

SECTION 2 CHAPTER 3
ACUTE CARE

3.0 ACUTE CARE

Acute care is a branch of health care where a patient is treated for a severe injury or episode of illness, an urgent medical condition, or during recovery from surgery and is typically of a short duration. Acute care may require an emergency department visit, a hospital stay or treatment in an ambulatory surgery center, diagnostic services, surgery, or follow-up outpatient community care.

3.1 ACUTE CARE HOSPITALS

According to Connecticut General Statutes (CGS), “hospital” means an establishment for the lodging, care and treatment of persons suffering from disease or other abnormal physical or mental conditions and includes inpatient psychiatric services in general hospitals (19a-490(b)). According to Connecticut Public Health Code (PHC) that regulates hospitals, a General Hospital is defined as a short-term hospital that has facilities, medical staff and all necessary personnel to provide diagnosis, care and treatment of a wide range of acute conditions, including injuries (19-13-D3); a Children’s General Hospital is a short-term hospital having facilities, medical staff and all necessary personnel to provide diagnosis, care and treatment of a wide range of acute conditions among children, including injuries (19-13-D4).

Connecticut’s 30 acute care hospitals provide a wide range of services from basic community level medical care to treatment of serious, complex medical illnesses (see Inventory Table 3 for a general list of services provided by individual hospital). Of the hospitals, 29 are licensed as a “General Hospital” and one, Connecticut Children’s Medical Center (CCMC) is licensed as a “Children’s General Hospital.”⁴⁸ The use of the terms “hospital” or “acute care hospitals” throughout this section refers to the 29 general hospitals and one children’s general hospital. All but one of the state’s hospitals currently are not-for-profit; however the number of for-profit hospitals may increase as the result of proposed hospital consolidations. All of Connecticut’s hospitals provide services for Medicare and Medicaid patients and have a comprehensive free care policy. Federal law mandates that hospitals must provide treatment for all patients, regardless of ability to pay.⁴⁹

The vast majority of hospitals are located in the central or southwestern part of the state (Figure 3.1). Hospital size and setting differ greatly throughout the state and range from small community hospitals in rural locations to large urban-based hospitals providing a wide range of specialty care using advanced technology.

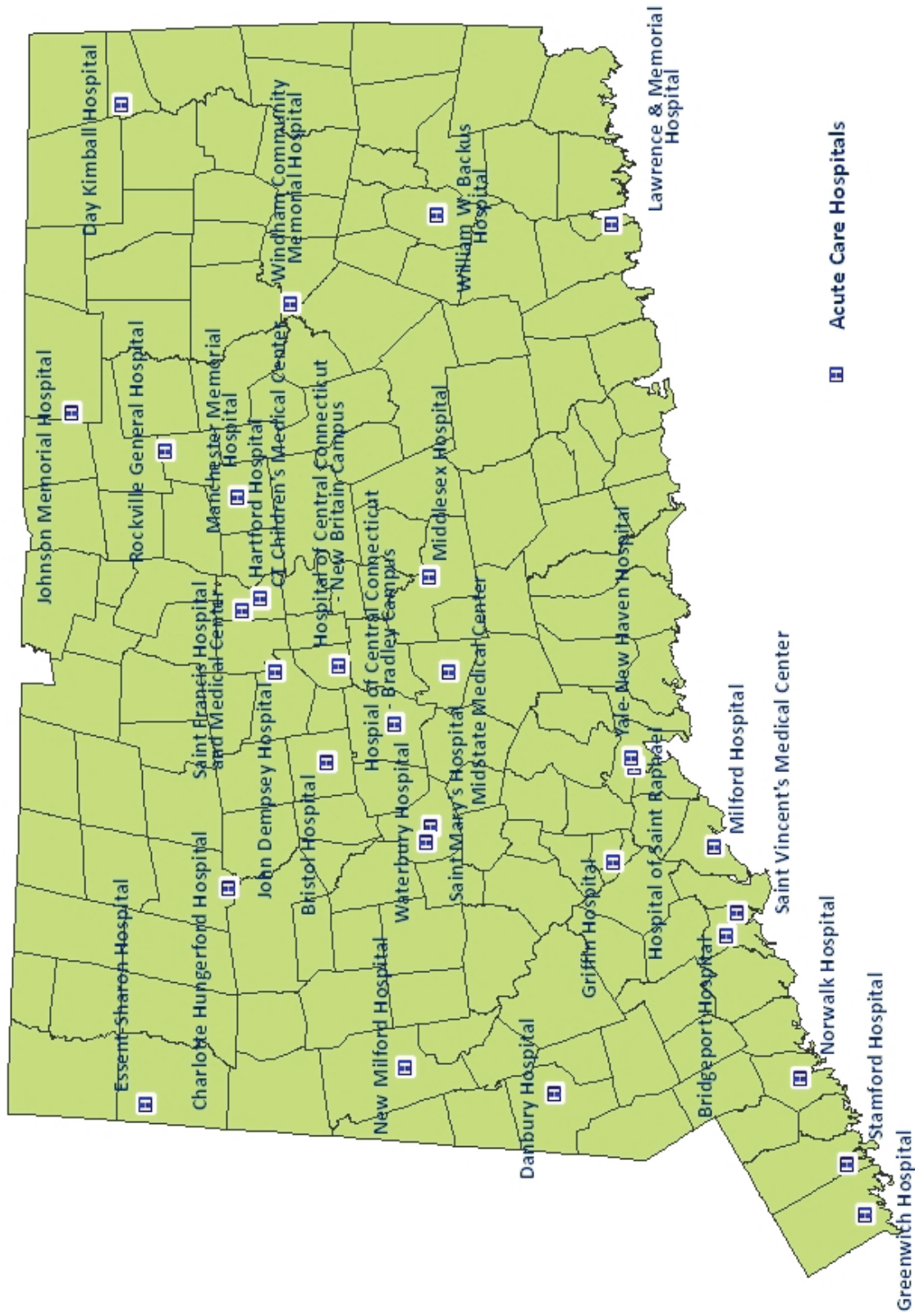
Using licensed beds as an indicator of size, hospitals range from a relatively small, rural, 94-bed facility to a 1,008 bed, large, urban-setting campus (see Inventory Table 2 for a complete listing of hospitals).



⁴⁸In addition to CCMC, Yale-New-Haven Hospital operates a “Children’s Hospital” within its General Hospital license.

⁴⁹Congress enacted the Emergency Medical Treatment & Labor Act (EMTALA) in 1986 to ensure public access to emergency services regardless of ability to pay. Section 1867 of the Social Security Act requires that Medicare-participating hospitals that provide emergency services conduct a medical screening examination (MSE) when a request is made for examination or treatment for an emergency medical condition (EMC), including active labor, regardless of an individual’s ability to pay. Hospitals are then required to provide stabilizing treatment for patients with EMCs. If a hospital is unable to stabilize a patient or if the patient requests a transfer, then an appropriate transfer should be made.

Figure 3.1: Acute Care Hospitals in Connecticut and Locations



Note: CT Children's Medical Center is licensed as a children's hospital and Yale-New Haven Hospital operates a children's hospital department within its General Hospital license.

Source: DPH Licensure Division

Prepared May 2012, DPH OHCA



3.1.1 ACUTE CARE HOSPITAL UTILIZATION

In FY 2010, Connecticut hospitals treated and discharged approximately 426,000 patients. These patients received a variety of inpatient services that are related to child birth, cardiac care, respiratory issues, general medicine, women’s health and other services. These inpatient services accounted for more than two million patient days. Although inpatient care continues to serve as the bedrock for acute care, more effective medicines, improved procedures and follow-up care, and advanced technology have facilitated the growing trend in which acute care is delivered outside of traditional hospital settings. Nationally, inpatient usage has declined while outpatient utilization has increased. Similarly, the number of discharges and patient days in

Connecticut from FY 2008 to FY 2011 also declined. Existing utilization numbers (Table 3.1) combined with expected demographic changes in Connecticut’s population, suggest that future demand for inpatient services will remain steady for the foreseeable future. Hospitals will continue to adjust their business model and health service offerings to address outpatient care trends to remain competitive. Many hospitals currently offer or have partnered with additional providers to deliver a variety of outpatient services at hospital facilities or near hospital campuses.

A complete list of acute care hospitals is given in Inventory Table 2.

Table 3.1: Acute Care Hospitals Utilization by Service Line

Service Line	Discharges				chg	chg	Patient Days				chg	chg
	FY 2008	FY 2009	FY 2010	FY 2011	08-11	10-11	FY 2008	FY 2009	FY 2010	FY 2011	08-11	10-11
Cardiac Care -Medical	43,072	41,747	41,795	40,542	-6%	-3%	159,087	156,890	155,239	153,817	-3%	-1%
Cardiac Care -Surgical	18,681	18,299	18,104	16,710	-11%	-8%	95,344	93,054	90,455	87,361	-8%	-3%
Cancer Care -Medical	7,933	7,761	7,997	7,627	-4%	-5%	52,106	50,875	51,824	50,681	-3%	-2%
Cancer Care -Surgical	3,191	3,307	3,226	3,064	-4%	-5%	16,870	16,734	15,295	15,590	-8%	2%
Neurological -Medical	15,699	16,145	16,254	16,467	5%	1%	76,513	76,412	74,708	75,644	-1%	1%
Neurological -Surgical	12,063	12,096	11,808	11,075	-8%	-6%	94,111	95,463	86,932	86,263	-8%	-1%
Renal or Urology -Medical	15,531	15,088	15,468	16,826	8%	9%	72,893	68,498	69,720	77,892	7%	12%
Renal or Urology -Surgical	4,972	4,758	4,696	4,675	-6%	0%	22,221	20,781	19,696	20,115	-9%	2%
Womens Health	52,484	51,297	49,296	48,451	-8%	-2%	151,760	148,910	141,260	141,202	-7%	0%
Orthopedics -Medical	3,545	3,341	3,391	3,195	-10%	-6%	15,539	13,978	14,601	12,669	-18%	-13%
Orthopedics -Surgical	22,083	22,546	22,694	23,059	4%	2%	90,896	91,575	91,537	92,088	1%	1%
Respiratory	37,258	37,093	36,366	36,438	-2%	0%	194,931	190,148	186,046	189,883	-3%	2%
Medicine	80,274	82,129	84,943	87,554	9%	3%	386,912	387,561	401,449	420,730	9%	5%
General Surgery	26,492	27,251	25,933	24,330	-8%	-6%	153,864	149,611	139,559	135,446	-12%	-3%
Other Surgery	9,119	9,256	9,355	9,027	-1%	-4%	86,794	82,387	83,102	82,208	-5%	-1%
Newborn	42,830	41,150	39,480	39,666	-7%	0%	166,437	159,917	155,209	154,707	-7%	0%
Psychiatry	21,790	24,363	24,771	24,402	12%	-1%	198,097	212,910	212,515	212,792	7%	0%
Ophthalmology	548	563	529	585	7%	11%	1,655	1,652	1,611	1,947	18%	21%
Trauma -Medical	3,639	3,840	3,797	3,844	6%	1%	12,785	14,061	13,681	14,200	11%	4%
Trauma -Surgical	1,803	1,701	1,712	1,683	-7%	-2%	14,901	13,844	15,145	13,689	-8%	-10%
Dental	277	316	371	349	26%	-6%	946	1,204	1,461	1,215	28%	-17%
Substance Abuse	5,280	6,104	6,439	6,661	26%	3%	26,540	30,424	32,662	34,093	28%	4%
Miscellaneous	-	8	3	5	-	67%	-	48	17	33	-	94%
Total	428,564	430,159	428,428	426,235	-1%	-1%	2,091,202	2,076,937	2,053,724	2,074,265	-0.8%	1.0%

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

3.2 BED NEED

3.2.1 RELATIONSHIP TO CERTIFICATE OF NEED

Connecticut General Statutes Section 19a-638(a)(11) specifies that a Certificate of Need is required for an increase in the licensed bed capacity of a health care facility. Connecticut hospitals seeking authorization for additional licensed beds are required to demonstrate that they meet clear public need as well as other criteria set forth in Connecticut General Statutes Section 19a-639.

