New Haven Health Services Corporation	10,093	9,571	-5	28	29	48,262	43,943	-9	27	28
	Trinity Health New England Inc.	3,974	3,873	-3	11	12	22,485	19,858	-12	13	13
	Ascension Health	1,688	1,102	-35	5	3	9,301	5,846	-37	5	4
	Essent Healthcare Inc.	305	266	-13	1	1	1,247	1,115	-11	1	1
	Individual hospitals	8,657	8,186	-5	24	25	39,843	36,819	-8	22	23
	<b>Total</b>	<b>35,753</b>	<b>32,707</b>	<b>-9</b>	<b>100</b>	<b>100</b>	<b>179,376</b>	<b>157,099</b>	<b>-12</b>	<b>100</b>	<b>100</b>
Medicine	Eastern Connecticut Health Network Inc.	2,774	2,518	-9	3	3	14,692	11,889	-19	3	3
	Western Connecticut Health Network Inc.	7,552	8,062	7	8	9	38,334	42,029	10	9	10
	Hartford Healthcare Corporation	18,043	18,053	0	20	20	85,466	83,719	-2	20	19
	Yale New Haven Health Services Corporation	27,538	28,976	5	31	32	135,237	145,174	7	32	33
	Trinity Health New England Inc.	8,836	9,170	4	10	10	43,543	43,855	1	10	10
	Ascension Health	4,500	4,238	-6	5	5	24,081	24,619	2	6	6
	Essent Healthcare Inc.	675	527	-22	1	1	2,618	1,948	-26	1	0
	Individual hospitals	19,323	19,533	1	22	21	83,896	86,230	3	20	20
	<b>Total</b>	<b>89,241</b>	<b>91,077</b>	<b>2</b>	<b>100</b>	<b>100</b>	<b>427,867</b>	<b>439,463</b>	<b>3</b>	<b>100</b>	<b>100</b>

Service Line	Hospital System	Inpatient Discharges					Patient Days				
		FY 2013	FY 2015	% Change	% Share of Service Line		FY 2013	FY 2015	% Change	% Share of Service Line	
					FY 2013	FY 2015				FY 2013	FY 2015
General/Other Surgery	Eastern Connecticut Health Network Inc.	722	599	-17	2	2	5,672	4,493	-21	3	2
	Western Connecticut Health Network Inc.	2,322	2,157	-7	7	8	15,697	14,982	-5	8	8
	Hartford Healthcare Corporation	6,839	6,399	-6	22	22	45,369	43,736	-4	22	23
	Yale New Haven Health Services Corporation	9,871	9,569	-3	32	34	66,014	64,141	-3	32	33
	Trinity Health New England Inc.	3,485	3,276	-6	11	11	22,172	21,705	-2	11	11
	Ascension Health	1,546	1,255	-19	5	4	11,121	10,587	-5	5	5
	Essent Healthcare Inc.	134	87	-35	0	0	650	444	-32	0	0
	Individual hospitals	6,046	5,220	-14	20	18	38,373	33,262	-13	19	17
	<b>Total</b>	<b>30,965</b>	<b>28,562</b>	<b>-8</b>	<b>100</b>	<b>100</b>	<b>205,068</b>	<b>193,350</b>	<b>-6</b>	<b>100</b>	<b>100</b>
Newborn & Neonates	Eastern Connecticut Health Network Inc.	1,206	1,340	11	3	3	3,537	3,892	10	2	3
	Western Connecticut Health Network Inc.	3,562	3,462	-3	9	9	13,285	12,034	-9	9	8
	Hartford Healthcare Corporation	7,335	7,426	1	19	19	19,314	19,866	3	13	13
	Yale New Haven Health Services Corporation	12,065	12,954	7	32	33	49,251	51,154	4	33	34
	Trinity Health New England Inc.	4,125	4,065	-1	11	10	15,660	15,167	-3	11	10
	Ascension Health	1,023	1,005	-2	3	3	3,280	2,982	-9	2	2
	Essent Healthcare Inc.	249	259	4	1	1	588	595	1	0	0
	Individual hospitals	8,299	8,204	-1	22	21	42,211	42,835	1	29	29
	<b>Total</b>	<b>37,864</b>	<b>38,715</b>	<b>2</b>	<b>100</b>	<b>100</b>	<b>147,126</b>	<b>148,525</b>	<b>1</b>	<b>100</b>	<b>100</b>
Behavioral Health	Eastern Connecticut Health Network Inc.	1,568	1,411	-10	5	4	10,829	11,499	6	4	4
	Western Connecticut Health Network Inc.	1,590	1,712	8	5	5	11,625	12,321	6	4	5
	Hartford Healthcare Corporation	6,489	6,705	3	20	21	57,820	55,289	-4	22	21
	Yale New Haven Health Services Corporation	8,087	8,138	1	25	25	71,541	71,761	0	28	28
	Trinity Health New England Inc.	3,868	3,986	3	12	12	26,038	26,611	2	10	10
	Ascension Health	3,035	3,109	2	9	10	32,193	30,014	-7	12	12
	Essent Healthcare Inc.	295	268	-9	1	1	2,100	2,515	20	1	1
	Individual hospitals	7,302	6,974	-4	23	22	47,805	48,456	1	18	19
	<b>Total</b>	<b>32,234</b>	<b>32,303</b>	<b>0</b>	<b>100</b>	<b>100</b>	<b>259,951</b>	<b>258,466</b>	<b>-1</b>	<b>100</b>	<b>100</b>

Service Line	Hospital System	Inpatient Discharges					Patient Days				
		FY 2013	FY 2015	% Change	% Share of Service Line		FY 2013	FY 2015	% Change	% Share of Service Line	
					FY 2013	FY 2015				FY 2013	FY 2015
Ophthalmology	Eastern Connecticut Health Network Inc.	7	0	-100	1	0	24	0	-100	1	0
	Western Connecticut Health Network Inc.	44	24	-45	8	6	147	86	-41	8	6
	Hartford Healthcare Corporation	79	48	-39	14	12	266	161	-39	15	10
	Yale New Haven Health Services Corporation	272	228	-16	48	56	867	905	4	49	58
	Trinity Health New England Inc.	48	38	-21	8	9	152	114	-25	9	7
	Ascension Health	18	15	-17	3	4	65	55	-15	4	4
	Essent Healthcare Inc.										
	Individual hospitals	102	55	-46	18	13	251	217	-14	14	14
	<b>Total</b>	<b>570</b>	<b>410</b>	<b>-28</b>	<b>100</b>	<b>100</b>	<b>1,772</b>	<b>1,548</b>	<b>-13</b>	<b>100</b>	<b>100</b>
Trauma Med/Surg	Eastern Connecticut Health Network Inc.	49	33	-33	1	1	228	178	-22	1	1
	Western Connecticut Health Network Inc.	431	455	6	8	9	1,976	2,250	14	7	8
	Hartford Healthcare Corporation	1,039	1,026	-1	19	20	5,686	6,103	7	21	23
	Yale New Haven Health Services Corporation	2,034	1,953	-4	38	38	11,265	10,455	-7	41	39
	Trinity Health New England Inc.	692	666	-4	13	13	2,893	2,799	-3	11	11
	Ascension Health	266	275	3	5	5	1,485	1,507	1	5	6
	Essent Healthcare Inc.	23	8	-65	0	0	79	32	-59	0	0
	Individual hospitals	795	684	-14	15	13	3,568	3,154	-12	13	12
	<b>Total</b>	<b>5,329</b>	<b>5,100</b>	<b>-4</b>	<b>100</b>	<b>100</b>	<b>27,180</b>	<b>26,478</b>	<b>-3</b>	<b>100</b>	<b>100</b>
Dental	Eastern Connecticut Health Network Inc.										
	Western Connecticut Health Network Inc.	22	24	9	7	7	99	108	9	8	10
	Hartford Healthcare Corporation	51	63	24	16	18	244	305	25	21	27
	Yale New Haven Health Services Corporation	146	154	5	45	45	493	410	-17	41	36
	Trinity Health New England Inc.	24	31	29	7	9	59	110	86	5	10
	Ascension Health	19	10	-47	6	3	61	27	-56	5	2
	Essent Healthcare Inc.										
	Individual hospitals	58	59	2	18	17	203	163	-20	17	14
	<b>Total</b>	<b>326</b>	<b>344</b>	<b>6</b>	<b>100</b>	<b>100</b>	<b>1,190</b>	<b>1,128</b>	<b>-5</b>	<b>100</b>	<b>100</b>

## Acute Care Bed Need Projections by County and Hospital

OHCA, with the Acute Care and Ambulatory Surgery Subcommittee, developed a standard methodology for calculating bed need. The purpose of this analysis was to assist in evaluating the availability of acute care services, help identify areas with unmet need and provide an equitable measure to determine how acute care beds are distributed throughout the state.

