

HEALTH CARE SERVICES IN CONNECTICUT



Availability, Utilization and Access

Connecticut Department of Public Health
Office of Health Care Access
June 2010

***HEALTH CARE SERVICES
IN CONNECTICUT:
Availability, Utilization and Access***

Olga Armah

Associate Research Analyst

Connecticut Department of Public Health

Office of Health Care Access

410 Capitol Avenue

Hartford, CT 06134

June, 2010

ACKNOWLEDGEMENTS & CREDITS

Kimberly Martone
Director of Operations

DATA, REVIEW AND ANALYSIS

Office of Health Care Access

Brian Carney
Alexis Fedorjaczenko
Laurie Greci
Kaila Riggott

TABLE OF CONTENTS

Acknowledgements	
Executive Summary	i
Introduction	1
Socioeconomic characteristics of Connecticut residents	3
Availability and utilization of acute care hospital services	4
Acute care inpatient services	4
Emergency department care	15
Hospital-based outpatient services	18
Community-based outpatient services	19
Primary care and preventive services	20
Availability of and access to primary care services	21
Primary care practitioners	22
Utilization of primary care services	23
Events that indicate insufficient access to primary care	24
Summary	27
Recommendations	28
Footnotes	29
Appendices	31
Appendix I: Socioeconomic profile of Connecticut residents, by towns, income, level of poverty, population density and share of elderly	31
Appendix II: Connecticut acute care hospitals, FY 2009	32
Appendix III: Connecticut acute care hospital staffed beds occupancy rates, FYs 2007 & 2009	33
Appendix IV: Connecticut acute care hospital staffed beds by service: FYs 2007 & 2009	34
Appendix V: Connecticut acute care discharges: FYs 2005-2009	35
Appendix VI: Connecticut acute care patient days: FYs 2005-2009	36
Appendix VII: Connecticut hospital emergency room and other outpatient visits: FYs 2005-2009	37

EXECUTIVE SUMMARY

This utilization study is the first of three components of the Department of Public Health Office of Health Care Access' (OHCA) approach to planning for Connecticut's future health care system. This study, along with an inventory of facilities, services and equipment and a Statewide Facilities and Services Plan to be released in 2012, will allow for a comprehensive approach to system-wide planning in order to positively impact the state's health care system.

In this report, OHCA has used available data sources to address the requirements of Connecticut General Statutes (C.G.S.) section 19a-634. The study attempts to (1) assess the current availability and utilization of health care services and (2) identify areas or populations that may be underserved or have reduced access to certain health care services by examining utilization of inpatient, emergency department and outpatient care and analyzing events that may indicate lack of timely access to appropriate community-based resources.

The study has identified a number of key findings and trends:

- Average inpatient services utilization rate has held steady at 122 per 1,000 population in the last five years.
- Most inpatient services accessed were medical/surgical-related with an average hospital stay of 4.9 days.
- Seniors were the most frequent users of inpatient services and adults between ages 45 and 64 were the fastest growing segment of inpatients.
- People who utilize inpatient services were largely residents of urban or densely populated, lower income towns.
- Utilization by patients with public coverage has been rising and now accounts for three in five inpatient discharges.
- Utilization by Medicaid-covered patients grew 10% in three years in contrast to those with commercial insurance coverage, which declined 4%.
- While the bulk of inpatient discharges were white, minorities had higher utilization rates. Blacks had the highest utilization rate, at 147 per 1,000 population as compared to the statewide rate of 123.
- Emergency department (ED) utilization is growing at an annual average rate of 3%.
- Medicaid patients accounted for an overwhelming majority of the growth.

In general, it appears that services provided by the state's thirty acute care hospitals are accessible to most residents. However, there are some indications that parts of the state's health care system may be fragmented and that there may be insufficient availability of timely primary care. For example:

- A high and increasing ratio of patients are readmitted within thirty days of discharge, suggesting the possibility of inadequate transitional care from the hospital into the community.
- Approximately 11% of hospitalizations for certain acute and chronic conditions may have been prevented with timely appropriate primary care.

- Almost two-thirds of these preventable hospitalizations were Medicare-covered elderly patients and nearly two-thirds were residents of an urban or a surrounding town.
- More than two in five emergency department visits may have been avoided with timely appropriate primary care.
- Almost half of avoidable ED visits occurred between 9:00 a.m. and 5:00 p.m., when most physician offices and community health centers are open.
- Avoidable ED visits were made largely by residents of urban core or periphery towns.

According to the Commonwealth Fund 2009 Scorecard on Health System Performance, Connecticut ranked 3rd in the nation for access to care, 11th for disease prevention and treatment, 32nd in avoidable hospital use and costs and 3rd in healthy lives. Despite this positive overall assessment, there are areas in the state's health care system that may indicate the possibility of utilization and access-related issues. Improvements to Connecticut's health care system may be made through policies that increase access, eliminate disparities and address gaps in the delivery of care. With additional study and a cooperative approach, it is hoped that the findings in this report can be further examined and discussed to have a meaningful impact on the health status of Connecticut residents.

INTRODUCTION

This utilization study is the first of three components of the Department of Public Health Office of Health Care Access' (OHCA) approach to planning for Connecticut's future health care system. It will serve as a cornerstone of the foundation for planning and forecasting future need based on assessing current utilization, conducting demographic analyses and identifying possible unmet need and barriers to access. The study findings, coupled with information obtained from a statewide inventory of facilities/ services/technology/equipment and additional data on disease incidence and prevalence, will be incorporated into the Statewide Health Care Facilities and Services Plan to be released in 2012. Using this information, the Plan will identify gaps in access to care, allowing for a comprehensive approach to system-wide planning in order to positively impact the state's health care system.