3.2.2 BED NEED METHODOLOGY

In coordination with the development of the Plan, the Acute Care and Ambulatory Surgery Subcommittee determined that a standardized methodology will enhance OHCA's ability to evaluate 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 the acute care bed need projections for 2015, Connecticut has a statewide surplus of 1,581 inpatient beds. Each of the five individual DEMHS planning regions has excess capacity, ranging from a low of 71 surplus beds in DEMHS Region 2 to a high of 726 in DEMHS Region 3.

CONNECTICUT BED NEED CALCULATION

1. Bed utilization is based on patient days and is calculated using data from three consecutive Federal Fiscal Years (FFYs). Patient days are broken down by DEMHS region, hospital, service category (Medical/Surgical, Maternity, Psychiatric, Rehabilitation and Pediatric) and age group (0-14, 15-44, 45-64, 65+) – the Pediatric category uses different age groups (0-19, 20+) to better utilize population estimate age ranges.
2. Patient days are divided by 365 (days) to calculate Average Daily Census (ADC) for each year of the three years.
3. A Weighted ADC is calculated, giving the greatest weight to the most current year and the least weight to the oldest year. $\text{Weighted avg. daily census} = (\text{Year1} + \text{Year2} \times 2 + \text{Year3} \times 3) / 6$
4. The Weighted ADC is multiplied by a population growth/attrition factor for each DEMHS region (based on projected population estimates for 2010 and 2015, provided by the Connecticut State Data Center) to produce the Projected Average Daily Census.
5. The Projected ADC is divided by the Target Occupancy factors provided by the Acute Care/Ambulatory Surgery Subcommittee to determine the number of beds needed.
6. "Beds Needed" is summed by service/age category and totaled by individual hospital.
7. The sum of "Beds Needed" is deducted from a hospital's total number of licensed beds (excluding bassinets) to determine the number of excess or additional licensed beds that are required (Excess (-)/Deficit (+)).
8. Individual hospital utilization and licensed bed data can be summed by the region in which hospitals are located to produce regional results. Statewide capacity is calculated using data from all 30 acute care hospitals.

OTHER FACTORS FOR CONSIDERATION

The office may also take the following criteria into consideration during its review of an application:

1. Observation Days; or
2. An average weekday occupancy rate/census for two separate and distinct periods of 30 calendar days for the most recent twelve month period at or above 80% of total licensed beds, it may qualify to add acute care beds. Those qualifying hospitals may seek a CON to add up to 10% of licensed bed capacity (not to exceed 50 beds), or alternatively up to 30 beds, whichever is greater. A hospital seeking to add beds under this exception must not have been granted a bed increase in the past 12 months and must have been licensed for at least one year.
3. Particular innovations, changes in care delivery models or modalities, resources (including physical resources and building facilities) needed to treat specific diseases or conditions
4. Quality or patient safety concerns



3.2.3 BED NEED PLANNING AREA(S)

OHCA's acute care bed need planning uses the Connecticut Department of Emergency Services and Public Protection, Division of Emergency Management and Homeland Security (DEMHS) regions. The DEMHS regions divide the state into five planning areas, comprising the Eastern, Western, North Central, South Central and Southwestern parts of the state (see Appendix E for a list of towns in each region). The DEMHS regions may be considered as part of the assessment under CGS 19a-639, specifically subsections (2) and (5), but are not necessarily considered the service area of the applicant.

3.2.4 ACUTE CARE BED NEED MODEL RESULTS

Based on the acute care bed need projections for 2015, Connecticut has a statewide surplus of 1,581 inpatient beds. Each of the five individual DEMHS planning regions has excess capacity, ranging from a low of 71 surplus beds in DEMHS Region 2 to a high of 726 in DEMHS Region 3. It is important to note, however, that DEMHS Region 3 has more hospitals (10) than any other region.

Projected regional and statewide bed need is shown in Tables 3.2 to 3.7.

Table 3.2: Summary of Acute Care Bed Need Projections

DEMHS Region	FY 2009 Patient Days ^a	FY 2010 Patient Days ^a	FY 2011 Patient Days ^a	Weighted ADC	Projected ADC 2015	Beds Needed	Licensed Beds ^b	Excess (-) or Deficit (+)
1	387,655	394,049	392,123	1,074	1,073	1,408	1,653	-245
2	470,952	467,202	480,843	1,300	1,352	1,746	1,817	-71
3	663,114	648,363	651,204	1,787	1,783	2,315	3,041	-726
4	149,602	150,786	152,093	414	466	601	727	-126
5	245,697	238,115	243,295	663	700	907	1,321	-414
Statewide	1,917,020	1,898,515	1,919,558	5,239	5,375	6,978	8,559	-1,581

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

^aExcludes Newborn service category

^bExcludes bassinets

Table 3.3: DEMHS Region 1 - Acute Care Bed Need Projection

DEMHS Region	Services ^a	FY 2009 Patient Days	FY 2010 Patient Days	FY 2011 Patient Days	FY 2009 ADC	FY 2010 ADC	FY 2011 ADC	Weighted ADC	Pop chg 2010 to 2015 ^b	Projected ADC	Target Occupancy	Beds Needed	Licensed Beds ^c	Excess (-) or Deficit (+)	
1	Medical/Surgical														
	0-14	0	0	0	0.0	0.0	0.0	-	0.92137	-	0.80	-			
	15 - 44	34,863	35,386	35,057	95.5	96.9	96.0	96.3	1.00632	96.9	0.80	121			
	45 - 64	79,753	82,215	81,249	218.5	225.2	222.6	222.8	1.05619	235.3	0.80	294			
	65+	173,159	174,853	171,851	474.4	479.0	470.8	474.2	0.97070	460.3	0.80	575			
	Sub Total	287,775	292,454	288,157	788.4	801.2	789.5	793.2			792.5		991		
	Maternity														
	0-14	15	2	21	0.0	0.0	0.1	0.0	0.924938	0.0	0.50	0			
	15 - 44	32,827	31,296	32,217	89.9	85.7	88.3	87.7	0.998229	87.5	0.50	175			
	45 - 64	223	257	247	0.6	0.7	0.7	0.7	1.056390	0.7	0.50	1			
	65+	0	0	0	0.0	0.0	0.0	-	0.966918	-	0.50	-			
	Sub Total	33,065	31,555	32,485	90.6	86.5	89.0	88.4			88.3		177		
	Psychiatric														
	0-14	2,949	2,686	2,593	8.1	7.4	7.1	7.4	0.92137	6.8	0.80	8			
	15 - 44	20,471	20,027	21,411	56.1	54.9	58.7	57.0	1.00632	57.3	0.80	72			
	45 - 64	14,788	14,841	14,405	40.5	40.7	39.5	40.0	1.05619	42.3	0.80	53			
	65+	5,641	7,447	7,543	15.5	20.4	20.7	19.7	0.97070	19.1	0.80	24			
	Sub Total	43,849	45,001	45,952	120.1	123.3	125.9	124.1			125.5		157		
	Rehabilitation														
	0-14	0	0	0	0.0	0.0	0.0	-	0.92137	-	0.80	-			
	15 - 44	1,007	1,205	870	2.8	3.3	2.4	2.8	1.00632	2.8	0.80	3			
	45 - 64	3,620	4,257	4,648	9.9	11.7	12.7	11.9	1.05619	12.6	0.80	16			
	65+	11,267	13,279	13,907	30.9	36.4	38.1	36.3	0.97070	35.3	0.80	44			
	Sub Total	15,894	18,741	19,425	43.5	51.3	53.2	51.0			50.6		63		
Pediatric															
0-19	7,072	6,298	6,104	19.4	17.3	16.7	17.3	0.95358	16.5	0.80	21				
20+	0	0	0	0.0	0.0	0.0	-	1.01406	-	0.80	-				
Sub Total	7,072	6,298	6,104	19.4	17.3	16.7	17.3			16.5		21			
Total	387,655	394,049	392,123	1,062	1,080	1,074	1,074.0			1,073.4		1,408	1,653	-245	

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

^aExcludes Newborn service category

^bSource: CT State Data Center (CTSDC)

^cExcludes bassinets

Table 3.4: DEMHS Region 2 - Acute Care Bed Need Projection

DEMHS Region	Services ^a	FY 2009 Patient Days	FY 2010 Patient Days	FY 2011 Patient Days	FY 2009 ADC	FY 2010 ADC	FY 2011 ADC	Weighted ADC	Pop chg 2010 to 2015 ^b	Projected ADC	Target Occupancy	Beds Needed	Licensed Beds ^c	Excess (-) or Deficit (+)	
2	Medical/Surgical														
	0-14	0	0	0	0.0	0.0	0.0	-	0.95619	-	0.80	-			
	15 - 44	58,724	56,169	56,564	160.9	153.9	155.0	155.6	1.02655	159.7	0.80	200			
	45 - 64	116,572	120,602	130,507	319.4	330.4	357.6	342.1	1.02379	350.3	0.80	438			
	65+	193,295	189,836	192,049	529.6	520.1	526.2	524.7	1.07205	562.5	0.80	703			
	Sub Total	368,591	366,607	379,120	1,009.8	1,004.4	1,038.7	1,022.4			1,072.5		1,341		
	Maternity														
	0-14	28	19	19	0.1	0.1	0.1	0.1	0.940104	0.1	0.50	0			
	15 - 44	26,892	25,662	26,941	73.7	70.3	73.8	72.6	1.019895	74.1	0.50	148			
	45 - 64	184	143	95	0.5	0.4	0.3	0.3	1.020156	0.4	0.50	1			
	65+	0	0	0	0.0	0.0	0.0	-	1.082566	-	0.50	-			
	Sub Total	27,104	25,824	27,055	74.3	70.8	74.1	73.0			74.5		149		
	Psychiatric														
	0-14	8,450	9,213	8,696	23.2	25.2	23.8	24.2	0.95619	23.1	0.80	29			
	15 - 44	21,035	21,020	21,876	57.6	57.6	59.9	58.8	1.02655	60.3	0.80	75			
	45 - 64	14,580	15,125	14,279	39.9	41.4	39.1	40.0	1.02379	41.0	0.80	51			
	65+	5,247	4,606	5,829	14.4	12.6	16.0	14.6	1.07205	15.6	0.80	20			
	Sub Total	49,312	49,964	50,680	135.1	136.9	138.8	137.6			140.1		175		
	Rehabilitation														
	0-14	0	0	0	0.0	0.0	0.0	-	0.95619	-	0.80	-			
	15 - 44	95	75	44	0.3	0.2	0.1	0.2	1.02655	0.2	0.80	0			
	45 - 64	980	911	773	2.7	2.5	2.1	2.3	1.02379	2.4	0.80	3			
	65+	3,313	2,775	3,188	9.1	7.6	8.7	8.4	1.07205	9.0	0.80	11			
	Sub Total	4,388	3,761	4,005	12.0	10.3	11.0	10.9			11.6		14		
	Pediatric														
	0-19	21,557	21,046	19,983	59.1	57.7	54.7	56.4	0.95347	53.8	0.80	67			
	20+	0	0	0	0.0	0.0	0.0	-	1.04201	-	0.80	-			
Sub Total	21,557	21,046	19,983	59.1	57.7	54.7	56.4			53.8		67			
Total		470,952	467,202	480,843	1,290	1,280	1,317	1,300.4		1,352.5		1,746	1,817	-71	