Based on updated acute care bed need projections for 2020, Connecticut has a statewide surplus of 1,652 inpatient beds, 293 more than reported in the 2014 Supplement (Table 3.6). Each county has a projected excess bed capacity which range from a low of 48 surplus beds in Litchfield County (compared to 60 in the 2014 Supplement) to a high of 489 surplus beds in Hartford County (compared to 416 in the 2014 Supplement). Between 2013 and 2015, New Milford Hospital in Litchfield County and Milford Hospital in New Haven County relinquished, with CON authorization, licenses for 20 beds and 22 bassinets, in aggregate, due to low and declining volumes and/or inability to recruit physician specialist to support the services.<sup>9</sup>

**Table 3.6. Acute Care Hospital 2020 Bed Need, Connecticut**

County	FY 2013 Patient Days <sup>1</sup>	FY 2014 Patient Days <sup>1</sup>	FY 2015 Patient Days <sup>1</sup>	Weighted Average Daily Census	Projected Average Daily Census 2020	Beds Needed	Licensed Beds <sup>2</sup>	Excess (-) or Deficit (+)
Fairfield	464,566	457,100	465,720	1,268	1,351	1,766	2,083	-317
Hartford	580,516	557,288	547,187	1,524	1,608	2,083	2,572	-489
Litchfield	37,142	35,698	35,333	98	108	139	187	-48
Middlesex	57,199	54,066	52,974	148	163	210	275	-65
New Haven	571,628	558,314	557,874	1,535	1,625	2,094	2,521	-427
New London	107,227	106,941	102,668	287	311	403	493	-90
Tolland	27,840	26,927	24,455	71	78	99	194	-95
Windham	32,768	27,971	27,053	78	87	113	234	-121
<b>Statewide</b>	<b>1,878,886</b>	<b>1,824,305</b>	<b>1,813,264</b>	<b>5,008</b>	<b>5,332</b>	<b>6,907</b>	<b>8,559</b>	<b>-1,652</b>

Source: CT DPH Office of Health Care Access Acute Care Hospital Discharge Database

<sup>1</sup> Excludes Newborn service category

<sup>2</sup> Excludes bassinets (776)

## Acute Care Bed Need Projections Compared to Staffed Beds

While there is a statewide excess licensed bed capacity projected for 2020 in Connecticut, estimates indicate hospitals need to increase the number of staffed beds<sup>10</sup> to meet projected demand (Table 3.7). Overall, additional staffed beds will be needed for the projected utilization as follows: medical/surgical (164), maternity (192), psychiatry (42) and rehabilitation (5). Seventy-eight fewer staffed beds, however, will be needed for pediatric care. The distribution of projected staffed beds by hospital and county are indicated in Table 3.7.

**Table 3.7. Number of Staffed Beds Needed in 2020 versus 2015 Actuals**

Hospitals by County	ACTUAL							PROJECTED					
	FY 2015 # of Staffed Beds (HRS Report 400)							# of Staffed Beds Needed by 2020 (2016 Bed Need Methodology)					
	Med/ Surg <sup>1</sup>	Mater nity	Psych	Rehab	Ped	Newborn Bassinets	Total <sup>2</sup>	Med/ Surg	Mater nity	Psych	Rehab	Ped	Total
<b>Fairfield County</b>													
Bridgeport	219	24	29	15	0	15	287	274	44	37	19	1	374
Danbury <sup>3</sup>	236	17	18	11	2	12	284	284	34	23	14	2	356
Greenwich	149	25	0	0	10	22	184	130	47	1	0	1	179
Norwalk	145	15	10	6	4	10	180	164	23	10	6	3	207
St. Vincent's	273	22	92	10	0	27	397	289	16	89	11	0	405
Stamford	153	23	15	15	3	17	209	164	45	17	17	3	245
<b>Fairfield County</b>	<b>1,175</b>	<b>126</b>	<b>164</b>	<b>57</b>	<b>19</b>	<b>103</b>	<b>1,541</b>	<b>1,304</b>	<b>208</b>	<b>177</b>	<b>68</b>	<b>10</b>	<b>1,766</b>
<b>NEED<sup>3</sup></b>								<b>129</b>	<b>82</b>	<b>13</b>	<b>11</b>	<b>-9</b>	<b>225</b>
<b>Hartford County</b>													
Bristol	88	15	14	0	3	8	120	77	9	13	0	0	98
CCMC	90	0	0	0	92	0	182	5	0	1	0	74	80
Hartford	505	31	111	0	0	26	647	629	70	134	0	0	833
HOCC	221	25	22	0	14	20	282	192	26	25	0	1	244
Dempsey	125	20	20	0	0	10	165	108	16	18	0	0	142
Manchester	104	20	31	0	0	26	155	91	20	37	0	0	148
St. Francis	468	30	83	0	0	26	581	438	53	46	0	1	538
<b>Hartford County</b>	<b>1,601</b>	<b>141</b>	<b>281</b>	<b>0</b>	<b>109</b>	<b>116</b>	<b>2,132</b>	<b>1,539</b>	<b>194</b>	<b>273</b>	<b>0</b>	<b>76</b>	<b>2,083</b>
<b>NEED<sup>3</sup></b>								<b>-62</b>	<b>53</b>	<b>-8</b>	<b>0</b>	<b>-33</b>	<b>-49</b>
<b>Litchfield County</b>													
Hungerford	58	3	10	0	1	4	72	79	6	10	0	0	96
Sharon	29	4	12	0	0	4	45	32	4	8	0	0	44
<b>Litchfield County</b>	<b>87</b>	<b>7</b>	<b>22</b>	<b>0</b>	<b>1</b>	<b>8</b>	<b>117</b>	<b>111</b>	<b>10</b>	<b>18</b>	<b>0</b>	<b>0</b>	<b>139</b>
<b>NEED<sup>3</sup></b>								<b>24</b>	<b>3</b>	<b>-4</b>	<b>0</b>	<b>-1</b>	<b>22</b>
<b>Middlesex County</b>													
Middlesex	156	9	17	0	0	10	182	173	16	21	0	0	210
<b>Middlesex County</b>	<b>156</b>	<b>9</b>	<b>17</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>182</b>	<b>173</b>	<b>16</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>210</b>
<b>NEED<sup>3</sup></b>								<b>17</b>	<b>7</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>28</b>
<b>New Haven County</b>													
Griffin	65	4	13	0	0	4	82	87	9	14	0	0	109
Midstate	109	10	6	0	0	10	125	120	13	6	0	0	140
Milford <sup>4</sup>	33	4	0	0	0	4	37	45	2	0	0	0	46
St. Mary's	129	15	12	0	0	5	156	151	16	13	0	0	180
Waterbury	133	10	27	0	0	10	170	149	18	32	0	0	198
Yale	1,061	67	134	18	92	53	1,372	1,067	111	168	11	62	1,419
<b>New Haven County</b>	<b>1,530</b>	<b>110</b>	<b>192</b>	<b>18</b>	<b>92</b>	<b>86</b>	<b>1,942</b>	<b>1,619</b>	<b>168</b>	<b>233</b>	<b>11</b>	<b>63</b>	<b>2,094</b>
<b>NEED<sup>3</sup></b>								<b>89</b>	<b>58</b>	<b>41</b>	<b>-7</b>	<b>-29</b>	<b>152</b>
<b>New London County</b>													
Backus	150	15	18	0	0	18	183	147	11	16	0	0	175
L&M	170	24	18	16	6	14	234	167	24	19	17	0	228
<b>New London County</b>	<b>320</b>	<b>39</b>	<b>36</b>	<b>16</b>	<b>6</b>	<b>32</b>	<b>417</b>	<b>314</b>	<b>36</b>	<b>35</b>	<b>17</b>	<b>1</b>	<b>403</b>
<b>NEED<sup>3</sup></b>								<b>-6</b>	<b>-3</b>	<b>-1</b>	<b>1</b>	<b>-5</b>	<b>-14</b>
<b>Tolland County</b>													
Johnson	45	4	17	0	0	4	66	44	3	11	0	0	58
Rockville	47	0	0	0	0	0	47	41	0	0	0	0	41
<b>Tolland County</b>	<b>92</b>	<b>4</b>	<b>17</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>113</b>	<b>85</b>	<b>3</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>99</b>
<b>NEED<sup>3</sup></b>								<b>-7</b>	<b>-1</b>	<b>-6</b>	<b>0</b>	<b>0</b>	<b>-14</b>



Hospitals by County	ACTUAL							PROJECTED					
	FY 2015 # of Staffed Beds (HRS Report 400)							# of Staffed Beds Needed by 2020 (2016 Bed Need Methodology)					
	Med/ Surg <sup>1</sup>	Maternity	Psych	Rehab	Ped	Newborn Bassinets	Total <sup>2</sup>	Med/ Surg	Maternity	Psych	Rehab	Ped	Total
<b>Windham County</b>													
Day Kimball	43	5	12	0	0	5	60	41	8	14	0	0	62
Windham	65	14	0	0	0	8	79	46	4	0	0	0	51
<b>Windham County</b>	<b>108</b>	<b>19</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>139</b>	<b>87</b>	<b>12</b>	<b>14</b>	<b>0</b>	<b>0</b>	<b>113</b>
<b>NEED<sup>3</sup></b>								<b>-21</b>	<b>-7</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>-26</b>
<b>STATEWIDE</b>													
<b>Total</b>	<b>5,069</b>	<b>455</b>	<b>741</b>	<b>91</b>	<b>227</b>	<b>372</b>	<b>6,583</b>	<b>5,233</b>	<b>647</b>	<b>783</b>	<b>96</b>	<b>149</b>	<b>6,907</b>
<b>NEED<sup>3</sup></b>								<b>164</b>	<b>192</b>	<b>42</b>	<b>5</b>	<b>-78</b>	<b>324</b>

Source: CT DPH Office of Health Care Access Hospital Reporting System Report 400

<sup>1</sup> Includes Adult Medical/Surgical, ICU/CCU, Neonatal ICU and Other beds.