Overview

There are a number of social determinants of health status, including but not limited to, availability of and access to appropriate and timely health care services, access to health care coverage, socioeconomic status and place of residence.¹ Improvements to the health care system may be possible through policies that increase access and eliminate disparities and gaps in delivery of care.

This study examines three main areas of health care services -- acute care hospitals (inpatient, outpatient and Emergency Department), community based outpatient services (Federally Qualified Health Centers) and primary care and preventive services. In this report OHCA:

- uses available inpatient, outpatient and emergency department data to gauge health care services utilization;
- utilizes nationally recognized hospital related events such as potentially avoidable emergency department visits, hospitalizations and readmissions within 30 days of discharge to provide insight into the quality of the health care delivery system in non-hospital settings;
- assesses demographic characteristics of the state's population that may influence access;
- examines the demographic characteristics of who is utilizing the state's health care services, where, for what type of services, and how that care is paid for; and
- identifies where certain possible gaps or fragmented care within the infrastructure of our health care system may exist.

Data sources, methods and data limitations

It is important to note that this utilization study is limited in that it uses data and information currently available to OHCA. The division's inventory of facilities, services, equipment and technology currently underway will provide additional information that will be used in the 2011 utilization study. Moreover, if other critical utilization data (e.g., outpatient or claims data) is made available to OHCA in the future, this information will enhance the division's ability to report on utilization trends and identify gaps in

access to care.

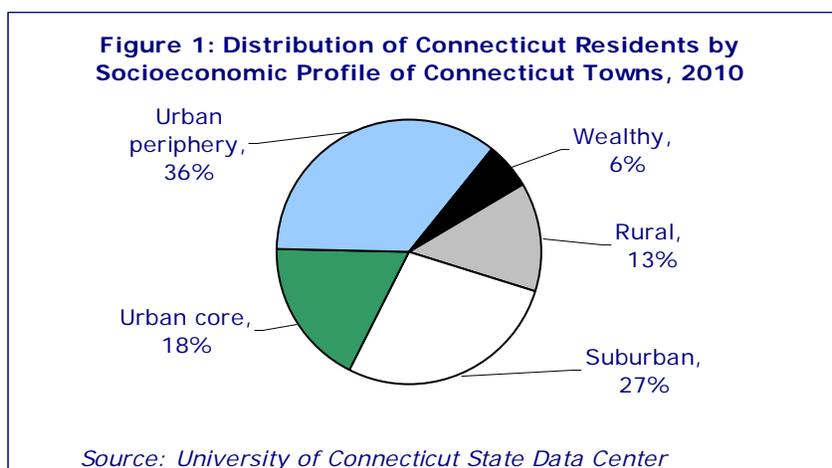
Report results rely on patient volumes (discharges for inpatient care and visits for hospital-based outpatient and emergency department care) to identify trends. Unless otherwise noted, hospital fiscal year (FY)² is used. In most cases, three-year average data for FYs 2007 to 2009 is utilized to increase statistical reliability; longer time periods are used to depict trends. OHCA currently has access to aggregate hospital outpatient utilization data, which is only a portion of outpatient care provided in the state.

The main sources of data for this report are the department's Acute Care Hospital Inpatient Discharge Database and Hospital Reporting System, Connecticut Hospital Association, Chime Inc. Emergency Department data, the University of Connecticut's Connecticut State Data Center (CtSDC), the U.S. Census Bureau Population Estimates, Health Resource Administration Uniform Data System and Centers for Disease Control and Prevention Behavioral Risk Factor Surveillance System (BRFSS).

SOCIOECONOMIC CHARACTERISTICS OF CONNECTICUT RESIDENTS

Many factors, including income, educational attainment level, age, race/ethnicity and insurance coverage, influence the health status of individuals. In general, people in better health are less likely to utilize health care services.³ According to U.S. Census Bureau estimates, in 2008, 91% of Connecticut's 3.5 million residents were in good to excellent health, as compared to 88% nationally. Despite state residents' overall favorable health status, 9% of the state's residents were in fair to poor health. Of those, one in ten was uninsured, four in five had household incomes below the state median and three in five had no more than a high school diploma. Adults over age 64 were 2.6 times more likely than the general population to be in poor to fair health. Minorities were 1.6 times more likely than whites to be in poor to fair health, especially Hispanics, who were two times more likely.

While a statewide socioeconomic profile may be helpful in understanding utilization trends, it omits a great deal of regional variation that exists (see **Appendix I** for details).⁴ Connecticut's 169 towns vary in demographic characteristics, area and population density. These towns are home to people with varying ages, incomes, levels of educational attainment, and living conditions. There is significant socioeconomic variation among towns within counties that may make county-level analysis inadequate; however, conducting analysis on individual towns is beyond the scope of this report. The large degree of socioeconomic variation among towns and regions of the state warrants the need for a more meaningful level of analysis. In this report, OHCA uses town groupings developed by the University of Connecticut's Connecticut State Data Center (CtSDC), the official state liaison to the US Census Bureau. CtSDC distributes Connecticut towns into five distinct groups: rural, suburban, urban periphery, urban core and wealthy, based on similar socioeconomic characteristics -- population density, median family income and poverty level -- rather than location.⁴ More than half of the state's population resides in either urban core (18%) or urban periphery towns (36%), (**Figure 1**).



OHCA's use of these CtSDC groupings will assist in providing a clearer understanding of how health care services in Connecticut are utilized and enable a more refined evaluation of the health care needs and gaps in services that may exist in order to facilitate effective planning.