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

- ^aExcludes Newborn service category
- ^bSource: CT State Data Center (CTSDC)
- ^cExcludes bassinets

Table 3.5: DEMHS Region 3 - Acute Care Bed Need Projection

DEMHS Region	Services ^a	FY 2009 Patient Days	FY 2010 Patient Days	FY 2011 Patient Days	FY 2009 ADC	FY 2010 ADC	FY 2011 ADC	Weighted ADC	Pop chg 2010 to 2015 ^b	Projected ADC	Target Occupancy	Beds Needed	Licensed Beds ^c	Excess (-) or Deficit (+)	
3	Medical/Surgical														
	0-14	58	26	25	0.2	0.1	0.1	0.1	0.92506	0.1	0.80	0			
	15 - 44	68,099	66,792	61,416	186.6	183.0	168.3	176.2	0.96375	169.8	0.80	212			
	45 - 64	156,044	156,117	159,394	427.5	427.7	436.7	432.2	1.00757	435.4	0.80	544			
	65+	279,795	272,507	278,040	766.6	746.6	761.8	757.5	1.01743	770.7	0.80	963			
	Sub Total	503,996	495,442	498,875	1,380.8	1,357.4	1,366.8	1,366.0			1,376.1		1,720		
	Maternity														
	0-14	25	24	22	0.1	0.1	0.1	0.1	0.926644	0.1	0.50	0			
	15 - 44	45,484	43,212	42,967	124.6	118.4	117.7	119.1	0.961228	114.5	0.50	229			
	45 - 64	194	157	170	0.5	0.4	0.5	0.5	1.007208	0.5	0.50	1			
	65+	0	0	0	0.0	0.0	0.0	-	1.000318	-	0.50	-			
	Sub Total	45,703	43,393	43,159	125.2	118.9	118.2	119.6			115.0		230		
	Psychiatric														
	0-14	9,485	8,541	8,275	26.0	23.4	22.7	23.5	0.92506	21.7	0.80	27			
	15 - 44	40,121	38,682	38,494	109.9	106.0	105.5	106.4	0.96375	102.5	0.80	128			
	45 - 64	26,546	27,928	27,640	72.7	76.5	75.7	75.5	1.00757	76.1	0.80	95			
	65+	8,872	8,265	8,738	24.3	22.6	23.9	23.6	1.01743	24.0	0.80	30			
	Sub Total	85,024	83,416	83,147	232.9	228.5	227.8	228.9			224.3		280		
	Rehabilitation														
	0-14	95	60	64	0.3	0.2	0.2	0.2	0.92506	0.2	0.80	0			
	15 - 44	60	0	95	0.2	0.0	0.3	0.2	0.96375	0.2	0.80	0			
	45 - 64	0	0	15	0.0	0.0	0.0	0.0	1.00757	0.0	0.80	0			
	65+	0	0	0	0.0	0.0	0.0	-	1.01743	-	0.80	-			
	Sub Total	155	60	174	0.4	0.2	0.5	0.4			0.3		0		
	Pediatric														
	0-19	28,236	26,052	25,849	77.4	71.4	70.8	72.1	0.93871	67.7	0.80	85			
	20+	0	0	0	0.0	0.0	0.0	-	0.98971	-	0.80	-			
Sub Total	28,236	26,052	25,849	77.4	71.4	70.8	72.1			67.7		85			
Total		663,114	648,363	651,204	1,817	1,776	1,784	1,787.0		1,783.4		2,315	3,041	-726	

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

- ^aExcludes Newborn service category
- ^bSource: CT State Data Center (CTSDC)
- ^cExcludes bassinets

Table 3.6: DEMHS Region 4 - Acute Care Bed Need Projection

DEMHS Region	Services ^a	FY 2009 Patient Days	FY 2010 Patient Days	FY 2011 Patient Days	FY 2009 ADC	FY 2010 ADC	FY 2011 ADC	Weighted ADC	Pop chg 2010 to 2015 ^b	Projected ADC	Target Occupancy	Beds Needed	Licensed Beds ^c	Excess (-) or Deficit (+)	
4	Medical/Surgical														
	0-14	0	0	0	0.0	0.0	0.0	-	1.03324	-	0.80	-			
	15 - 44	14,502	14,908	13,945	39.7	40.8	38.2	39.3	0.99743	39.2	0.80	49			
	45 - 64	37,335	38,034	39,714	102.3	104.2	108.8	106.2	1.11573	118.5	0.80	148			
	65+	68,060	67,604	69,714	186.5	185.2	191.0	188.3	1.18866	223.8	0.80	280			
	Sub Total	119,897	120,546	123,373	328.5	330.3	338.0	333.8			381.6		477		
	Maternity														
	0-14	2	7	7	0.0	0.0	0.0	0.0	1.036931	0.0	0.50	0			
	15 - 44	9,647	9,256	9,333	26.4	25.4	25.6	25.6	0.978173	25.1	0.50	50			
	45 - 64	23	5	13	0.1	0.0	0.0	0.0	1.117310	0.0	0.50	0			
	65+	0	0	0	0.0	0.0	0.0	-	1.173494	-	0.50	-			
	Sub Total	9,672	9,268	9,353	26.5	25.4	25.6	25.7			25.1		50		
	Psychiatric														
	0-14	5	3	8	0.0	0.0	0.0	0.0	1.03324	0.0	0.80	0			
	15 - 44	6,969	7,174	6,371	19.1	19.7	17.5	18.5	0.99743	18.4	0.80	23			
	45 - 64	5,885	6,248	5,348	16.1	17.1	14.7	15.7	1.11573	17.5	0.80	22			
	65+	1,434	1,536	1,853	3.9	4.2	5.1	4.6	1.18866	5.5	0.80	7			
	Sub Total	14,293	14,961	13,580	39.2	41.0	37.2	38.8			41.4		52		
	Rehabilitation														
	0-14	0	0	0	0.0	0.0	0.0	-	1.03324	-	0.80	-			
15 - 44	247	253	230	0.7	0.7	0.6	0.7	0.99743	0.7	0.80	1				
45 - 64	1,082	1,283	972	3.0	3.5	2.7	3.0	1.11573	3.3	0.80	4				
65+	2,764	2,982	3,546	7.6	8.2	9.7	8.8	1.18866	10.5	0.80	13				
Sub Total	4,093	4,518	4,748	11.2	12.4	13.0	12.5			14.5		18			
Pediatric															
0-19	1,647	1,493	1,039	4.5	4.1	2.8	3.5	0.97369	3.4	0.80	4				
20+	0	0	0	0.0	0.0	0.0	-	1.09251	-	0.80	-				
Sub Total	1,647	1,493	1,039	4.5	4.1	2.8	3.5			3.4		4			
Total		149,602	150,786	152,093	410	413	417	414.4		466.1		601	727	-126	

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

^aExcludes Newborn service category

^bSource: CT State Data Center (CTSDC)

^cExcludes bassinets

Table 3.7: DEMHS Region 5 - Acute Care Bed Need Projection

DEMHS Region	Services ^a	FY 2009 Patient Days	FY 2010 Patient Days	FY 2011 Patient Days	FY 2009 ADC	FY 2010 ADC	FY 2011 ADC	Weighted ADC	Pop chg 2010 to 2015 ^b	Projected ADC	Target Occupancy	Beds Needed	Licensed Beds ^c	Excess (-) or Deficit (+)	
5	Medical/Surgical														
	0-14	30	42	30	0.1	0.1	0.1	0.1	0.91754	0.1	0.80	0			
	15 - 44	22,712	20,917	21,137	62.2	57.3	57.9	58.4	0.99420	58.1	0.80	73			
	45 - 64	56,982	56,112	57,175	156.1	153.7	156.6	155.6	1.05765	164.6	0.80	206			
	65+	119,496	116,614	122,594	327.4	319.5	335.9	329.0	1.07915	355.0	0.80	444			
	Sub Total	199,220	193,685	200,936	545.8	530.6	550.5	543.1			577.8		722		
	Maternity														
	0-14	12	11	16	0.0	0.0	0.0	0.0	0.920643	0.0	0.50	0			
	15 - 44	16,579	15,856	15,108	45.4	43.4	41.4	42.7	0.991468	42.4	0.50	85			
	45 - 64	89	51	52	0.2	0.1	0.1	0.2	1.062294	0.2	0.50	0			
	65+	0	0	0	0.0	0.0	0.0	-	1.067004	-	0.50	-			
	Sub Total	16,680	15,918	15,176	45.7	43.6	41.6	42.9			42.6		85		
	Psychiatric														
	0-14	255	288	196	0.7	0.8	0.5	0.6	0.91754	0.6	0.80	1			
	15 - 44	10,643	10,118	9,286	29.2	27.7	25.4	26.8	0.99420	26.7	0.80	33			
	45 - 64	8,839	9,197	8,386	24.2	25.2	23.0	23.9	1.05765	25.3	0.80	32			
	65+	4,650	3,910	4,558	12.7	10.7	12.5	11.9	1.07915	12.9	0.80	16			
	Sub Total	24,387	23,513	22,426	66.8	64.4	61.4	63.3			65.4		82		
	Rehabilitation														
	0-14	0	0	0	0.0	0.0	0.0	-	0.91754	-	0.80	-			
15 - 44	231	295	298	0.6	0.8	0.8	0.8	0.99420	0.8	0.80	1				
45 - 64	1,345	1,507	1,402	3.7	4.1	3.8	3.9	1.05765	4.1	0.80	5				
65+	2,569	2,368	2,279	7.0	6.5	6.2	6.5	1.07915	7.0	0.80	9				
Sub Total	4,145	4,170	3,979	11.4	11.4	10.9	11.2			11.9		15			
Pediatric															
0-19	1,265	829	778	3.5	2.3	2.1	2.4	0.95514	2.3	0.80	3				
20+	0	0	0	0.0	0.0	0.0	-	1.03022	-	0.80	-				
Sub Total	1,265	829	778	3.5	2.3	2.1	2.4			2.3		3			
Total		245,697	238,115	243,295	673	652	667	662.9		700.0		907	1,321	-414	

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

^aExcludes Newborn service category

^bSource: CT State Data Center (CTSDC)

^cExcludes bassinets

Based on projections derived from the acute care bed need model, Connecticut has sufficient acute care inpatient bed capacity, overall. However, further study is necessary to determine if regional gaps in service exist by service line/department.