<sup>2</sup> Excludes newborn beds/bassinets.

<sup>3</sup> On February 28, 2013, a CON was issued under Docket Number 12-31781 authorizing New Milford Hospital (now a Danbury Hospital campus) to terminate inpatient obstetrics services and relinquish related licenses (8 beds and 12 bassinets) due to historical and continued declining volumes.

<sup>3</sup> On September 23, 2013 a CON was issued under Docket Number 15-31998 authorizing Milford Hospital to terminate inpatient obstetrics services and relinquish related licenses (12 beds and 12 bassinets) due to historical and continued declining volumes and inability to recruiting a physician specialist.

Updated projected county and individual hospital bed needs are presented in Appendices D and E, respectively. Data are provided by service lines of medical/surgical, maternity, psychiatric, rehabilitation and pediatric as well as by age group of discharges.

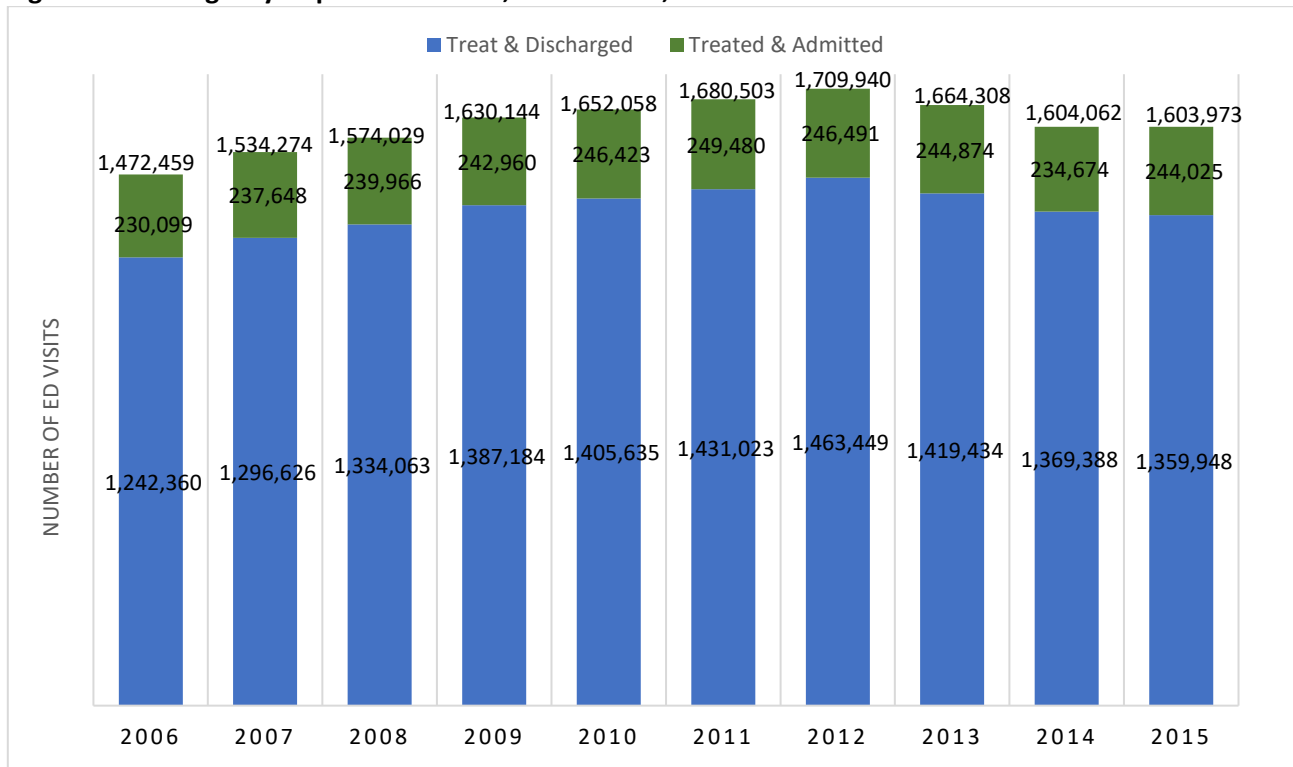
## Emergency Departments

Connecticut has an emergency department (ED) in each of its acute care hospitals as well as five hospital owned freestanding EDs. The ED provides initial treatment and assessment to patients with a broad range of illnesses and injuries, some of which may be life threatening.

As shown in Figure 1.2, Connecticut hospital ED visits increased from 2006 until peaking 2012 with a 14% increase from 2011. ED visits subsequently declined at an annual average rate of 2%. Residents of the state accounted for 96% of ED visits. On average, 15% of ED patients were treated and admitted to inpatient care and the remainder were treated and discharged.

The annual rate for Connecticut residents visiting the ED dropped from 459 visits per 1,000 residents in 2013 to 429 visits in 2015. Females represent 51.2% of the state’s population and comprised 54.1% of ED visits in 2015 (453 visits per 1,000 females); males visited the ED at the rate of 403 per 1,000, 10% less than females.

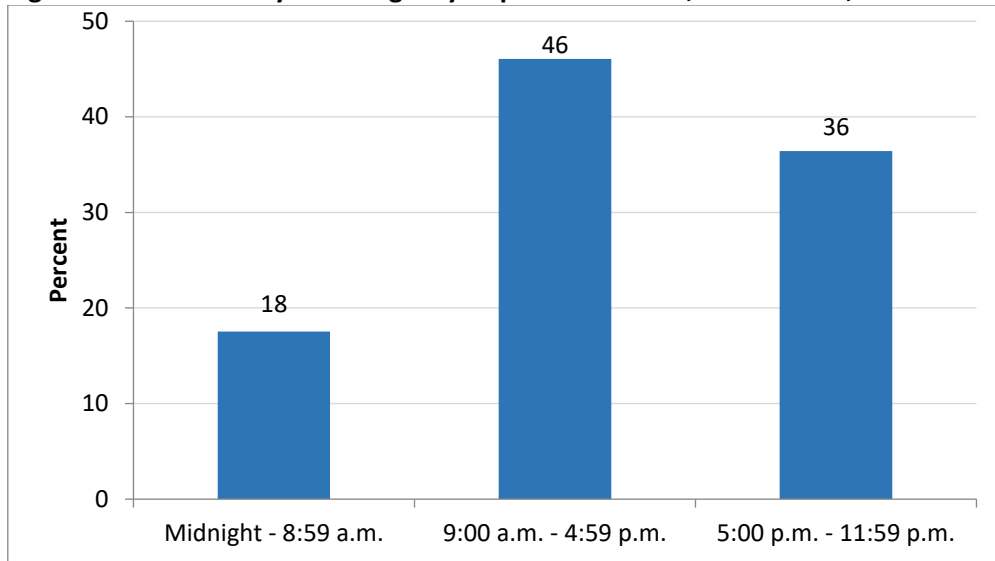
**Figure 1.2. Emergency Department Visits, Connecticut, 2006-2015**



Prepared by: Connecticut Department of Public Health, Office of Health Care Access.  
 Source: Connecticut Hospital Association’s ChimeData and Sharon Hospital.

From 2006 to 2015, the time of day patients visited the ED has changed little (Figure 1.3). The largest percentage of persons who visited the ED did so between 9:00 am and 5:00 pm.

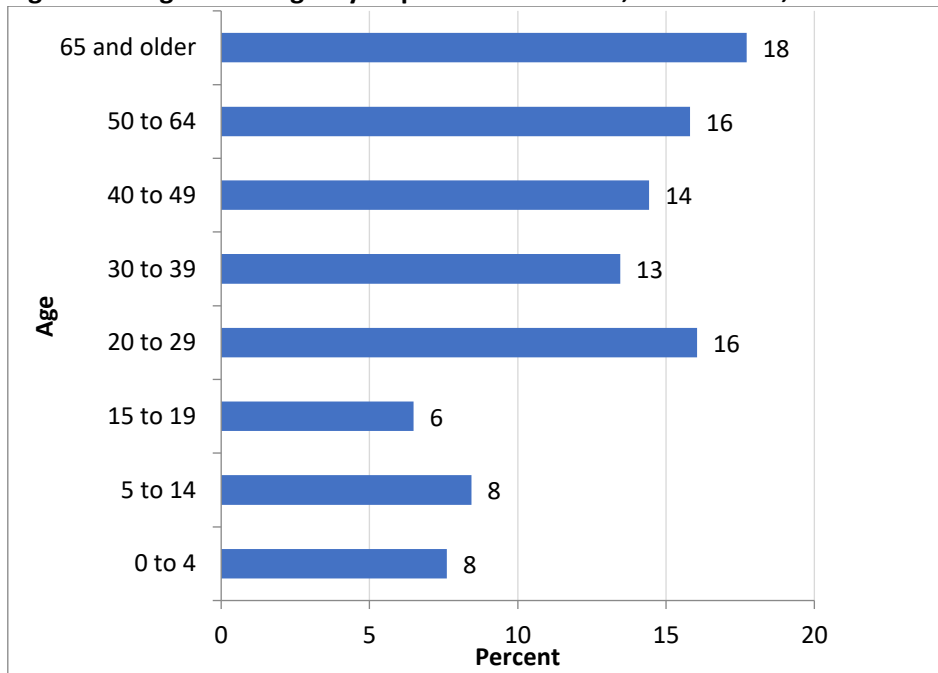
**Figure 1.3. Time of Day of Emergency Department Visits, Connecticut, 2006-2015**



Prepared by: Connecticut Department of Public Health, Office of Health Care Access.  
 Source: Connecticut Hospital Association’s ChimeData and Sharon Hospital.