AVAILABILITY AND UTILIZATION OF ACUTE CARE HOSPITAL SERVICES

Currently the state has thirty acute care hospitals which provide inpatient care (the most resource intensive level of hospital care), emergency department (ED) and outpatient services. The majority of the state's hospitals are along interstates 95, 91 and 84 and accessible to most of Connecticut residents (see **Appendix II** for list and location of hospitals). Connecticut Public Health Code defines an acute care hospital as a short-term hospital that has facilities, medical staff and personnel to provide diagnosis and treatment for acute conditions including injuries. According to the most recent data available from the U.S. Centers for Medicare and Medicaid Services (CMS) on health care expenditures, the largest portion of health care spending in Connecticut was for hospital care (31.7%) and physician and other professional services (27.1%).⁵

Acute care inpatient services

Hospitals are licensed for a specific number of beds, but have fewer beds physically set up and "available" for use and may operate or "staff" fewer beds than available. Hospitals normally set up and staff beds based on an expected patient population, and evaluate such management decisions routinely. In 2009, Connecticut acute care hospitals were licensed for 9,358 beds, had 8,327 available, but staffed 83% or 6,935 beds to serve its 3.5 million residents (**Table I**, also see **Appendix II** for a breakdown of beds by hospitals). The available bed occupancy rate (average number of available beds in use on a given day) is a measure of the inpatient capacity available in the system. In 2009, the average occupancy rate was 68%. On average, 66% of the beds available in the system were in use on a given day in the last three years.

Table 1: Acute Care Beds Occupancy Rates, FYs 2004-2009

	Patient days	Licensed beds	Available beds ¹	Staffed beds	Occupancy Rate of Staffed Beds ²	% of Available Beds Staffed	Occupancy Rate of Available Beds ³
FY 04	2,037,487	9,241	-	7,182	78%	-	-
FY 05	2,077,620	9,247	-	7,223	79%	-	-
FY 06	2,051,582	9,256	-	7,231	78%	-	-
FY 07	2,062,451	9,256	9,256	7,020	80%	76%	61%
FY 08	2,091,202	9,291	8,153	6,688	86%	82%	70%
FY 09	2,076,937	9,358	8,327	6,935	82%	83%	68%
3-yr Avg.	2,076,863	9,302	8,579	6,881	83%	80%	66%

Source: CT Office of Health Care Access Acute Care Hospital Inpatient Discharge Database, Hospital Budget System Schedule 500 and Hospital Reporting System Report 400 - Hospital Bed Utilization by Department

¹Hospitals began reporting in FY 2007.

²The rate is average number of beds in use on a given day and is derived by the formula: total patient days/ (staffed beds*365).

³The rate is average number of beds in use on a given day and is derived by the formula: total patient days/ (available beds*365).

The number of available beds hospitals staffed, as well as occupancy rates, varied by size and location. For example, in FY 2009, occupancy rates of staffed beds ranged from a high of 100% at Hartford Hospital to a low of 63% at Stamford Hospital (See **Appendix III** for hospital details). On average, the state's larger hospitals had higher occupancy rates (89%) than smaller hospitals (77%).

Small or community hospitals like Johnson or Milford Hospitals were more likely to have most of their licensed beds available, but fewer of them staffed. In contrast, larger or urban hospitals like Hartford or Danbury Hospitals had fewer beds available but most were staffed (**Table 2**).

Small community hospitals underutilized the potential capacity in the system most. In 2009, small community hospitals utilized an average of 40% of their available beds on a given day.

Table 2: Inpatient Acute Care Staffed, Available and Licensed Beds by Hospital Size, Location and Occupancy, FY 2009

	Hospital Classification by Size and Location					CT
	Small community ¹	Small urban & large community ²	Medium sized urban ³	Large urban ⁴	Unique ⁵	
Beds	n=5	n=9	n=9	n=5	n=2	n=30
Licensed	526	1,600	3,410	3,451	371	9,358
Available	520	1,586	2,750	3,105	366	8,327
% of Licensed	99%	99%	81%	90%	99%	89%
Staffed	276	1,155	2,394	2,744	366	6,935
% of Available	53%	73%	87%	88%	100%	83%
Available bed occupancy rate	40%	56%	70%	79%	69%	68%
Staffed bed occupancy rate	75%	77%	80%	89%	69%	82%

Source: CT Department of Public Health Office of Health Care Access Hospital Reporting System Report 400 hospital fiscal year (FY) 2009.

¹ Includes Johnson, Milford, New Milford, Rockville and Sharon Hospitals.

² Includes William Backus, Bristol, Charlotte Hungerford, Day Kimball, Greenwich, Griffin, Manchester, Midstate and Windham Hospitals.

³ Includes Danbury, Lawrence & Memorial, Middlesex, Hospital of Central Connecticut, Norwalk, Stamford, St. Mary's, St. Vincent's and Waterbury Hospitals.

⁴ Includes Hartford, St. Francis, Bridgeport, St. Raphael and Yale New-Haven Hospitals.

⁵ Includes John Dempsey Hospital and Connecticut Children Medical Center.