3.2.5 INPATIENT BED CAPACITY

Based on projections derived from the acute care bed need model, Connecticut has sufficient acute care inpatient bed capacity, overall. However, further study is necessary to determine if regional gaps in service exist by service line/department (e.g., psychiatric, maternity, medical/surgical). OHCA's ability to remedy any gaps identified would be limited, as acute care beds are licensed generally (not by service type or department). In addition, hospitals apportion beds based on individual operational considerations, rather than regional needs.

3.3 EMERGENCY DEPARTMENTS

Connecticut has emergency departments in each of its 30 acute care hospitals (Figure 3.2). The emergency department (ED) provides initial treatment to patients with a broad range of illnesses and injuries; some may be life threatening. Upon arrival at the ED, people typically undergo a brief triage to evaluate the nature of the illness or injury. Individuals with more serious illnesses are examined by a

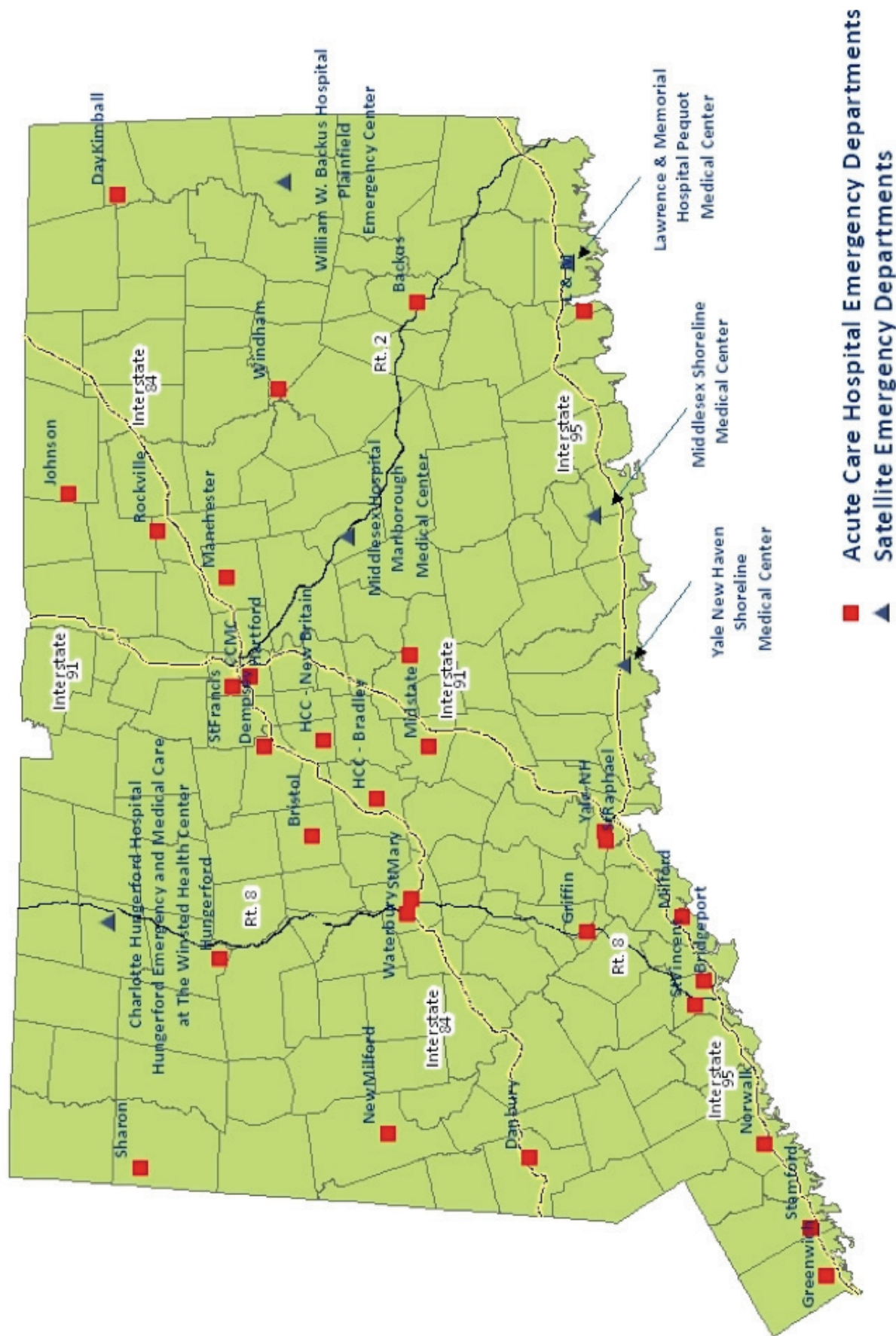
physician sooner than patients with less severe symptoms or injuries. After treatment in the ED, patients are discharged, admitted to the hospital, or stabilized and transferred to another hospital. Most EDs operate 24 hours and 7 days a week, with staffing levels usually lower at night.

A free-standing ED is one that is located away from the main campus of a hospital and provides care for emergency medical conditions on an urgent basis without requiring a previously scheduled appointment. Free-standing EDs are not licensed separately from hospitals in Connecticut. OHCA regulates the establishment of these facilities. (Sec. 19a-630-(10)(C)). Connecticut's free-standing EDs are shown in Figure 3.2 and additional information is provided about them in Table 3.8.

3.3.1 RELATIONSHIP TO CERTIFICATE OF NEED

Connecticut General Statutes Sections 19a-638(a)(3) and 19a-638(a)(7) specify that a Certificate of Need is required for the establishment of a free-standing emergency department or the termination of an emergency department by a short-term acute care general hospital. Connecticut hospitals seeking authorization to establish a free-standing emergency department are required to demonstrate that they meet clear public need as well as other criteria set forth in Connecticut General Statutes Section 19a-639.

Figure 3.2 Emergency Departments and Satellite EDs



Source: DPH Licensure Division and OHCA CON Database
Prepared August 2012 OHCA

Table 3.8: Free-Standing Emergency Departments

Hospital	ED Site	Location	Description
William W. Backus Hospital	Plainfield Emergency Care Center	Plainfield	Provides comprehensive emergency medical treatment 24 hours per day, 7 days per week. Also provides diagnostic imaging and lab services.
Charlotte Hungerford Hospital	Winsted Health Center	Winsted	Emergency treatment services provided 7 days per week, including holidays from 9:00 AM to 9:00 PM. Urgent and Non-urgent treatments also provided at this location. On-site X-ray and laboratory services.
Lawrence and Memorial Hospital	Pequot Health Center	Groton	Walk-in medical treatment is available 7 days per week from 7:00 am to 11:00 pm. Provides Emergency and Urgent Care as well as other health care services: X-Ray, MRI and CT scanning capabilities and laboratory.
Middlesex Hospital	Marlborough Medical Center	Marlborough	Offers full complement of emergency services, 24 hours per day, 7 days per week. An Express Care area serves patients with urgent medical needs. There are also isolation and decontamination areas in the ED and a helipad on-site for LIFE STAR.
Middlesex Hospital	Shoreline Medical Center	Essex	Emergency treatment services are provided by Middlesex Hospital 24 hours per day, 7 days per week and supported by a broad spectrum of diagnostic capabilities.
Yale-New Haven Hospital, Inc.	Yale-New Haven Shoreline Medical Center	Guilford	Emergency treatment services are provided by Yale-New Haven Hospital 24 hours per day, 7 days per week. This facility is supported by on-site diagnostic radiology and laboratory services.

3.3.2 BEHAVIORAL HEALTH CARE IN EMERGENCY DEPARTMENTS

The number of patients with behavioral health (BH) conditions treated in EDs has been increasing for more than a decade.⁵⁰ One in eight (12.5%) visits made to U.S. hospital emergency departments in 2007 involved a diagnosis related to behavioral health.⁵¹

Compared to national estimates, data for Connecticut has higher ED utilization for patients with BH related issues, raising concerns in the emergency medical community about overcrowding. In FY 2010, 18% of all ED visits had a diagnosis (in any of the 15 captured diagnoses) related to BH.⁵²

The Behavioral Health and Acute Care/Ambulatory Surgery Subcommittees determined that the creation of focus groups consisting of a broad representation of hospital and ED staff would be beneficial to help identify concerns about ED patients' ability to access behavioral health services. (See Appendix F for a list of members). Focus groups met in three different venues and discussed all ED patient populations (i.e., all payer types), and issues pertaining to both children and adults.⁵³

⁵⁰Larkin, G.L., Claassen, C.A., Edmond, J.A., Pelletier, A.J., & Camargo, C.A. (2005). Trends in U.S. Emergency Department Visits for Mental Health Conditions, 1992 to 2001. *Psychiatric Services*. doi: 10.1176/appi.ps.56.6.671

⁵¹Owens, P., Mutter R., & Stocks, C. (2007). *Mental Health and Substance Abuse-Related Emergency Department Visits among Adults, 2007. Agency for Healthcare Research and Quality (AHRQ)*. 1.

⁵²Source: Connecticut Hospital Association Chime ED Data, Fiscal Year 2010.

⁵³As active members of OHCA's Subcommittees on Behavioral Health and Acute Care/Ambulatory Services, both DMHAS and CHA are supporting these focus groups, with DMHAS offering the resources of a UCHC research assistant to lead the discussions, and CHA, working with our member hospitals, providing venues and recruiting participants.

The ED Focus Groups provided a written summary of their concerns. Each group was asked to discuss the following areas: patient management (patient characteristics, medical conditions, insurance coverage, etc.), behavioral health resources/system capacity (availability of resources, discharge planning and placement and community resources), and other challenges (constraints/barriers, transportation and other access issues, etc.).