The largest proportion of ED visits was among persons 65 years of age and older, followed by those 50-64 and 20-29 years of age (Figure 3.4).

**Figure 1.4. Age of Emergency Department Patients, Connecticut, 2006-2015**

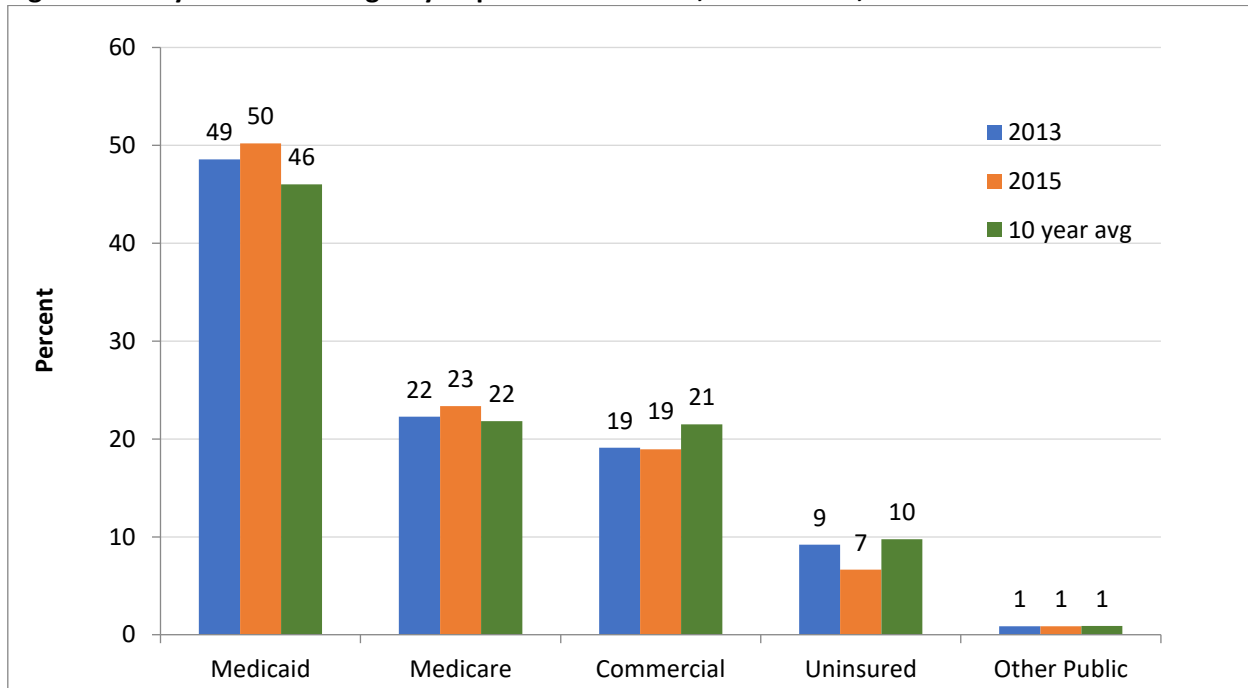


Prepared by: Connecticut Department of Public Health, Office of Health Care Access.  
 Source: Connecticut Hospital Association’s ChimeData and Sharon Hospital.

In 2013, the largest proportion of ED visits was among patients with Medicaid coverage, followed by patients with Medicare coverage, and commercial insurance (Figure 3.5). The proportion of ED visits by Medicaid patients increased and uninsured ED visits decreased.

A central goal of the PPACA is to reduce the number of uninsured by providing a continuum of affordable coverage options through Medicaid and the health insurance marketplaces. Connecticut is one of 28 states that implemented expansion of Medicaid.

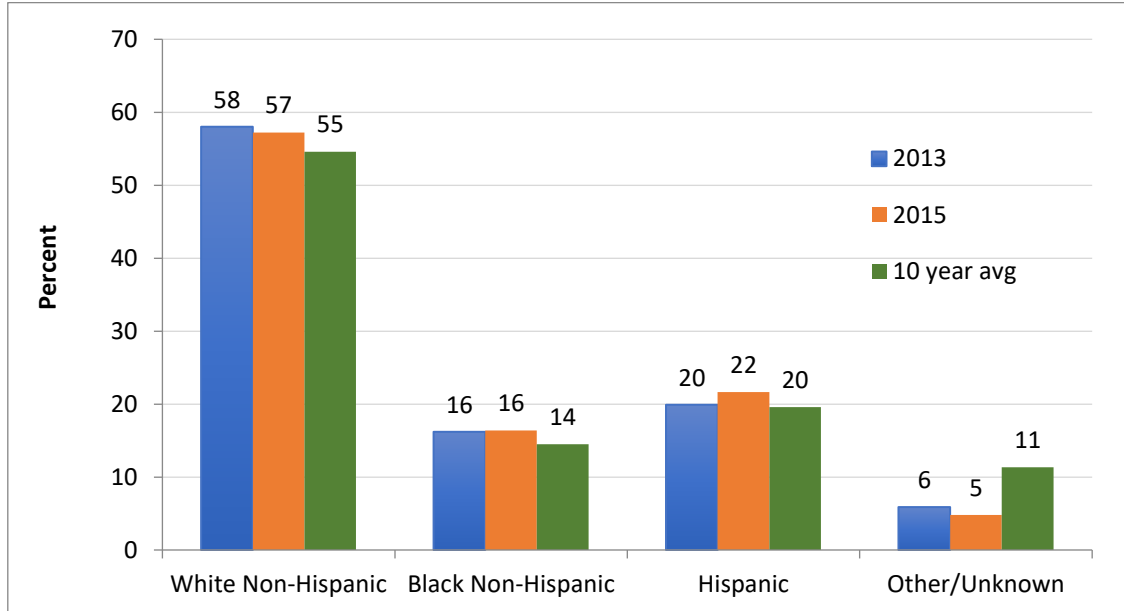
**Figure 1.5. Payer Mix of Emergency Department Patients, Connecticut, 2013 and 2015**



Prepared by: Connecticut Department of Public Health, Office of Health Care Access.  
 Source: Connecticut Hospital Association’s ChimeData and Sharon Hospital.

Federal law requires that providers collect information concerning a patient's race and ethnicity (Figure 3.6). Reported race and ethnicity of ED patients continues to be collected more thoroughly and accurately than in previous years. The number of persons reported as "Unknown" decreased further from 6% in 2013 to 5% in 2015. Future reporting will make rate information based on populations of the various races and ethnicities meaningful and useful for healthcare planning. Collecting accurate demographic data is important, as health disparities have been identified among racial and ethnic minorities (see Chapter 4 for additional detail).

**Figure 3.6. ED Use by Race and Ethnicity, Connecticut, 2013 and 2015**



Prepared by: Connecticut Department of Public Health, Office of Health Care Access.

Source: Connecticut Hospital Association’s ChimeData and Sharon Hospital.

ED use can also be examined by county (Table 3.6). Connecticut's largest cities are within one of the following counties: Fairfield, New Haven or Hartford. Windham County, however, had the highest rate of ED visits. ED use rates remained unchanged or declined for all counties except Windham which experienced a 19% increase due to an uptick in utilization by residents covered by Medicaid (13%), Medicare (7%) and the uninsured (9%).