Hospital bed staffing and system capacity also varied by service. **Table 3** shows that, on average, Connecticut hospitals dedicated almost three in five acute care staffed beds to medical/surgical services and 12% to adult and neonatal intensive care (see **Appendix IV** for hospital details). Both types of adult beds (medical/surgical and intensive care) accounted for 71% of total patient days, which translates to average occupancy of 80% and 87% respectively, on a given day. Pediatric and maternity beds had the lowest occupancy rates, at 69% and 73%, respectively. All other beds showed an average occupancy exceeding 80%. Bed availability per 1,000 population ranged between 0.1 for rehabilitation services to 9.7 for newborns. In 2007, the most recent year of data available, the number of staffed beds per 1,000 population in the U.S. was 2.7.⁵ The Connecticut rate, at 2.1 per 1,000, was the ninth lowest in the nation. The combination of a high average occupancy (83%) of all hospital beds and relatively low bed-to-population ratio suggests an efficient allocation of resources by hospitals. On the other hand, per service bed occupancy rates based on system capacity were relatively lower, especially for maternity, pediatric and newborn beds, while availability per 1,000 were higher. Possible regional variation in utilization and availability by service will require further investigation to provide a clearer picture of access. As OHCA develops its facilities and services plan, it will examine occupancy rates and availability by service to determine the impact on access.

Table 3: Inpatient Acute Care Services Available and Staffed Bed Occupancy and Availability, FY 2007-2009

Service	3-yr Avg. Available Beds		3-yr Avg. Staffed Beds		3-yr Avg. Patient Days		Occupancy Rate		Availability Per 1,000 Population	
	Beds	% of Total	Beds	% of Total	Days	% of Total	Available Beds ⁸	Staffed Beds ⁹	Staffed Beds	Available Beds
Adult ICU_CCU ¹	763	9	641	9	187,717	9	67%	80%	0.3	0.2
Adult Medical/Surgical ²	5,055	59	4,077	59	1,292,219	62	70%	87%	1.9	1.5
Maternity ³	630	7	485	7	129,516	6	56%	73%	0.9	0.7
Neonatal ICU ⁴	248	3	217	3	63,504	3	70%	80%	6.1	5.3
Newborn ⁵	640	7	394	6	100,468	5	43%	70%	15.7	9.7
Other	32	0	30	0	7,227	0	61%	66%	0.0	0.0
Pediatric ⁶	304	4	224	3	56,346	3	51%	69%	0.4	0.3
Psychiatry (Ages 0-17)	107	1	94	1	28,968	1	74%	84%	0.1	0.1
Psychiatry (Ages 18+)	681	8	610	9	183,520	9	74%	82%	0.3	0.2
Rehabilitation ⁷	119	1	109	2	34,173	2	79%	86%	0.0	0.0
Total	8,579	100	6,881	100	2,083,659	100	67%	83%	2.5	2.0

Sources: Office of Health Care Access Hospital Reporting System Report 400 and U.S. Census Bureau population estimates for 2006-2008.

¹ Adults over 17 years old.

² Adults over 17 years old.

³ The Centers for Disease Control and Prevention (CDC) assumes the female childbearing age is 15-44 years.

⁴ Under age one population.

⁵ Under age one population.

⁶ Between one and 17 years old.

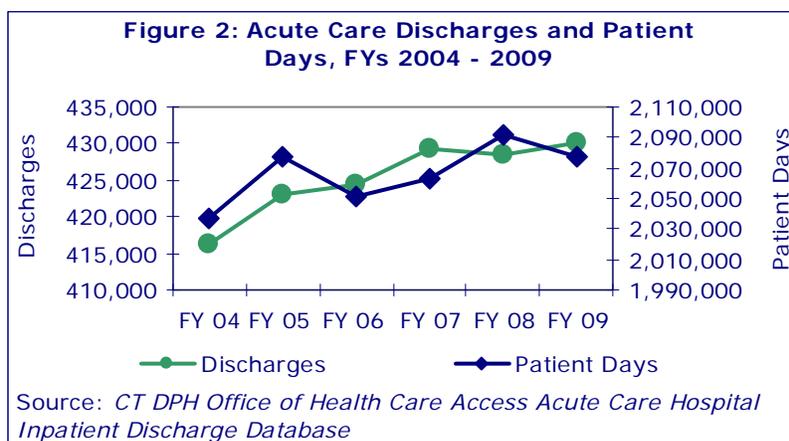
⁷ Adults over 17 years old.

⁸ The rate is average number of beds in use on a given day and is derived by the formula: total patient days/(available beds*365).

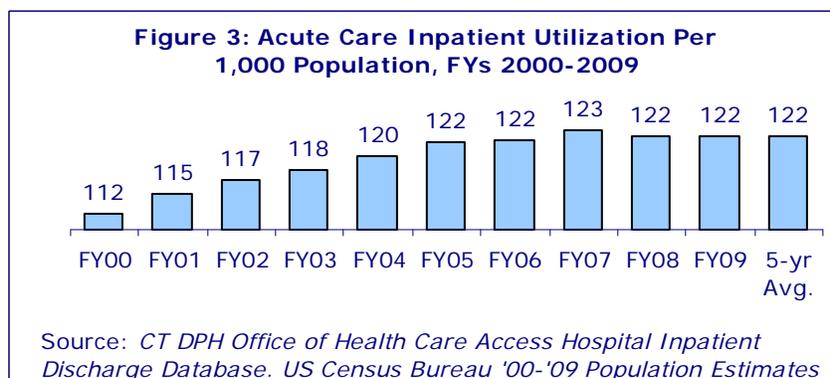
⁹ The rate is average number of beds in use on a given day and is derived by the formula: total patient days/(staffed beds*365).

Utilization of and access to inpatient acute care services

The state has experienced increased inpatient utilization since 1998, with the number of discharged patients rising every year. However, this trend is flattening and, over the last three years, the number of discharges has held steady at an average of 429,359 per year (see **Appendix V** for hospital details) with only a slight increase in discharges. During the same period, total patient days grew only 1% (**Figure 2**), for a three year average of approximately 2,077,000 days per year (see **Appendix VI** for details).