Several common themes emerged from the group discussion:

- Behavioral health patients presenting at EDs, although other treatment settings would be more appropriate
- Limited access to behavioral health services (especially inpatient adult or residential youth services)
- Lack of coordination of care between EDs and community based services

The groups identified and listed examples of ED use that may be inappropriate:

- Police dropping off patients who are intoxicated
- Schools sending students with conduct problems
- Nursing homes transferring disruptive/combatative or patients with dementia
- Parents bringing children who are under the influence of alcohol/drugs or exhibiting disruptive behaviors
- Family care givers who need respite bringing in family members for evaluation

All focus groups reported a significant increase in behavioral health visits over the past several years. Participants anecdotally identified the characteristics of patients presenting more frequently at the ED:

- Behavioral health patients of moderate severity
- Combative patients
- Children and Adolescents
- Elders of family members who can no longer cope with their care
- Chronic alcoholic or PCP using patients

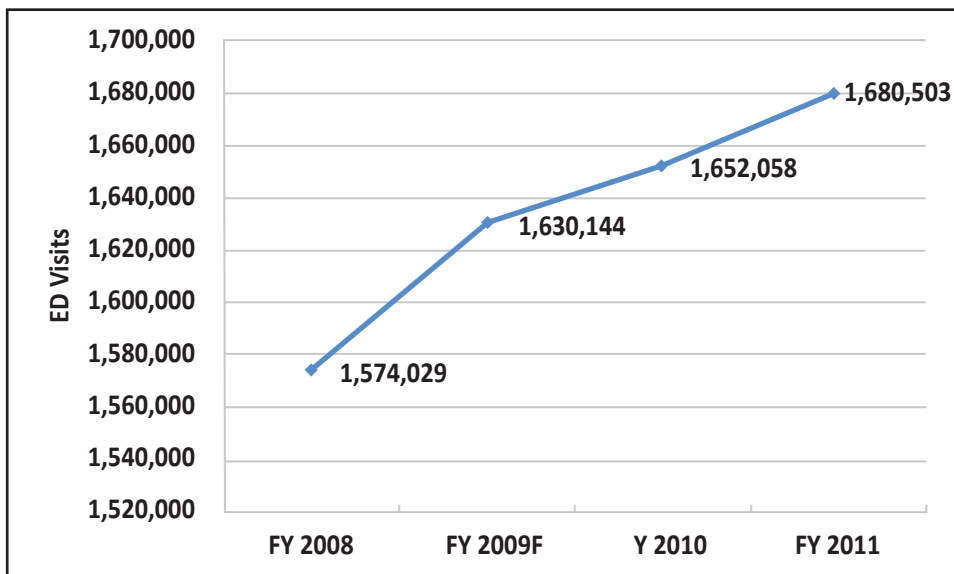
ED staff participants believed that many behavioral health patients presenting do not need emergency room treatment and could be more effectively and less expensively managed in outpatient settings. Focus group members were concerned that inappropriate referrals will continue as long as EDs are the only facilities available around-the-clock. In addition, limitations on the length of stay for patients in general hospital inpatient psychiatric beds, by private insurance companies, has added to the problem of patients relapsing and returning to the ED. Participants noted that the decline in State-operated beds for adults and community residential beds for children places an extreme burden on EDs. For “new” patients with behavioral health needs, it can be difficult to schedule appointments in the community for initial assessments to obtain outpatient treatment or medication management. Obtaining preauthorization for behavioral health services can be very time consuming. The group believes that communication between EDs and community programs needs to be improved to help behavioral health patients receive more appropriate care in settings outside the ED (see Appendices G and H for the Focus Group Summary and Solutions documents in their entirety).

3.3.3 ED UTILIZATION

ED utilization has increased steadily over the past few years as a result of multiple factors. Being uninsured or underinsured, appointment scheduling difficulties, and a poor economy where many residents have lost their jobs and health care coverage have all been mentioned as reasons for the spike in ED utilization. Sufficient availability, capacity and placement of primary care and behavioral health resources (both facility and private practitioner) may also result in the continuing increase in the utilization of hospital ED services.

ED volumes have risen in each of the past four fiscal years. From FY 2008 to FY 2011, ED volume increased from 1.5 million to 1.6 million visits (7%) (see Figure 3.3 and Appendix I).

Figure 3.3: Connecticut ED Visits



Source: CT Connecticut Hospital Association Chime, Inc. Emergency Department Data and OHCA Sharon Hospital Emergency Department Data

3.3.4 ED PLANNING

The American College of Emergency Physicians (ACEP) Policy Statement (October 2007) on emergency department planning <http://www.acep.org/content.aspx?id=29208> is a useful resource for emergency department services. OHCA encourages adherence to the ACEP Policy Statement.

It states that:

- Access to emergency medical and nursing care should be unrestricted and available to all residents.
- Emergency departments must have adequate resources to support the evaluation, management and treatment of all patients presenting at an ED.
- EDs should maintain appropriate levels of qualified staff, 24 hours a day, due to the unscheduled and episodic nature of health emergencies. ED personnel must establish effective working relationships with emergency services providers (EMS), ancillary hospital personnel, physicians, and other health care and social service resources to ensure the continuity of ED patient care. Effective policies and plans should be in place to ensure that administration, staffing, design of facility, equipment, medication and all other ancillary services are sufficiently addressed and cohesively work together to provide quality health care for patients experiencing serious health emergencies.

3.3.5 TRAUMA

A trauma center is a hospital equipped to provide comprehensive emergency medical services to patients who require complex and multi-disciplinary treatment following traumatic injuries. According to the public health code, the terms Trauma and Trauma Center are specifically defined as follows:

- “Trauma” means a wound or injury to the body caused by accident, violence, shock or pressure, excluding poisoning, drug overdose, smoke inhalation, and drowning (19a-177-1(6))
- “Trauma facility” means a hospital that has met the requirements as prescribed in section 19a-177-4 of the Regulations of Connecticut State Agencies and has received such designation from the Office of Emergency Medical Services (OEMS) in accordance with section 19a-177-3 of the Regulations of Connecticut State Agencies (19a-177-1(8)).

The American College of Surgeons provides a voluntary verification that designates the specific capabilities and identifies trauma centers by “Level” designation. Hospitals seeking designation as a Level I, Level II, Level III or Level IV trauma facility must apply to and be approved by the OEMS.

Connecticut currently has hospitals designated as Level I, Level II or Level III trauma centers. Connecticut trauma centers, their current trauma level designations and definitions of each level are given in Table 3.9.

Table 3.9: Connecticut Trauma Centers

Connecticut Designated Trauma Centers	City	Level
Connecticut Children's Medical Center	Hartford	Level I (Pediatric)
Hartford Hospital	Hartford	Level I (Adult)
Yale New Haven Hospital	New Haven	Level I (Adult and Pediatric)
Bridgeport Hospital	Bridgeport	Level II (Adult)
Danbury Hospital	Danbury	Level II (Adult)
Hospital of St. Raphael	New Haven	Level II (Adult)
Norwalk Hospital	Norwalk	Level II (Adult)
Saint Francis Medical Center	Hartford	Level II (Adult)
Saint Mary's Hospital	Waterbury	Level II (Adult)
St. Vincent's Medical Center	Bridgeport	Level II (Adult)
Stamford Hospital	Stamford	Level II (Adult)
Waterbury Hospital	Waterbury	Level II (Adult)
William W. Backus Hospital	Norwich	Level III (Adult)

LEVEL I: A regional resource and a tertiary care facility central to the trauma care system. In addition to acute care responsibilities, Level I trauma centers provide leadership in education, research, and system planning.

LEVEL II: Also expected to provide initial definitive trauma care, regardless of the severity of injury. However, depending on a variety of factors (geographic location, patient volume, personnel and resources) patients with more complex injuries may be transferred to Level I trauma centers if needed.

LEVEL III: Serves communities that do not have immediate access to a Level I or II institution and can provide prompt assessment, resuscitation, emergency operations, and stabilization. They also arrange for possible transfer to a facility that can provide definitive trauma care.

LEVEL IV: Provides advanced trauma life support in remote areas before patients can be transferred to a higher level of care. A Level IV facility may be a clinic without a readily available physician and must establish a good working relationship with the nearest Level I, II or III trauma center in order to provide expeditious transfer of seriously injured patients.⁵⁴

⁵⁴American College of Surgeons Committee on Trauma. Retrieved at www.facs.org/trauma/hospitallevels.pdf

3.3.6 EMERGENCY MEDICAL SERVICES

Emergency medical services (EMS) are an integrated system of personnel, equipment, communication and services that provide pre-hospital, in-hospital and inter-hospital medical treatment to individuals who have suffered illness or injury, to prevent loss of life, the aggravation of the illness or injury, or to alleviate suffering. This can include both basic and advanced emergency medical treatment.⁵⁵

3.3.7 OFFICE OF EMERGENCY MEDICAL SERVICES (OEMS)

The DPH Office of Emergency Medical Services (OEMS) administers and enforces emergency medical related services statutes, regulations, programs, and policies. OEMS regulates ground ambulances and is also responsible for the education, training and certification of Emergency Medical Service (EMS) workers.

Public Act 00-151, passed in 2000, mandating the development of a data collection system to track patients from initial entry into the emergency medical service system through arrival at the emergency room. As of June 2012, 90% of services complied with the mandate, moving from paper Patient Care Run (PCR) forms to computer-based software, or electronic PCRs. This has enabled services, sponsor hospitals and OEMS to begin to collect EMS data, creating the potential to analyze the data and create best practices.

In late 2008/early 2009 the American Heart Association formed a ST segment elevation myocardial infarction (STEMI) stakeholders group comprising three sub-committees (Pre-hospital, Timely transfers and Education) intended to develop and promulgate best practice related to ST segment elevation myocardial infarction (STEMI). The group included physicians (EMS/ED, cardiology, and interventional cardiology), nurses, pre-hospital providers and health care administrators/regulators. This group drafted recommendations to improve care in relation to pre-hospital triage of STEMI patients, timely transfers of patients between facilities and issues of education for pre-hospital providers. In Connecticut, a “STEMI Protocol” was also drafted to offer statewide guidance for best practice regarding patients experiencing chest pain and subsequently diagnosed by pre-hospital EKG with a STEMI.

The “STEMI Protocol” was reviewed by the CT EMS Medical Advisory Committee (CEMSMAC) beginning in 2010. After significant work by the CEMSMAC, a revised version of the document entitled “CT EMS STEMI Guideline” was approved by the Commissioner of Public Health in January 2012.⁵⁶ OHCA encourages adherence to the CT EMS STEMI Guideline.

The foremost goal is for authorized EMS personnel to obtain a 12-lead electrocardiogram in the field for all patients suspected of myocardial infarction, thereby increasing the likelihood for percutaneous coronary intervention (PCI) within 90 minutes of first medical contact.

3.3.8 LIFE STAR

Life Star is a critical care helicopter service owned and operated by Hartford Hospital. Life Star responds to and provides transport for critical care patients who require tertiary care. Approximately 39% of transports are trauma related, 25% cardiac related, 14% pediatric, and 24% acute medical, including neonatal and high risk obstetrics. The Life Star program began operation in 1985 and currently operates two helicopters 24 hours a day, 7 days per week and is available to all emergency/critical care patients within a 150-mile radius of Life Star’s two bases (the rooftop helipad at Hartford Hospital, and The William Backus Hospital in Norwich). Each helicopter can transport two patients and is generally able to be airborne within seven minutes and reach speeds of 155 miles per hour. According to OEMS, Hartford Hospital’s Life Star program received approximately 629 service requests during 2010.