**Table 3.6. Number of ED Visits per 1,000 Persons, Connecticut, 2013 and 2015**

Number of ED Visits per 1,000 Persons			
County	FY 2013	FY 2015	% Change
Fairfield	360	321	-11
Hartford	483	475	-2
Litchfield	441	437	-1
Middlesex	424	414	-2
New Haven	481	468	-3
New London	541	543	0
Tolland	345	316	-8
Windham	459	546	19

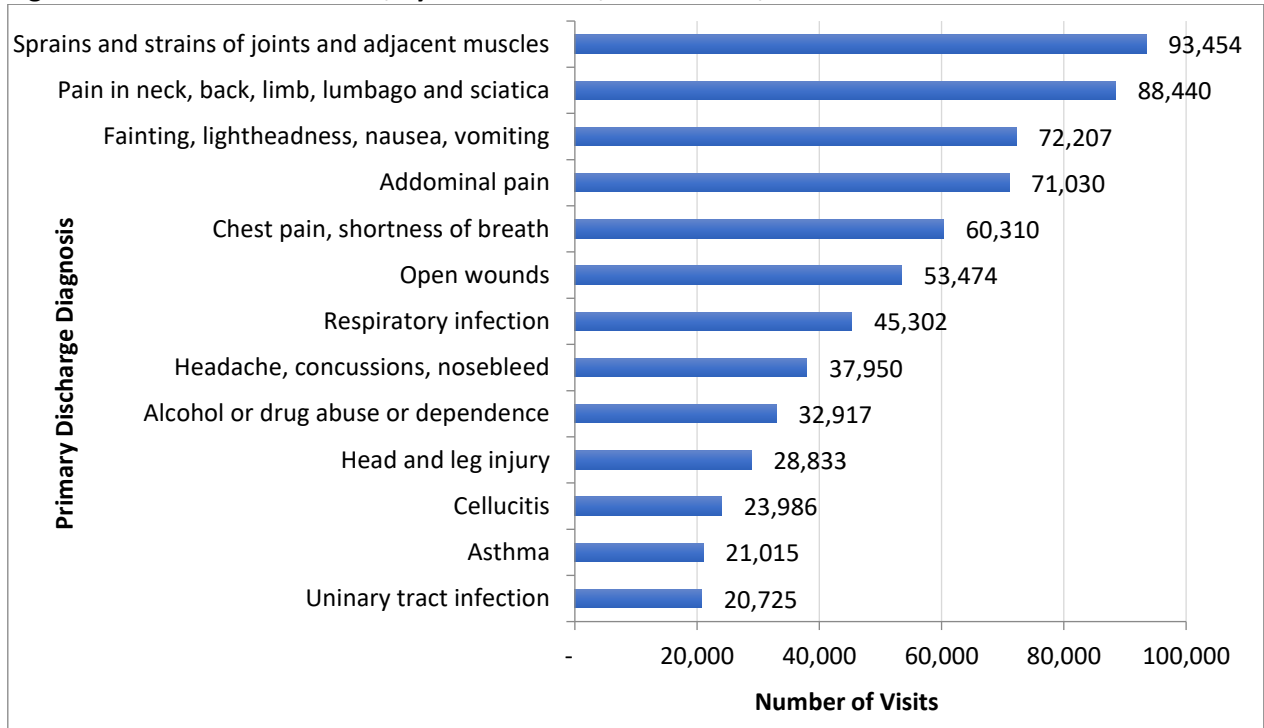
Prepared by: Connecticut Department of Public Health, Office of Health Care Access.

Source: Connecticut Hospital Association’s ChimeData and Sharon Hospital.

**Leading causes of ED Use**

In FY 2015, 41% of all ED visits were for one of 13 reasons (Figure 3.7). Joint and muscle sprains and strains were the primary reasons for going to the ED, accounting for over 93,000 visits. Pain in neck, back, limb, lumbago and sciatica, and fainting, lightheadedness, nausea and vomiting were the second and third top reasons for ED visits.

**Figure 3.7. Number of ED Visits, by Cause of Visit, Connecticut, 2015**



Prepared by: Connecticut Department of Public Health, Office of Health Care Access.  
 Source: Connecticut Hospital Association’s ChimeData.

**ED Use for Psychiatric/Drug or Alcohol Related Disorders**

Since 2009, approximately one in ten ED visits in Connecticut by state residents has been primarily for a behavioral health-related diagnosis. In 2015, over 103,000 visits were drug, alcohol or mental health disorder-related; representing a 5% increase in drug/alcohol related visits since 2013. Table 3.7 reports selected demographic information for these visits. The populations most at risk are those who are White Non-Hispanic males, between 40 to 64 years old, living in urban towns and/or having Medicaid coverage. Overwhelmingly, they are discharged to their home after treatment. Majority of drug or alcohol related ED visits occurred after hours.

**Table 3.7. Connecticut Residents ED Visits for Psychiatric and Drug/Alcohol-Related Mental Health Disorders, 2013 and 2015**

Category	Group	Drug or Alcohol Related ED Visits <sup>1</sup>		Psychiatric Related ED Visits <sup>2</sup>	
		2015	% Change from 2013	2015	% Change from 2013
Number	All visits	43,379	5%	60,554	0%
Sex	Male	73%	6%	49%	1%
	Female	27%	4%	51%	1%
Race/Ethnicity	White Non-Hispanic	64%	3%	62%	-3%
	Black Non-Hispanic	17%	8%	16%	5%
	Hispanic	16%	17%	19%	11%
	Other/Unknown	3%	-2%	4%	-17%
Age Group	Under 18	2%	-17%	18%	14%
	18 to 39	39%	10%	39%	-3%
	40 to 64	55%	3%	33%	-5%
	65 and Over	5%	12%	10%	5%
Town Grouping <sup>3</sup>	Urban Core	49%	5%	43%	0%
	Urban Periphery	33%	8%	34%	1%
	Rural	6%	5%	9%	0%
	Suburban	6%	1%	7%	5%
	Wealthy	5%	2%	5%	-8%
Primary Payer	Medicaid	63%	13%	56%	8%
	Uninsured	12%	-19%	4%	-37%
	Commercial	11%	6%	15%	-8%
	Medicare	13%	-1%	24%	-1%
Disposition	Discharged Home	84%	5%	69%	-2%
	Admitted as Inpatient	16%	5%	31%	4%
Admission Time	9 a.m. to 5 p.m.	34%	3%	50%	3%
	5 p.m. to Midnight	43%	7%	36%	-3%
	Midnight to 9 a.m.	23%	6%	14%	-2%

Prepared by: Connecticut Department of Public Health, Office of Health Care Access

Source: Connecticut Hospital Association’s ChimeData

<sup>1</sup> Patient encounters assigned an ICD-9 code 291, 292, 303, 304 or 305 as a primary diagnosis.

<sup>2</sup> Patient encounters assigned an ICD-9 code 290, 293-302 or 306-316 as a primary diagnosis.

<sup>3</sup> In 2009, the Connecticut State Data Center analyzed socioeconomic data for Connecticut’s 169 towns and organized them into five distinct groups based on population density, median family income and percentage of the population living below the federal poverty line.

## **Adults**

### Psychiatric-Related ED Visits

- The leading primary diagnoses for all age groups visiting the ED are for non-psychotic disorders (e.g., anxiety or depression) or affective psychoses (e.g., bipolar disorder)
- An additional leading primary diagnosis for persons 65 and older visiting the ED is dementia. Over one-quarter of persons in this age cohort were admitted for inpatient care.

### Drug or Alcohol-Related ED Visits

- Two in five behavioral health-related ED visits are for drug or alcohol dependence or abuse conditions.
- White males and females, ages 40 to 64 and living in an urban core or urban periphery town make up 30% of these visits.
- Men continue to make three times more drug and alcohol-related ED visits than women.
- Almost six out of ten visits involve alcohol, including drunkenness, physical complications or long-term alcohol use.

## **Children**

As in prior years, nine out of ten children visiting the ED for a behavioral health disorder were treated for a psychiatric-related disorder. Common diagnoses were depression, episodic mood disorder, anxiety, and depression. Disorders considered specific to childhood, such as oppositional defiant disorder, attention deficit disorder and disruptive behaviors, are also common. Medicaid as the primary payer increased to 75% in 2015 for children.

For ED visits by Connecticut state residents overall, Medicaid is the primary payer for drug and alcohol related disorders (63%) and for psychiatric disorders (51%). It is also the primary payer for those patients that reside in an urban core or urban periphery town.

The State's Medicaid program covers services provided by licensed behavioral health clinicians, psychologists, clinical social workers, drug and alcohol counselors, professional counselors and marriage and family therapists, to Medicaid recipients age 21 or older.