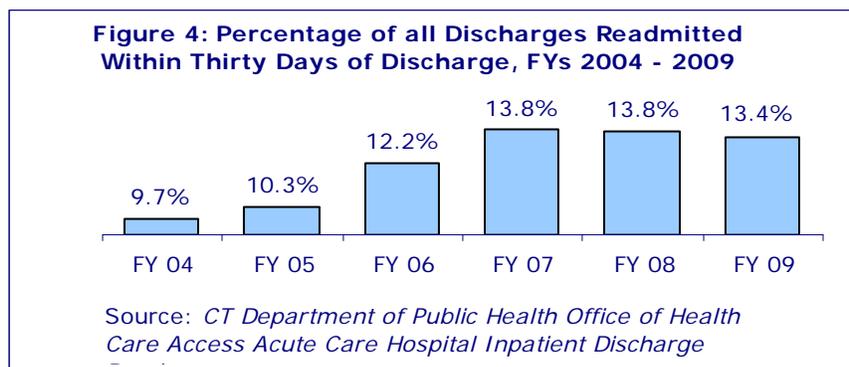
The statewide hospital utilization rate, which shows if more patients are using hospital inpatient services from year to year, rose steadily between 2000 and 2005 and remained steady at an average of 122 discharges per 1,000 population between 2005 and 2009 (**Figure 3**). There was no significant annual population growth during the entire period. Between 2000 and 2004, most of the growth in utilization was from adults between ages 45 and 64 (47%) or over age 74 (34%). From 2004 through 2009, adult discharges between ages 45 and 64 was the fastest growing segment of discharges (16%). As Connecticut's population continues to age, it can be expected that utilization rates will rise if all other variables that impact utilization remain unchanged.



Inpatient readmissions

In a given year, one in five Medicare patients in the U.S. is readmitted within 30 days of discharge and 13% of these readmissions are deemed potentially avoidable.⁶ CMS has targeted readmissions within 30 days of discharge as a probable marker for both poor quality of care and a financial drain on the federal government. According to CMS, these readmissions result, in part, from a fragmented system of care with insufficient communication among hospital discharge planners, home health agency intake coordinators, primary care providers and patients. Integrated discharge coordination is expected to reduce cost, improve quality and facilitate safety for patients. In its 2009 Inpatient Prospective Payment System (IPPS)⁷ rule, CMS proposed actions that included reduced payments to hospitals as a disincentive for such readmissions effective fiscal year 2010.

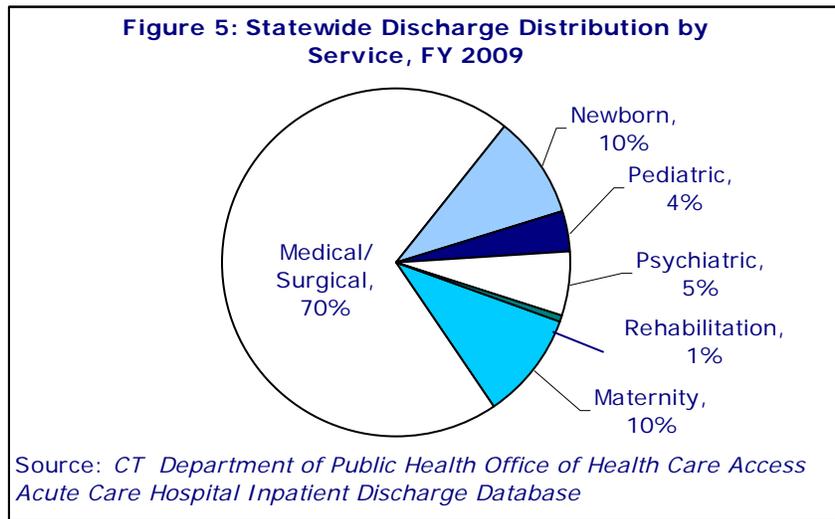
The overall number of readmissions (regardless of length of time between initial hospitalization and readmission) in Connecticut has declined. The decline was attributable to patients over age 74 (81%) and those between ages 18 and 44 (29%). Despite this drop, however, readmissions within 30 days of a prior hospitalization increased from approximately 10% (or 40,540) of total discharges in FY 2004 to over 13% (or 57,827) in FY 2009 (**Figure 4**).



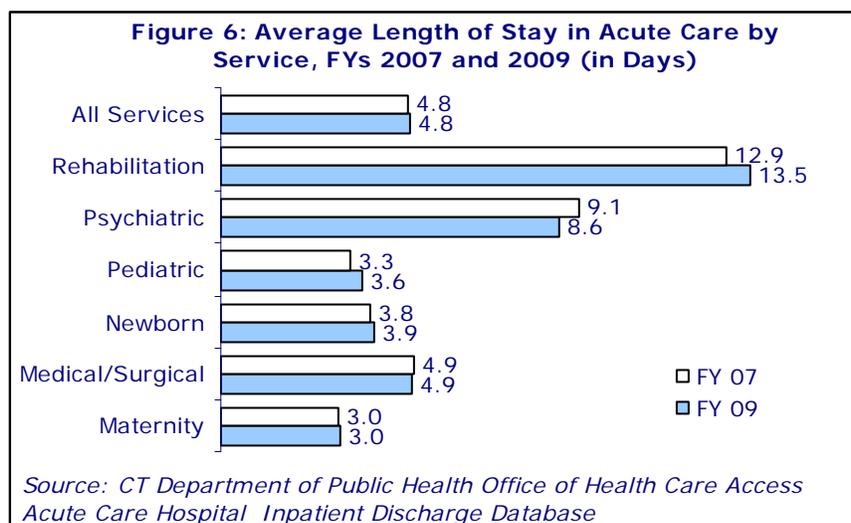
Eighteen percent and 12% of Medicare and Medicaid discharges, respectively, were readmitted within 30 days of discharge. The patient population readmitted within 30 days of discharge was nearly evenly split between adults under and over age 65 from FY 2007 to FY 2009. Most readmitted patients (62%) resided in an urban core or periphery town. In the last three years, the top two primary reasons why patients were readmitted within thirty days were related to pneumonia and heart failure.