⁵⁵The Vermont Statutes Online, Title 24: Municipal and County Government, Chapter 71: AMBULANCE SERVICES 24 V.S.A. § 2651, Definitions

⁵⁶Connecticut EMS STEMI Guideline, CEMSMAC 2011; http://www.ct.gov/dph/lib/dph/ems/pdf/stemi_patients.pdf

3.3.9 MOBILE FIELD HOSPITAL

According to CGS, a mobile field hospital is a modular, transportable facility used intermittently, deployed at the discretion of the Governor for the provision of medical services at a mass gathering, for the purpose of training, or in the event of a public health emergency. Mobile field hospitals can be used for triage, isolation or to provide surge capacity for a hospital during a mass casualty event or when an infrastructure failure occurs (Sec. 19a-487).

The Otilie W. Lundgren Memorial Field Hospital is a multi-functional facility providing bed surge capacity, isolation capacity and an emergency/disaster medicine training facility for the healthcare delivery workforce, both civilian and military. It is deployable as a flexible configuration of 25 bed units that can be operated jointly or independently of one another to provide triage and treatment anywhere in the state in the event of a mass casualty, or to support an acute care hospital after catastrophic structural or mechanical failure. During long term deployments, resources from the state's 30 acute care hospitals and also the VA Hospital will staff the Field Hospital.

The Field Hospital can be removed from storage and assembled in hours anywhere in CT, and be ready to triage and treat hundreds of patients during any public health emergency. The Field Hospital comes with medical equipment, and is staffed by the dedicated volunteers of the Disaster Medical Assistance Team, or DMAT, to triage and treat patients who may become sick or injured as a result of a man-made or natural disaster.

3.4 CARDIAC SERVICES

3.4.1 RELATIONSHIP TO CERTIFICATE OF NEED

Connecticut General Statutes Section 19a-638(a)(8) specifies that a Certificate of Need is required for the establishment of cardiac services, including inpatient and outpatient cardiac catheterization, interventional cardiology and cardiovascular surgery. Connecticut hospitals seeking authorization to establish a cardiac program are required to demonstrate that they meet clear public need as well as other criteria set forth in Connecticut General Statutes Section 19a-639.

According to OHCA's Policies and Procedures, "interventional cardiology" is defined as non-surgical procedures performed in the cardiac catheterization laboratory for the treatment of coronary artery and peripheral vascular disease. Procedures include, but are not limited to, angioplasty, valvuloplasty, cardiac ablation, coronary thrombectomy, and congenital heart defect correction. Only those procedures authorized pursuant to CON may be performed by a health care facility or provider. Multiple cardiac services may be authorized under one CON decision. A facility that is authorized to provide open heart surgery is also authorized to provide the full range of cardiac procedures mentioned above.

3.4.2 CARDIAC CATHETERIZATION

Cardiac catheterization is defined as a medical procedure requiring the passage of a catheter into one or more cardiac chambers of the left and right heart, with or without coronary arteriograms, for the purpose of diagnosing congenital or acquired cardiovascular disease, or for determining measurement of blood pressure flow.

Connecticut hospitals seeking authorization to initiate an Elective PCI program without on-site cardiac surgery capabilities will be required to meet the conditions required in the ACCF/AHA/SCAI Practice Guideline and to demonstrate clear public need for the program. The guideline states that it is only appropriate to consider initiation of a PCI program without on-site cardiac surgical backup if this program will clearly fill a void in the healthcare needs of the community. Further, the guideline notes that competition with another PCI program in the same geographic area, particularly an established program with surgical backup, may not be in the best interests of the community.

3.4.3 PERCUTANEOUS CORONARY INTERVENTION (PCI)

Primary (emergent) Percutaneous Coronary Intervention (PCI) or Coronary Angioplasty (PCA) is an interventional procedure whereby a catheter, usually inserted into an artery in the groin, is threaded through the circulatory system to a previously diagnosed blockage in the heart. An expandable balloon is passed to this spot and inflated several times, thereby flattening the blockage-causing plaque, potentially widening the artery, and thus improving blood flow.

Elective (scheduled) Percutaneous Coronary Intervention (PCI) or Coronary Angioplasty (PCA) is an interventional procedure performed in a catheterization lab whereby a catheter, usually inserted into an artery in the groin, is threaded through the circulatory system to a previously diagnosed blockage in the heart. An expandable balloon is passed to this spot and inflated several times, thereby flattening the blockage-causing plaque, potentially widening the artery, and thus improving blood flow.

PCI and Elective PCI are often combined with the permanent placement of a small wire mesh tube called a stent to help prop the artery open and decrease the chance of it narrowing again. Some stents are coated with medication to help keep the artery open (drug-eluting stents), while others are not (bare-metal stents).

3.4.3.1 PCI without Surgical Backup

Authorization for Connecticut hospitals to perform elective catheter-based interventions for coronary artery disease has been limited in the past to hospitals with the ability to perform cardiac surgery on-site. However, increasing operator experience, improvements in surgical technique and major advances in technology and pharmacology have contributed to a progressive trend to allow PCI without on-site surgical backup. New evidence gives support to the positive effects that these medical advances have contributed to the significant reduction in emergency surgery following PCI.⁵⁷

In 2011, the American College of Cardiology Foundation/American Health Association/Society for Cardiovascular Angiography and Interventions (ACCF/AHA/SCAI) Practice Guideline for Percutaneous Coronary Intervention without on-site surgical backup was modified from a class III (not recommended, no benefit) to a class IIb (benefit is either equal to or greater than the risk) recommendation. In addition, the Cardiovascular Patient Outcomes Research Team (CPORT) Non-Primary PCI (CPORT-E) trial findings concluded in May 2012 that patients have no greater risk of

death or complications when they have elective PCI at a hospital without cardiac surgery backup.

Connecticut hospitals seeking authorization to initiate an Elective PCI program without on-site cardiac surgery capabilities will be required to meet the conditions required in the guideline and to demonstrate clear public need for the program. The guideline states that it is only appropriate to consider initiation of a PCI program without on-site cardiac surgical backup if this program will clearly fill a void in the healthcare needs of the community. Further, the guideline notes that competition with another PCI program in the same geographic area, particularly an established program

⁵⁷Shahian, D.M., Mayer, G.S., Yeh, R.W., Fifer, M.A. & Torchiana, D.F. (2012). Percutaneous Coronary Interventions without On-Site Cardiac Surgical Backup. *The New England Journal of Medicine*.

with surgical backup, may not be in the best interests of the community. The revised guideline also emphasizes that such programs adhere to rigorous clinical programmatic requirements and angiographic criteria for proper patient selection.

3.4.4 OPEN HEART SURGERY

Open heart surgery refers to a therapeutic operative procedure performed on the heart and/or its coronary arteries in order to correct anomalous conditions (for example, coronary artery bypass surgery, heart valve replacement), often using a heart-lung by-pass machine to perform the functions of circulation during surgery.

3.4.5 CURRENT SERVICE LOCATIONS

Table 3.10: Adult Cardiac Services in Connecticut⁵⁸

Hospital	Cardiac Catheterization	Primary PCI	Elective PCI	Open Heart
William. W. Backus	X			
Bridgeport Hospital	X	X	X	X
Danbury Hospital	X	X	X	X
John Dempsey Hospital	X	X	X	X
Greenwich Hospital	X	X		
Hartford Hospital	X	X	X	X
Lawrence & Memorial Hospital	X	X		
Middlesex Hospital	X			
Hospital of Central CT	X	X		
Norwalk Hospital	X	X		
Rockville General	X ^a			
St. Francis Hospital	X	X	X	X
HCGW (Saint Mary/Waterbury)	X	X	X	X
Hospital of Saint Raphael	X	X	X	X
St. Vincent’s Medical Center	X	X	X	X
Stamford Hospital	X	X	X	X
Yale-New Haven Hospital	X	X	X	X

Source: CT DPH-OHCA Acute Care Hospital Service Line Survey, 2012

^aAlthough authorized to provide cardiac catheterization, the hospital has not been providing the service.

⁵⁸In addition to the adult cardiac programs, Connecticut Children’s Hospital has a full-service cardiac program for children.

3.4.6 STANDARDS/GUIDELINES

The Office of Health Care Access has historically utilized professional societies and organizations held to be the experts for establishing standards and guidelines for cardiac care, and will continue to make appropriate use of their recommendations in the review and determination of CON applications. Examples of expert sources to be used in determining standards and guidelines include: the American College of Cardiology, the American Heart Association and the Advisory Council for Cardiothoracic Surgery.

PERCUTANEOUS CORONARY INTERVENTION (PCI)

Primary PCI

1. Based on ACC and AHA, Primary PCI for STEMI should be performed by experienced operators who perform more than 75 elective PCIs per year and, ideally, at least 11 PCI procedures for STEMI per year. Ideally, these procedures should be performed in institutions that perform more than 400 elective PCIs per year and more than 36 primary PCI procedures for STEMI per year.
2. A report by the American College of Cardiology/American Heart Association Task Force on practice guidelines, referring to Class II b, suggests that Primary PCI for patients with STEMI might be considered in hospitals without on-site cardiac surgery provided that appropriate planning for program development has been accomplished and includes: experienced physician operators (more than 75 total PCIs and, ideally, at least 11 primary PCIs per year for STEMI); an experienced catheterization team on a 24 hours per day; 7 day per week call schedule; a well-equipped catheterization lab with digital imaging equipment; a full array of interventional equipment; intra-aortic balloon pump capability; and a proven plan for rapid transport to a cardiac surgery operating room in a nearby hospital with appropriate hemodynamic support capability for transfer. Primary PCI should be limited to patients with STEMI or MI with new or presumably new LBBB on ECG and should be performed in a timely fashion (goal of balloon inflation within 90 minutes of presentation) by persons skilled in the procedure (at least 75 PCIs per year) and at hospitals that perform a minimum of 36 Primary PCI procedures per year. (Level of Evidence: B - Limited populations evaluated. Data derived from a single randomized trial or nonrandomized studies).

Elective PCI

1. Elective/urgent PCI should be performed by operators with an acceptable annual volume (>75 procedures) at high volume centers (> 400 procedures) with on-site cardiac surgery (Level of Evidence: C)
2. Elective/urgent PCI should be performed by operators and institutions whose current risk-adjusted outcome statistics are comparable to those reported in contemporary national data registries, (Level of Evidence: C)
3. It is reasonable that low volume operators (< 75 PCI procedures per year) perform elective/urgent PCI at high volume centers (> 400 PCI procedures per year) with on-site cardiac surgery. Ideally, operators with an annual procedure volume of fewer than 75 procedures per year should only work at institutions with an activity level of more than 600 procedures per year. Operators who perform fewer than 75 procedures per year should develop a defined mentoring relationship with a highly experienced operator who has an annual procedural volume of at least 150 procedures per year. (Level of Evidence C)
4. It is not recommended that elective/urgent PCI be performed by low volume operators (< 75 PCI procedures per year) at low volume centers (200 to 400 procedures per year) with or without on-site cardiac surgery. An institution with a volume of fewer than 200 procedures per year, unless in a region that is underserved because of geography, should carefully consider whether it should continue to offer this service. (Level of Evidence: C)
5. The 2005 PCI Guideline does not establish an explicit minimum hospital volume threshold for elective PCI; there are multiple references in the context of operator and institutional competency to “centers” performing 200 – 400 elective PCI procedures per year.