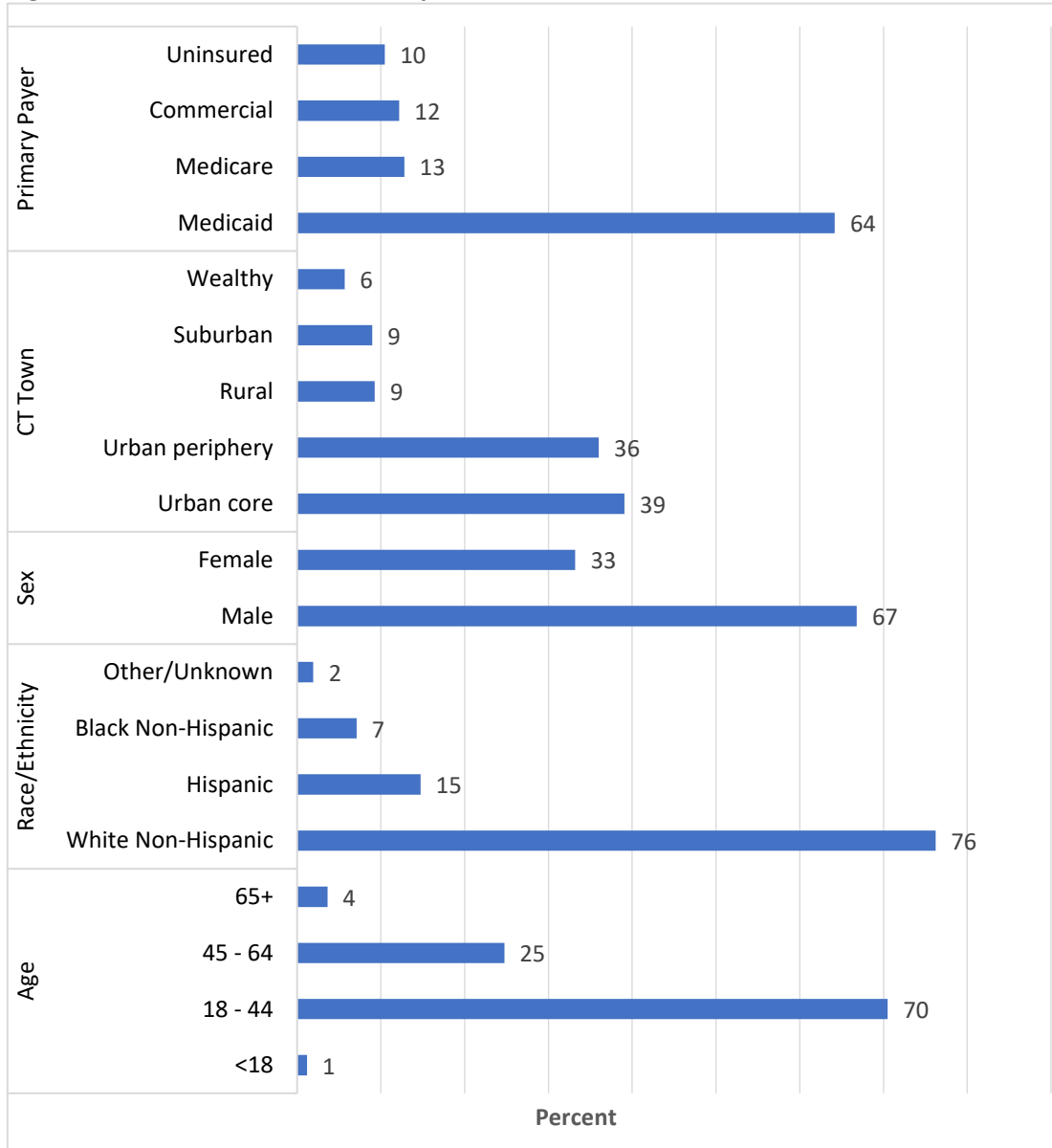
### ***Opioid-related ED visits***

In 2013, prescription opioid overdoses contributed to 4.7 and 2.4 unintentional deaths per 100,000 Connecticut residents for men and women, respectively. This represents an increase of at least 1.0 death per 100,000 population for each gender, from 2008.<sup>11</sup> The age-adjusted rate of unintentional deaths due to prescription opioid overdose is highest among White non-Hispanics. For example, in 2013 in Connecticut there were 5.7 unintentional deaths due to prescription opioid overdoses per 100,000 population for White non-Hispanics, followed by 3.8 per 100,000 population for Hispanics, and 3.6 per 100,000 population for Black non-Hispanics.<sup>12</sup> These patterns are similar for deaths attributed to heroin overdoses.



From 2013 through 2015, Connecticut residents made over 13,000 ED visits with a primary diagnosis of opioid overdose/dependence and nearly one in five of those visits resulted in an inpatient admission. The majority of the visits were by residents who were between 18 and 64 years of age, White non-Hispanics, male, living in an urban core or periphery town, or Medicaid beneficiaries, Figure 3.8.

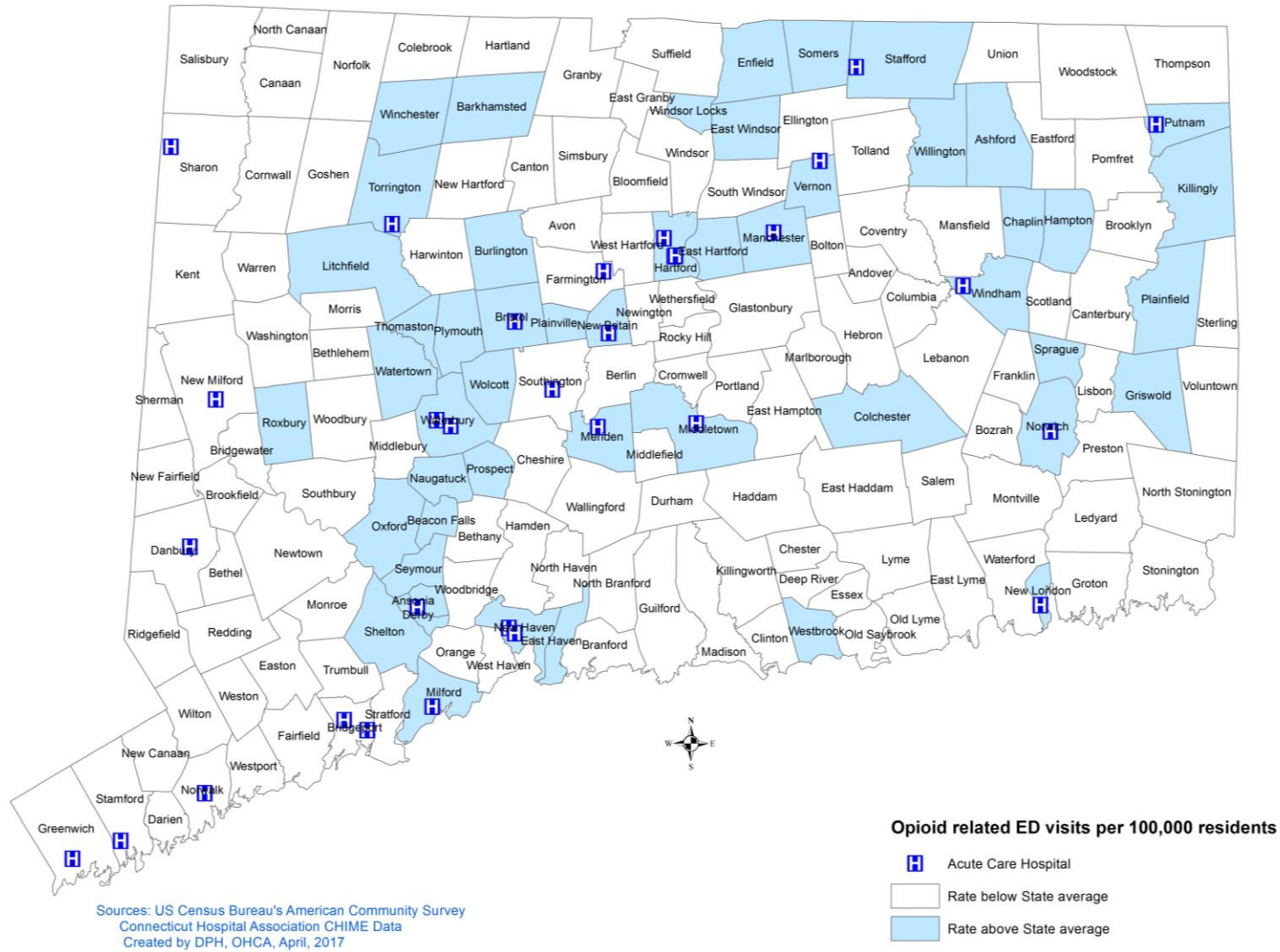
**Figure 3.8. Connecticut Residents Opioid Related ED Visits, 2013-2015**



Prepared by: Connecticut Department of Public Health, Office of Health Care Access  
 Source: Connecticut Hospital Association’s ChimeData

Figure 3.9 shows ED visits per 100,000 Connecticut residents 18 to 64 years of age, for which opioid overdose/dependence was the primary diagnosis. The statewide rate is 183 per 100,000 residents. The issue is widespread across the state and as many 50 towns had rates exceeding the state rate, including urban towns such as Ansonia, Hartford and New Haven; rural towns such as Stafford, Winchester and Chaplin; and suburban towns such as Somers, Colchester and Prospect.