Inpatient services accessed and average stay

In FY 2009, as in prior years, medical (48%) and surgical (22%) services accounted for 70% of all discharges (**Figure 5**), followed by maternity (10%) and newborn services (10%). Since FY 2003, however, there has been a slow decline in the number of maternity, newborn and pediatric discharges. If the number of Connecticut resident births continues to decline (-2% from CY 2003 to CY 2006⁸) the decreasing demand for maternity and newborn services may continue.



Two of the lowest volume services, rehabilitation and psychiatric, required the longest hospital stays. In comparison, patients receiving medical/surgical, pediatric, newborn or maternity services had shorter lengths of stay. The average stay for all services in FY 2009 was 4.8 days, as it was in FY 2007 (**Figure 6**).



Frequent users of inpatient services

Rates of hospitalization in Connecticut vary considerably by gender and age (**Table 4**). In the last three years, regardless of gender, seniors utilized inpatient services more often than any age group, including children. Nearly two in five discharges were individuals over age 64.

Also, as shown in **Table 4**, women in Connecticut were hospitalized more frequently than men and accounted for approximately 58% of discharges, on average, during the three year period. As expected, women of child bearing age (18-44) were hospitalized 2.6 times more often their male counterparts. Males in this age group had the lowest overall utilization rate (47 per 1,000 population) of any gender/age group. Seniors (65+) were the smallest share of the population (14%) but comprised 37% of the inpatient population and had the highest hospital utilization rates overall. For example, older males utilized hospitals at a higher rate (353 per 1,000 population) than younger adult males (47 and 109 per 1,000 population). One in four seniors was hospitalized for cardiac conditions, respiratory problems, blood or urinary infections, kidney failure or degenerative joint disease. Seniors also had the longest average stay, at 5.5 days, compared to the statewide average of 4.9 days.

Table 4: Acute Care Discharges Age and Gender Distribution and Utilization Rates, FYs 2007-2009 (3 yr. avg.)

	Discharges		Connecticut Population	% Distribution	Utilization per 1,000 Population
	3-yr Avg.	% Distribution			
Male	181,438	42%	1,701,789	49%	107
0 - 17	33,201	8%	420,342	12%	79
18 - 44	28,971	7%	622,855	18%	47
45 - 64	50,837	12%	464,588	13%	109
65+	68,430	16%	194,004	6%	353
Female	247,921	58%	1,791,217	51%	138
0 - 17	31,006	7%	399,441	11%	78
18 - 44	76,001	18%	626,926	18%	121
45 - 64	50,126	12%	487,211	14%	103
65+	90,789	21%	277,639	8%	327
Total	429,359	100%	3,493,006	100%	123

Source: CT Office of Health Care Access Acute Care Hospital Inpatient Discharge Database and US Census Bureau 2006-2008 American Community Survey Estimates

The state's CtSDC projects that seniors will grow from 14% to 17% of Connecticut's population in the next ten years, which may result in an increased need for inpatient care, as seniors are more likely than the general population to suffer from chronic and acute conditions that adversely impact their health status. Although utilization rates may rise, federal actions such as reduction in reimbursement for readmissions within thirty days of discharge and State Medicaid Rebalancing efforts such as the "Money Follows the Person" program are targeted at reducing inpatient utilization. The aggregate impact of these efforts will, no doubt, require additional study.

Utilization by race/ethnicity

Minorities are more likely than the general population to be uninsured and therefore may lack access to or delay accessing timely and appropriate care. **Table 5** illustrates that minorities comprised 20% of Connecticut's population, yet accounted for more than a quarter of inpatient hospital discharges. In addition, inpatient utilization rates for minorities were more than 1.5 times those for whites. Blacks had the highest utilization rate, at 147 per 1,000 population.

Table 5: Acute Care Discharges Race and Ethnicity Distributions and Utilization Per 1,000 Population, FYs 2007-2009 (3 yr. avg.)

Race	Discharges		Connecticut		Utilization per 1,000 Population
	3-yr Avg.	% Distribution	Population ¹	% Distribution	
White	308,584	71.9%	2,790,080	80%	111
Minorities	120,776	28.1%	702,926	20%	172
Black	48,141	11%	327,433	9%	147
American Indian/Eskimo/Aleut	498	0.1%	7,990	0.2%	62
Hawaiian/Pacific Islander	100	0.0%	1,146	0.0%	88
Asian	4,758	1%	116,879	3%	41
Other ²	19,797	5%	51,069	1%	388
Hispanic ³	47,476	11%	405,724	12%	117
Total	429,360	100%	3,493,006	100%	123

Source: CT Office of Health Care Access Acute Care Hospital Inpatient Discharge Database and U.S. Census Bureau 2006-2008 American Community Survey Estimates

¹Census race categories are one race only.