6. The 2011 PCI Guideline states that operator and hospital volume recommendations have been maintained from the ACC/AHA/SCAI 2005 Guideline Update for Percutaneous Coronary Intervention.

- a. PCI in Hospitals without On-Site Surgical Back-up is in the Class IIb category.

Class II b: Elective PCI might be considered in hospitals without on-site cardiac surgery, provided that appropriate planning for program development has been accomplished and rigorous clinical and angiographic criteria are used for proper patient selection (Level of Evidence: B)

Any hospital considering elective PCI without on-site-cardiac surgery must meet the criteria set forth in the 2011 ACCF/AHA/SCAI PCI Guideline, Section 4.8., PCI in Hospitals Without On-Site Surgical Backup: Recommendations (see link below):

<http://circ.ahajournals.org/content/124/23/e574.full.pdf+html>

Any hospital not meeting the 2011 ACCF/ANA/SCAI PCI Guideline criteria will be considered to be in Class III.

Class III–Harm: Primary and elective PCI should not be performed in hospitals without on-site cardiac surgery capabilities without a proven plan for rapid transport to a surgery operating room in a nearby hospital or without appropriate hemodynamic support capability for transfer. (Level of Evidence: C)



Quality and Performance Considerations for PCI Programs

Based on the 2011 American College of Cardiology Foundation/American Heart Association/Society for Cardiovascular Angiography and Interventions Guidelines for Percutaneous Coronary Intervention:

1. Every PCI program should operate a quality improvement program that routinely:
 - a) reviews quality and outcomes of the entire program;
 - b) reviews results of individual operators;
 - c) includes risk adjustment;
 - d) provides peer review of difficult or complicated cases; and
 - e) performs random case reviews (Level of Evidence: C)
2. Every PCI program should participate in a regional or national PCI registry for the purpose of benchmarking its outcomes against national norms. (Level of Evidence: C)

PCI quality and performance considerations are defined by attributes related to structure, processes, and risk adjusted outcomes. Structural elements include, for example: staffing, equipment, supplies, operator and institutional volumes, and the availability of electronic medical records. Processes include strategies for the appropriate patient, protocols for pre- and post-procedural care, appropriate procedural execution and management of complications, and participation in databases and registries for benchmarking program and individual operator performance. The end result of these structures and processes of care are risk-adjusted outcomes, and when available, are more reliable measures of quality than the institutional and individual operator volumes.⁵⁹

⁵⁹ACCF/AHA/SCAI Guideline for Percutaneous Coronary Intervention. (2011). American College of Cardiology Practice Guidelines.

CARDIAC SURGERY/OPEN HEART SURGERY⁶⁰

1. Guidelines for Standards in Cardiac Surgery developed by the Advisory Council for Cardiothoracic Surgery and approved by the American College of Surgeons' Board of Regents in October 1996 – Bulletin of the American College of Surgeons, Vol. 82, No. 2, February 1997:
 - a) An annual volume of at least 100 to 125 open heart procedures per hospital is necessary from a quality standpoint and there is a greater variation in adjusted mortality rates for teams doing lower volumes as compared with those doing a high volume
 - b) At least 200 procedures per year are necessary in order for a program to function efficiently
 - c) A team approach with a minimum of 2 qualified cardiac surgeons is recommended to provide adequate and continuous perioperative care as well as assistance in the OR
2. The following conditions must be met to initiate a new OHS program:
 - a) The annual caseload of other programs w/in the proposed PSA shall not drop below 350 procedures
 - b) Epidemiological evidence of conditions for which OHS is appropriate w/in the PSA or demonstrates a significant unmet need in the PSA for these procedures
 - c) Existing program(s) in the service area are performing at least 350 open heart surgeries annually
 - d) Evidence demonstrating the performance of a minimum of 200 open heart surgeries annually within the first three years of the start of the new Open Heart Surgery program

OTHER FACTORS FOR CONSIDERATION

Supplemental to the current guidelines and principles, as listed in Section 19a-639, CGS, OHCA may consider proposed service areas that include patients from those states that border Connecticut, i.e., Massachusetts, New York and Rhode Island, when reviewing a Certificate of Need request.

3.4.7 UTILIZATION OF CARDIAC CARE

Based on hospital discharge data, inpatient cardiac care is declining both in patient volume and overall patient days (Table 3.11 and Fig 3.4). From FY 2008 to FY 2011, Cardiac Care-Medical discharges dropped 6%, while the corresponding patient days declined by 3%. During the same time period, Cardiac Care-Surgical declined even more significantly, with both discharges (11%) and patient days (8%) falling.

Table 3.11: Cardiac Inpatient Discharges and Patient Days, Connecticut, FY 2008-2011

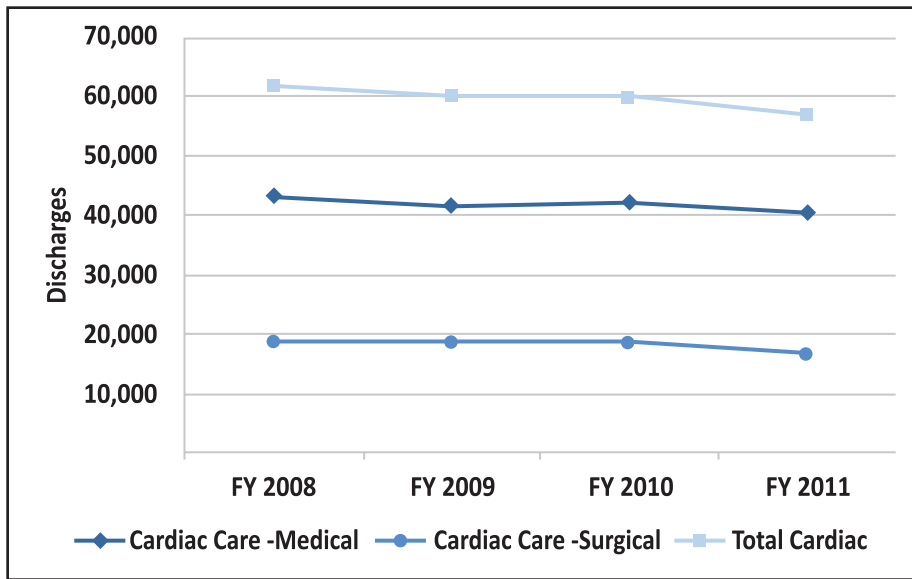
Service	Discharges				Change 08-11	Change 10-11
	FY 2008	FY 2009	FY 2010	FY 2011		
Cardiac Care -Medical	43,072	41,747	41,795	40,542	-6%	-3%
Cardiac Care -Surgical	18,681	18,299	18,104	16,710	-11%	-8%
Total Cardiac	61,753	60,046	59,899	57,252	-7%	-4%

Service	Patient Days				Change 08-11	Change 10-11
	FY 2008	FY 2009	FY 2010	FY 2011		
Cardiac Care -Medical	159,087	156,890	155,239	153,817	-3%	-1%
Cardiac Care -Surgical	95,344	93,054	90,455	87,361	-8%	-3%
Total Cardiac	254,431	249,944	245,694	241,178	-5%	-2%

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

⁶⁰Guidelines for Standards in Cardiac Surgery. (1997). *Bulletin of the American College of Surgeons*, Vol. 82, No. 2.

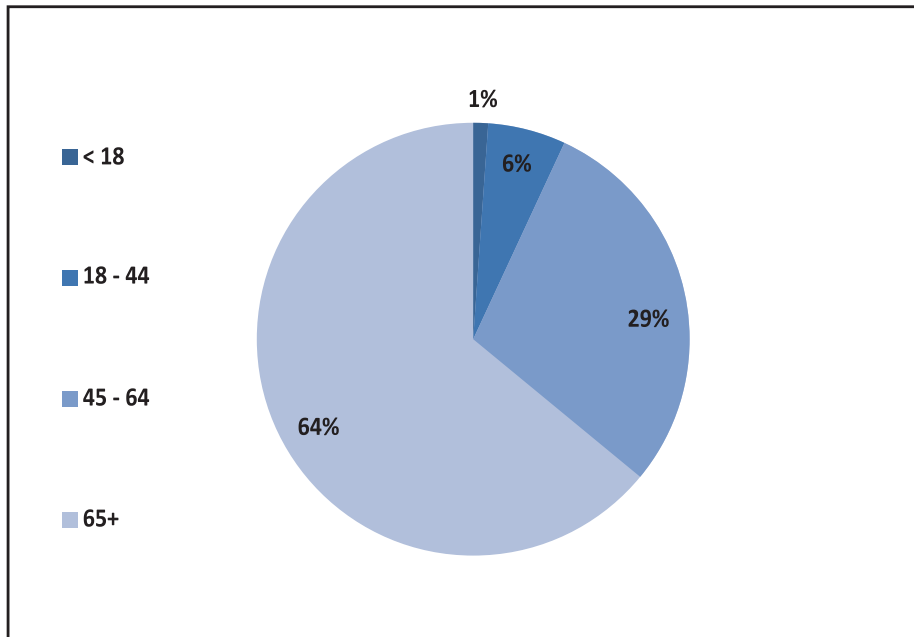
Figure 3.4: Connecticut Inpatient Cardiac Care



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

Cardiac discharges are greatest among the elderly; 64% of discharges in FY 2011 were for patients age 65 years of age and older (Figure 3.5).

Figure 3.5: Cardiac Discharges by Age (FY 2011)



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

3.4.8 UNMET NEED, GAPS IN SERVICES AND CAPACITY ISSUES

Identified areas of unmet need for cardiac care in the state are shown in Table 3.12. Patient demand (the number of residents from a given region that received treatment for cardiac medical services or surgery in a given year) is compared to the overall volume of cardiac patients served by hospitals in the same region. If hospital volumes are lower than patient demand, additional capacity may be needed and additional study of patient migration may be warranted.