**Figure 3.9. Map of Opioid-Related ED Visits per 100,000 Residents 18-64 Years of Age, by Town, 2013-2015**



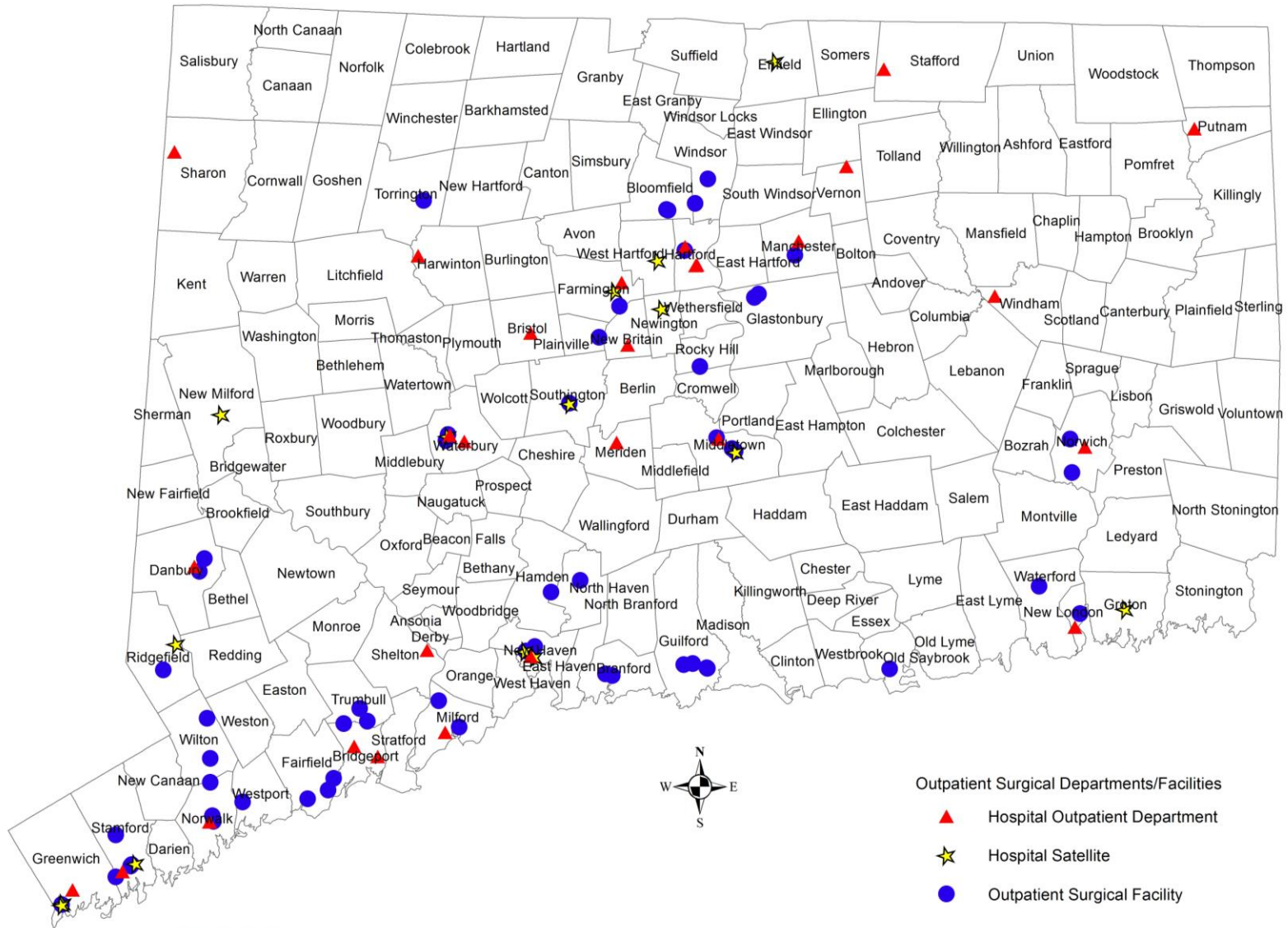
## **ALTERNATIVE SOURCES FOR URGENT OR IMMEDIATE CARE**

For non-emergency care, people are increasingly opting to use urgent care, retail-based healthcare providers and licensed outpatient clinics operated by municipalities, to bridge the gap between care provided by physician offices and EDs.<sup>13, 14</sup> While these alternate models appear to be experiencing continued growth, their effects on Connecticut's healthcare system remain unclear. DPH only has information on the location of entities it licenses as outpatient clinics or satellites of hospitals; the agency is limited in its ability to assess the Connecticut-specific impact of this level of care. Therefore, questions remain, including how the population should use these settings and whether or not their continued growth has or will alleviate inappropriate use of the hospital emergency department for non-emergent care. When the APCD is available, the agency may then be able to assess the impact of these alternative sources of care.

## **OUTPATIENT SURGERY UTILIZATION**

Outpatient or ambulatory surgery is a planned operation for which the patient is not expected to be admitted to a hospital for an overnight stay.<sup>15</sup> In Connecticut, outpatient surgeries are provided at an acute care hospital's main campus outpatient department or a satellite location or at a licensed freestanding outpatient surgical facility. There are 28 hospital outpatient surgical departments, 18 hospital satellites and 59 licensed outpatient surgical facilities in the state, as shown in Figure. 3.10.

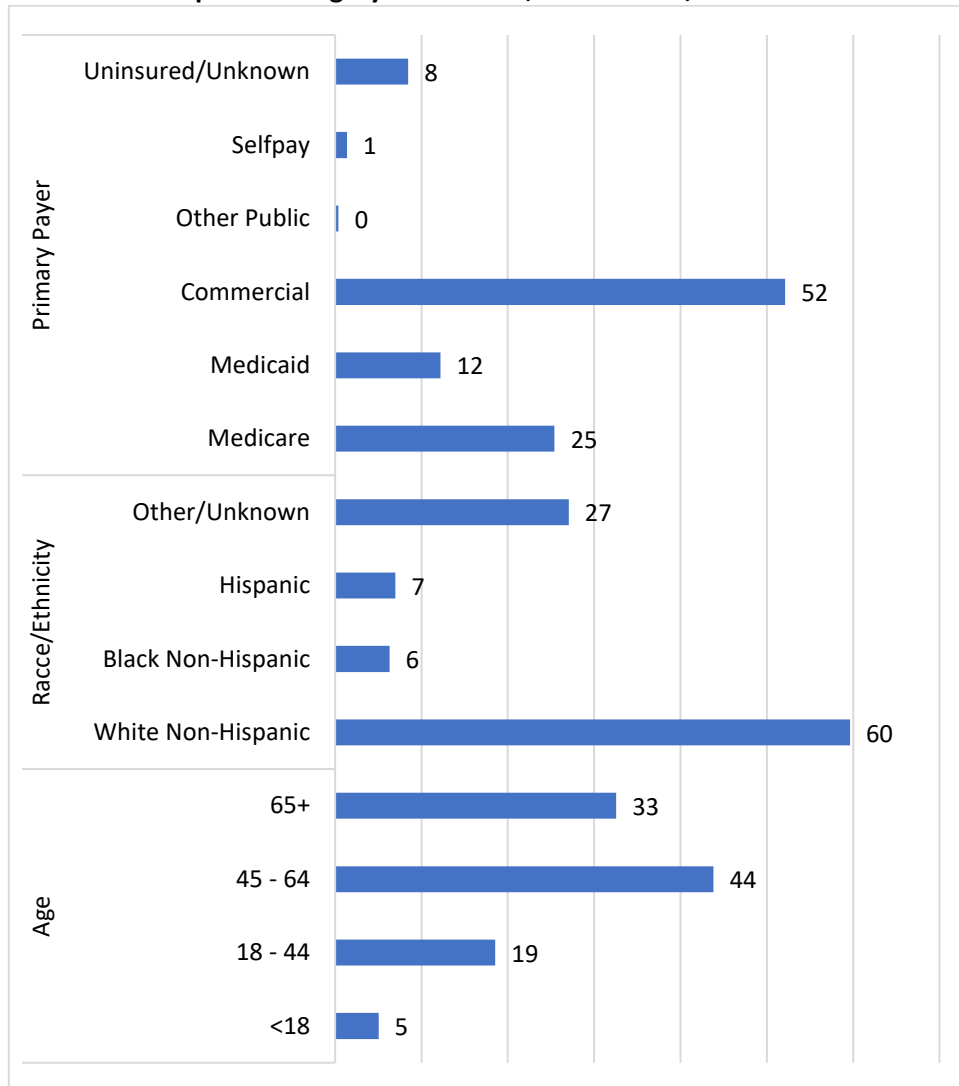
**Figure 3.10. Map of Outpatient Surgical Departments and Facilities, Connecticut, 2017**



Sources: CT DPH OHCA  
 Created by: CT DPH OHCA, April, 2017

Outpatient surgery may be an invasive procedure to treat a disease or injury or a diagnostic or exploratory noninvasive procedure. In 2015 there were approximately 471,000 outpatient surgery encounters in the state. Over three-quarters of the outpatient encounters were by adults 45 years and older (77%), White non-Hispanics (60%), commercially insured (52%), or covered by Medicare (25%), see Figure 3.11.

**Table 3.11. Outpatient Surgery Encounters, Connecticut, 2015**



Source: CT DPH Office of Health Care Access Outpatient Surgery Database

The ten most frequent outpatient invasive procedures performed are shown in Table 3.16. Overall, the surgeries were equally likely to be performed at a hospital outpatient department/satellite or at a freestanding facility.

**Table 3.16. 10 Most Frequent Invasive Outpatient Surgical Procedures Performed, Connecticut, 2015**

No.	CPT Code	CPT Code Description	Place of Service			Statewide Total
			Hospital Outpatient Department	Hospital Satellite	Freestanding Surgery Center	
1	66984	Cataract Surgical insertion of intraocular lens prosthesis, 1 Stage	16,222	211	14,905	<b>31,338</b>
2	29881	Knee Arthroscopy/Surgery	2,330	497	4,696	<b>7,523</b>
3	69436	Create Eardrum Opening	2,474	31	2,446	<b>4,951</b>
4	64721	Carpal Tunnel Surgery	1,895	216	2,700	<b>4,811</b>
5	66982	Cataract Surgery, Complex	1,670	16	2,708	<b>4,394</b>
6	29826	Shoulder Arthroscopy/Surgery	1,359	198	2,604	<b>4,161</b>
7	47562	Laparoscopic Cholecystectomy (gall bladder)	3,667	191	14	<b>3,872</b>
8	29827	Arthroscopic Rotator Cuff Repair	1,176	121	2,227	<b>3,524</b>
9	41899	Dental Surgery Procedure	2,779	47	93	<b>2,919</b>
10	66821	After Cataract Laser Surgery	812	--	2,100	<b>2,912</b>
<b>Total</b>			<b>34,384</b>	<b>1,528</b>	<b>34,493</b>	<b>70,405</b>

Source: CT DPH Office of Health Care Access Outpatient Surgery Database

The most frequent noninvasive diagnostic or exploratory procedures are in Table 3.17. Eight of the ten noninvasive procedures were more likely to be provided at a freestanding center.