²The Acute Care Hospital Inpatient Discharge Database "Other" category is defined as "other non-white," whereas the Census "Other" category includes "two or more races." These definitional differences may result in highly variable utilization rates in the "Other" category.

³Hispanics or Latinos of any race.

Utilization by geographic areas

As illustrated in **Table 6**, approximately three-quarters of discharged patients resided in New Haven (27%), Hartford (25%) and Fairfield (23%) counties, which have both the highest populations and the most hospitals. New Haven County had the highest utilization rate (135 per 1,000 population) in the state, while Tolland county had the lowest usage of inpatient services (88 per 1,000 population).

On average, 3% of discharges were from out-of-state. The majority of out-of-state discharges were residents of New York (68%), Massachusetts (9%), Florida (5%) and Rhode Island (4%).

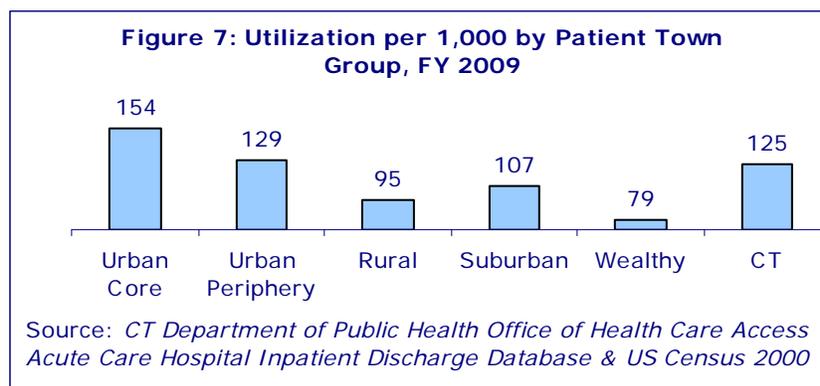
Table 6: Acute Care Hospital Patient County Discharge Distribution and Utilization Per 1,000 Population, FY 2007-2009 (3-yr. avg.)

Patient County	# of Hosp.	Discharges			Connecticut Population	Share of Population	Utilization per 1,000 Population
		3-yr Avg.	3-yr % Change	Share of Total			
Fairfield	6	96,887	-1%	23%	894,892	26%	108
Hartford	7	108,742	5%	25%	876,754	25%	124
New Haven	7	114,066	4%	27%	845,733	24%	135
New London	2	29,905	1%	7%	265,714	8%	113
Litchfield	3	20,163	-3%	5%	188,613	5%	107
Middlesex	1	17,895	7%	4%	164,889	5%	109
Tolland	2	13,211	-5%	3%	149,527	4%	88
Windham	2	12,531	-3%	3%	117,163	3%	107
Other *	-	15,959	39%	4%	N/A	N/A	N/A
Statewide	30	429,360	3%	100%	3,503,284	100%	123

Source: CT Office of Health Care Access Acute Care Hospital Inpatient Discharge Database and U.S. Census Bureau 2007-2009 Population Estimates Program

* Includes NY, MA, RI, other states, US Territories and other countries.

In 2009, three in five discharges were from Connecticut urban core or periphery towns. Residents of urban towns like Hartford and Bridgeport were nearly twice as likely to utilize inpatient services as those from wealthy towns (**Figure 7**). Inpatient service utilization for residents from urban core towns was 154 per 1,000 population versus 79 per 1,000 for wealthy towns. Urban core and periphery towns accounted for approximately 60% of the state's seniors, which may also contribute to increased utilization in those areas.



Inpatient utilization by insurance type

Since FY 2003, there has been an annual decline in the number of inpatients with commercial insurance as their primary source of coverage. In tandem, the number of patients with public coverage (Medicare or Medicaid -- including State Administered General Assistance and Charter Oak) rose steadily. During FY 2005, commercial insurance was surpassed by Medicare as the predominant patient-held coverage. The increase in publicly covered inpatient utilization is in part due to the aging population and delays in accessing timely and appropriate care -- between 2004 and 2008, potentially preventable hospitalizations grew 50% for Medicaid and 30% for Medicare patients, respectively.⁹

Figure 8 indicates that from FY 2007 to FY 2009, the number of uninsured patients and those with commercial insurance as their primary source of coverage dropped by 18% and 4%, respectively. Patients with public coverage increased; Medicaid (10%), other public (which includes TriCare, Title V and other federal programs) (2%) and Medicare (1%).