Table 3.12: Bed Need for Inpatient Cardiac Services at Acute Care Hospitals, Connecticut, FY 07-10

DEMHS Region	Hospitals	Service		Discharges ^a			Patient Days				
				FY 2007	FY 2008	FY 2009	FY 2010	FY 2007	FY 2008	FY 2009	FY 2010
1	Bridgeport, Norwalk, Greenwich, Stamford, St Vincent's	Medical	Demand	7,589	7,249	7,242	7,060	29,191	28,470	27,882	27,702
			Served	8,642	8,345	8,412	8,230	32,392	32,060	31,436	31,124
			Surplus (-) or Deficit (+)	-1,053	-1,096	-1,170	-1,170	-3,201	-3,590	-3,554	-3,422
		Surgical	Demand	3,418	3,340	3,031	2,926	17,810	16,340	15,777	14,429
			Served	3,850	3,728	3,263	3,205	19,693	17,724	16,198	15,181
			Surplus (-) or Deficit (+)	-432	-388	-232	-279	-1,883	-1,384	-421	-752
2	Yale, Griffin, Milford, St Raphael, MidState	Medical	Demand	10,202	10,250	9,967	10,664	36,304	37,646	36,740	38,338
			Served	10,000	9,936	9,745	10,539	35,660	37,066	36,198	38,379
			Surplus (-) or Deficit (+)	202	314	222	125	644	580	542	-41
		Surgical	Demand	4,243	4,119	4,088	4,176	21,406	21,045	20,583	20,451
			Served	5,117	5,118	5,323	5,441	25,969	26,043	26,558	25,675
			Surplus (-) or Deficit (+)	-874	-999	-1,235	-1,265	-4,563	-4,998	-5,975	-5,224
3	Dempsey, Saint Francis, Bristol, HOCCT, Manchester, Hartford, CTCMC, Middlesex, Rockville, Johnson	Medical	Demand	12,700	12,162	11,646	10,991	45,621	47,067	46,730	44,209
			Served	14,235	13,846	13,164	12,561	51,503	53,644	53,461	50,397
			Surplus (-) or Deficit (+)	-1,535	-1,684	-1,518	-1,570	-5,882	-6,577	-6,731	-6,188
		Surgical	Demand	5,902	5,599	5,600	5,357	33,547	29,771	30,034	28,483
			Served	7,704	7,280	7,172	6,951	43,656	39,799	39,143	38,204
			Surplus (-) or Deficit (+)	-1,802	-1,681	-1,572	-1,594	-10,109	-10,028	-9,109	-9,721
4	Backus, L&M, Day Kimball, Windham	Medical	Demand	5,252	5,773	5,422	5,451	17,269	19,042	18,659	17,806
			Served	4,772	5,187	4,904	4,926	14,865	16,203	15,676	15,085
			Surplus (-) or Deficit (+)	480	586	518	525	2,404	2,839	2,983	2,721
		Surgical	Demand	1,948	2,051	1,980	2,120	10,652	10,340	9,556	10,658
			Served	382	426	396	414	2,227	1,982	1,923	2,052
			Surplus (-) or Deficit (+)	1,566	1,625	1,584	1,706	8,425	8,358	7,633	8,606
5	Danbury, New Milford, Hungerford, Sharon, St Mary's, Waterbury	Medical	Demand	6,454	6,026	5,884	5,864	22,071	21,794	21,988	21,740
			Served	6,183	5,758	5,522	5,539	20,718	20,114	20,119	20,254
			Surplus (-) or Deficit (+)	271	268	362	325	1,353	1,680	1,869	1,486
		Surgical	Demand	3,001	2,864	2,901	2,811	14,999	14,367	13,705	12,906
			Served	2,164	2,129	2,145	2,093	10,302	9,796	9,232	9,343
			Surplus (-) or Deficit (+)	837	735	756	718	4,697	4,571	4,473	3,563
Out of State, or Unknown Address	Distributed among several hospitals	Medical	Demand	1,635	1,612	1,586	1,765	4,682	5,068	4,891	5,444
			Served								
			Surplus (-) or Deficit (+)								
		Surgical	Demand	705	708	699	714	3,433	3,481	3,399	3,528
			Served								
			Surplus (-) or Deficit (+)								

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

^aHospitalizations are expressed as numbers of discharges, not as unduplicated patients; a single patient with multiple hospitalizations can thus be counted more than once.



3.5 CANCER TREATMENT

Oncology is the branch of medicine concerned with the study and treatment of cancer, including screening, diagnosis, therapy, follow-up and palliative care. It includes various sub-specialties such as radiation oncology (medical use of high-energy radiation to kill malignant cells), surgical oncology, and pediatric oncology. Chemotherapy, most generally the treatment of disease by chemicals, can be used for a range of diseases, but most frequently refers to antineoplastic drugs to treat cancer.

In Connecticut, there is no unique licensure category for cancer treatment. The American College of Surgeons, Commission on Cancer (CoC) administers an accreditation program that encourages hospitals, treatment centers, and other facilities to improve the quality of patient care by focusing on prevention, early diagnosis, pretreatment evaluation, staging, optimal treatment, rehabilitation, surveillance for recurrent disease, support services, and end-of-life care. Nationally, 80% of all newly diagnosed cancer patients are treated in CoC-accredited cancer programs.⁶¹ According to the Connecticut Cancer Partnership, 67% of acute care hospitals in Connecticut are CoC-accredited.⁶²

Connecticut's cancer treatment services are well distributed throughout the state. Acute care hospitals, cancer centers, free-standing oncology centers, and private practices, along with appropriate support services are accessible to the majority of Connecticut residents.⁶³

⁶¹American College of Surgeons Cancer Programs. Retrieved from <http://www.facs.org/cancer/coc/cocar.html>

⁶²Connecticut Cancer Partnership. *Connecticut Cancer Plan 2009-2013*. 63.

⁶³Connecticut Cancer Partnership.

3.5.1 CoC-ACCREDITED CANCER PROGRAMS

Connecticut's CoC-accredited cancer programs and their CoC-designated accreditation category are shown in Table 3.13. The CoC-accreditation categories describe the services available at the facility and may have customized requirements for selected standards based on facility type or the number of new patients receiving care each year.⁶⁴

Table 3.13: Accredited Cancer Programs

Commission on Cancer (CoC) Accreditation Category	Town	Hospital (s)
NCI-designated Comprehensive Cancer Center Program (NCIP) ^a	New Haven	Yale-New Haven Hospital
Teaching Hospital Cancer Program (THCP) ^b	Bridgeport	Bridgeport Hospital
	Farmington	University of Connecticut Health Center
	Hartford	Hartford Hospital
	Hartford	Saint Francis Hospital & Medical Center
	New Britain	The Hospital of Central Connecticut
	New Haven	Hospital of Saint Raphael
Community Hospital Comprehensive Cancer Program (COMP) ^c	Bridgeport	St. Vincent's Medical Center
	Danbury	Danbury Hospital
	Greenwich	Greenwich Hospital
	Meriden	MidState Medical Center
	Middletown	Middlesex Hospital
	New London	Lawrence and Memorial Hospital
	Manchester	Manchester Memorial Hospital
	Norwalk	Norwalk Hospital
	Norwich	William W. Backus Hospital
	Stamford	Stamford Hospital
	Waterbury	St. Mary's Hospital Waterbury Hospital Health Center
Community Hospital Cancer Program (CHCP) ^d	Bristol	Bristol Hospital
	Derby	Griffin Hospital
	New Milford	New Milford Hospital
	Sharon	Sharon Hospital
	Torrington	The Charlotte Hungerford Hospital
Veterans Affairs Cancer Program (VACP) ^e	West Haven	VA Connecticut Healthcare System

^aSecures a National Cancer Institute (NCI) Cancer Center Support Grant and is designated a Comprehensive Cancer Center by the NCI. A full range of diagnostic and treatment services and staff physicians with major specialty board certification. Participates in clinical research. May train resident physicians. No minimum caseload required.

^bAssociated with a medical school and participates in training residents in at least four areas (medicine, surgery and two others). Offers full range of diagnostic and treatment services. Medical staff are board certified in the major medical specialties. Required to participate in clinical research. No minimum caseload required.

^cThe facility adds 650 or more new cancer cases each year and provides a full range of diagnostic and treatment services. The medical staff are board certified. Clinical research is required. Training resident physicians is optional.

^dThe facility adds between 100 and 649 new cancer cases each year and provides a full range of diagnostic and treatment services; but, referral for a portion of treatment is common. Medical staff are board certified. May participate in clinical research. Training of resident physicians is optional.

^eProvides care to military veterans and offers the full range of diagnostic and treatment services. Medical staff are board certified. Participation in clinical research is required, the training of resident physicians is optional. No minimum caseload.

⁶⁴Commission on Cancer (CoC) categories of accreditation. Retrieved from <http://www.facs.org/cancer/coc/categories.html>

3.5.2 CANCER SERVICES UTILIZATION

Inpatient cancer care is declining both in patient volume and overall patient days (Table 3.14). From FY 2008 to FY 2011, Cancer Care-Medical discharges dropped 4%, while patient days declined by 3%. During the same time period, Cancer Care-Surgical discharges declined (4%) and patient days fell 8%.

Table 3.14: Inpatient Cancer Utilization

Service Line	Discharges				Change 08-11	Change 10-11	Patient Days				Change 08-11	Change 10-11
	FY 2008	FY 2009	FY 2010	FY 2011			FY 2008	FY 2009	FY 2010	FY 2011		
Cancer Care -Medical	7,933	7,761	7,997	7,627	-4%	-5%	52,106	50,875	51,824	50,681	-3%	-2%
Cancer Care -Surgical	3,191	3,307	3,226	3,064	-4%	-5%	16,870	16,734	15,295	15,590	-8%	2%
Total	11,124	11,068	11,223	10,691	-4%	-5%	68,976	67,609	67,119	66,271	-4%	-1%

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

Cancer patients receive most treatment on an outpatient basis. Chemotherapy and radiation, for example, are delivered primarily in outpatient settings. Some patients receive chemotherapy at their doctor’s office or may, in certain cases, be given an oral prescription that can be taken at home. From FY 2008 to FY 2011 chemotherapy visits increased by 17% (Table 3.15). This increase may be the result of new drugs, or combinations of drugs and/or delivery techniques provided to patients.

Positron Emission Tomography (PET) and Computed Tomography (CT) imaging are essential diagnostic tools physicians use to detect the presence and severity of cancer. PET/CT imaging helps physicians identify cancer, evaluate the extent of disease, select the most appropriate treatments, determine if the therapy is working and detect any recurrent tumors. From FY 2008 to FY 2011, PET volumes have fallen by 9% and PET/CT scans also fell by 4% (Table 3.15).

A linear accelerator (LINAC) is the machine used to treat cancer patients, using external beam radiation treatments. Radiation therapy uses high-energy radiation to kill cancer cells by damaging their DNA. Linear accelerator procedures increased by 4% from FY 2008 to FY 2011 (Table 3.15).

Table 3.15: Outpatient Cancer Services Utilization

Service	Discharges				Change 08-11	Change 10-11
	FY 2008	FY 2009	FY 2010	FY 2011		
PET Scans - Outpatient (Excluding ED)	4,895	3,272	4,508	4,105	-16%	-9%
PET/CT Scans - Outpatient (Excluding ED)	10,619	11,062	10,599	10,185	-4%	-4%
Linear Accelerator - Outpatient Procedures	192,462	200,821	199,576	199,923	4%	0.2%
Chemotherapy - Outpatient Visits	96,291	102,003	103,554	112,775	17%	9%

Source: CT DPH Office of Health Care Access, Hospital Reporting System (HRS) Report 450