**Table 3.17. 10 Most Frequent Noninvasive Outpatient Surgical Procedures Performed, Connecticut, 2015**

No.	CPT Code	CPT Code Description	Place of Service			Statewide Total
			Hospital Outpatient Department	Hospital Satellite	Freestanding Surgery Center	
1	43239	EGD (or upper gastrointestinal) biopsy single/multiple	28,724	907	34,937	<b>64,568</b>
2	45380	Colonoscopy and biopsy	24,696	947	33,601	<b>59,244</b>
3	45385	Colonoscopy with lesion removal	14,489	674	23,964	<b>39,127</b>
4	45378	Diagnostic colonoscopy	12,529	499	25,132	<b>38,160</b>
5	36415	Routine venipuncture	22,577	797	306	<b>23,680</b>
6	62311	Injection in spine lumbar/sacral	3,872	183	5,027	<b>9,082</b>
7	58558	Hysteroscopy, biopsy	4,827	72	806	<b>5,705</b>
8	64483	Injection foramen epidural L/S	2,095	154	3,043	<b>5,292</b>
9	43235	EGD (or upper gastrointestinal) diagnostic brush wash	1,995	160	1,584	<b>3,739</b>
10	64493	Paravertebral facet joint injection	1,063	114	2,119	<b>3,296</b>
<b>Total</b>			<b>116,867</b>	<b>4,507</b>	<b>130,519</b>	<b>251,893</b>

Source: CT DPH Office of Health Care Access Outpatient Surgery Database

## MEDICAL IMAGING SERVICES UTILIZATION

Medical imaging provides visual representations of the body interior, organs and tissues for clinical diagnosis and medical intervention. In Connecticut, imaging providers use x-ray, magnetic resonance (MRI), positron emission tomography (PET), computed tomography (CT) and positron emission tomography-computed tomography (PET-CT) scanners to create these images.

The top ten most frequent imaging services provided to Connecticut residents in fully-insured plans include mammography, chest x-rays, ultrasounds, CAT scans and bone density scans, Table 3.18.

**Table 3.18. 10 Most Frequent Imaging Services, Connecticut, 2015**

No.	CPT Code	CPT Code Description	Count
1	G0202	Digital Mammography Screening	<b>87,390</b>
2	77052	Computer Screen Mammography Add-On	<b>85,471</b>
3	71020	Chest X-Ray with 2 Views, Front and Lateral	<b>49,270</b>
4	76641	Breast Ultrasound, Complete	<b>31,878</b>
5	76830	Transvaginal Ultrasound, Non-obstetric	<b>21,781</b>
6	73630	Foot X-Ray, Complete	<b>18,019</b>
7	74177	CAT Scan of Abdomen and Pelvis with Contrast	<b>14,350</b>
8	77051	Computer-Aided Diagnostic Mammography Add-On	<b>13,520</b>
9	77080	Bone Density Scan, Axial	<b>13,300</b>
10	76700	Abdomen Ultrasound, Complete	<b>12,421</b>
<b>Total</b>			<b>347,400</b>

Source: CT Department of Insurance; data is on Connecticut residents in fully-insured plans only

The preceding section provides utilization data for just a fraction of the healthcare services available as well as who accessed those services, and for what reasons. The following Chapter attempts to evaluate outcomes of care and identify unmet healthcare needs and gaps in services. This effort is to facilitate policymaking regarding adequate availability and access to timely appropriate quality care for community and population health status improvements in the state.



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<sup>1</sup> Weaver, Betsey. 3 Reasons Providers Need to Manage the Entire Episode of Care. MedCityNews. October 8, 2015. <http://medcitynews.com/2015/10/providers-need-to-manage-the-entire-episode-of-care/?rf=1>. Accessed November 22, 2016.

<sup>2</sup> York, R., Kauffman K., Grube M. Where Have All The Inpatients Gone? A Regional Study With National Implications. Health Affairs. January 6, 2014. <http://healthaffairs.org/blog/2014/01/06/where-have-all-the-inpatients-gone-a-regional-study-with-national-implications/>. Accessed November 22, 2016.

<sup>3</sup> Rodak, Sabrina. Is Center of Excellence Investment the Silver Bullet Healthcare Has Been Looking For? Becker's Hospital Review. March 4, 2013. <http://www.beckershospitalreview.com/hospital-key-specialties/is-center-of-excellence-investment-the-silver-bullet-healthcare-has-been-looking-for.html>. Accessed November 24, 2016.

<sup>4</sup> Rogers, Marcy T. Hospital Centers of Excellence. Hospitals & Health Networks. April 11, 2013. <http://www.hhnmag.com/articles/5974-hospital-centers-of-excellence>. Accessed November 24, 2016.

<sup>5</sup> Office of Health Care Access. (2005) Certificate of Need Docket No. 04-30410- Cancer Center and North Pavilion Project at Yale –New Haven Hospital. [http://www.ct.gov/dph/lib/dph/ohca/condecisions/04-30410\\_agreed\\_settlement.pdf](http://www.ct.gov/dph/lib/dph/ohca/condecisions/04-30410_agreed_settlement.pdf).

<sup>6</sup> Department of Public Health, Office of Health Care Access. (2014). Certificate of Need Docket No. 13-31851- Establishment of an Ambulatory Surgery Center to be located on the campus of Hartford Hospital. [http://www.ct.gov/dph/lib/dph/ohca/condecisions/decisions\\_2014/13\\_31851\\_con.pdf](http://www.ct.gov/dph/lib/dph/ohca/condecisions/decisions_2014/13_31851_con.pdf)

<sup>7</sup> American Pain Society. (2014) *2014 CCOE Award Recipients; Division of Pain and Palliative Medicine Connecticut Children's Medical Center, Hartford, CT*. Accessed July 21, 2016. <http://americanpainsociety.org/get-involved/awards-grants/ccoe-2014-recipients>.

<sup>8</sup> They are accredited comprehensive bariatric centers for the American Society of Metabolic and Bariatric Surgery and the American College of Surgeons. <https://www.endtheweight.com/center-of-excellence-norwalk.htm>

<sup>9</sup> CON Docket Number 12-31781 authorized New Milford Hospital relinquish licenses for 8 beds and 12 bassinets and Docket Number 15-31998 authorized Milford Hospital to relinquish licenses for 12 beds and 12 bassinets. [http://www.ct.gov/dph/lib/dph/ohca/condecisions/decisions\\_2013/12\\_31781\\_con.pdf](http://www.ct.gov/dph/lib/dph/ohca/condecisions/decisions_2013/12_31781_con.pdf) and [http://www.ct.gov/dph/lib/dph/ohca/condecisions/decisions\\_2015/15\\_31998\\_con.pdf](http://www.ct.gov/dph/lib/dph/ohca/condecisions/decisions_2015/15_31998_con.pdf).

<sup>10</sup> Defined as the average number of beds with sufficient staff occupied by patients during the hospital fiscal year.

<sup>11</sup> Connecticut Department of Public Health. (2016) *Injury in Connecticut: Deaths, Hospitalizations and Emergency Department Visits, 2008 to 2013*.

[http://www.ct.gov/dph/lib/dph/injury\\_prevention\\_databook\\_2016\\_for\\_web\\_and\\_flashdrive.pdf](http://www.ct.gov/dph/lib/dph/injury_prevention_databook_2016_for_web_and_flashdrive.pdf)

<sup>12</sup> Connecticut Department of Public Health. (2016) *Injury in Connecticut: Deaths, Hospitalizations and Emergency Department Visits, 2008 to 2013*.

[http://www.ct.gov/dph/lib/dph/injury\\_prevention\\_databook\\_2016\\_for\\_web\\_and\\_flashdrive.pdf](http://www.ct.gov/dph/lib/dph/injury_prevention_databook_2016_for_web_and_flashdrive.pdf)

<sup>13</sup> American Academy of Urgent Care Medicine. Accessed July 25, 2017.

<http://aaucm.org/about/future/default.aspx>

<sup>14</sup> Becker's Hospital Review. Accessed July 25, 2017. <http://www.beckershospitalreview.com/hospital-management-administration/urgent-care-demand-in-2016.html>

<sup>15</sup> Wier, Lauren M., Steiner, Claudia A., Owens, Pamela, L. (2012). *Surgeries in Hospital-Owned Outpatient Facilities*. Healthcare Cost and Utilization Project. Accessed April 11, 2017. <https://www.hcup-us.ahrq.gov/reports/statbriefs/sb188-Surgeries-Hospital-Outpatient-Facilities-2012.jsp>