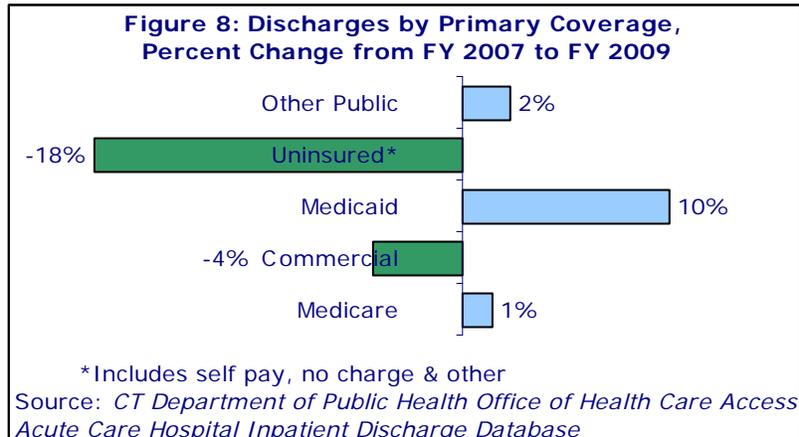
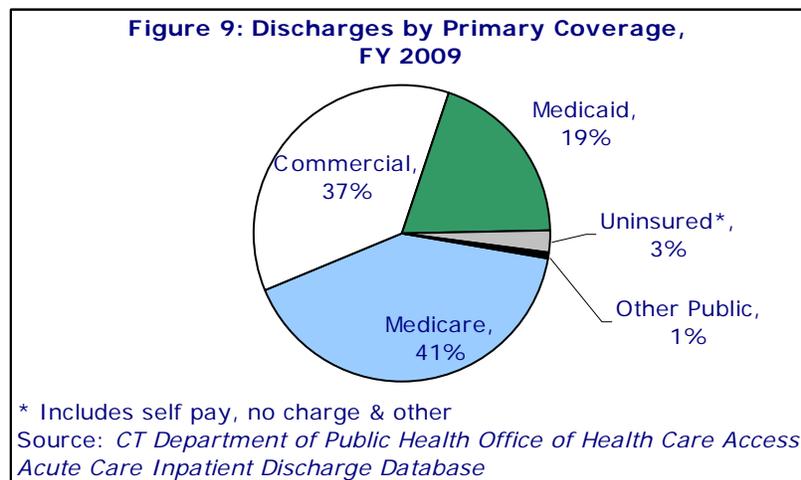


Figure 9 shows that in FY 2009, more than three in five inpatients had some type of public coverage, either Medicare (41%) or Medicaid (19%), or other public (1%).



Primary reasons for utilizing inpatient care

Table 7 lists the top ten primary reasons for admission to inpatient care. One in five patients admitted in FY 2009 experienced health issues related to these ten conditions. As in prior years, more than half of the discharges in the top ten group were admitted for diagnoses relating to childbirth. Cardiac-related hospitalizations and pneumonia ranked second and third, respectively.

Table 7: Top ten primary reasons for hospitalizations, FY 2009

FY 09 Rank	FY 07 Rank	ICD-9 Diagnosis Description	Diagnosis Code	FY 09 Discharges	% of Total Discharges
1	1	Infant born in hospital	V30.00	24,340	6%
2	2	Infant born in hospital - cesarean delivery	V30.01	13,384	3%
3	3	Pneumonia, organism unspecified	486	9,794	2%
4	5	Coronary atherosclerosis of native coronary artery	414.01	6,740	2%
5	9	Other disorders of urethra & urinary tract infection	599.0	5,485	1%
6	8	Previous cesarean delivery	654.21	5,220	1%
7	10	Atrial fibrillation & flutter	427.31	5,157	1%
8	16	Obstructive chronic bronchitis	491.21	5,142	1%
9	18	Actinomycosis (chronic bacterial infection)	038.9	5,024	1%
10	17	Lower leg osteoarthritis, localized not specified whether primary or secondary	715.36	4,648	1%
Top Ten Total				84,934	20%
Total Discharges				430,159	

Source: CT Department of Public Health Office of Health Care Access Acute Care Hospital Inpatient Discharge Database

As expected, many of the ten most frequently inpatient principal procedures performed in FY 2009 listed in **Table 8** correspond to diagnoses identified in **Table 7**. The procedures were related to childbirth (circumcision, cesarean sections, manually assisted delivery and repair of obstetric laceration, at 12% of discharges) and heart disease (angioplasty, atherectomy and catheterization, at 3%). Other common principal procedures included vaccines (2%), total knee replacements (2%) and blood transfusions (1%).

Table 8: Top ten principal inpatient procedures, FY 2009

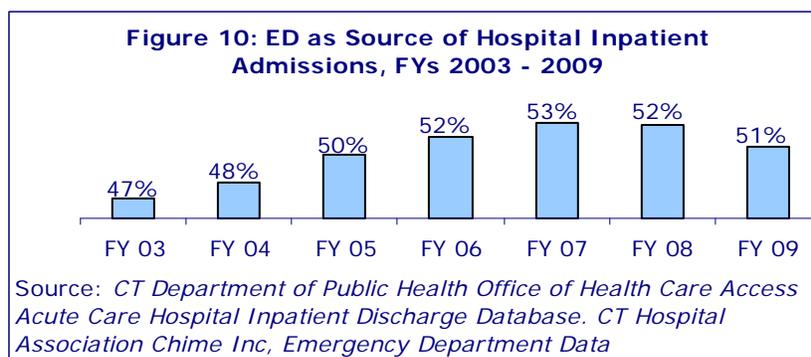
FY 09 Rank	FY 07 Rank	ICD-9 Procedure Description	Procedure codes	FY 09 Discharges	% of Total Discharges
1	2	Low cervical cesarean section	74.1	13,997	3%
2	1	Circumcision	64.0	13,060	3%
3	3	Manually assisted delivery	73.59	9,788	2%
4	5	Prophylactic administration of vaccine against diseases	99.55	9,000	2%
5	4	Repair of other current obstetric laceration	75.69	8,518	2%
6	6	Percutaneous transluminal coronary angioplasty (PTCA) or coronary atherectomy	00.66	6,628	2%
7	7	Total knee replacement	81.54	6,539	2%
8	9	Transfusion of packed cells	99.04	6,191	1%
9	8	Venous catheterization, not else classified	38.93	5,693	1%
10	10	Esophagogastroduodenoscopy (EGD) with closed biopsy	45.16	4,661	1%
Top Ten Total				84,075	20%
Total Discharges				430,159	100

Source: CT Department of Public Health Office of Health Care Access Acute Care Hospital Inpatient Discharge Database

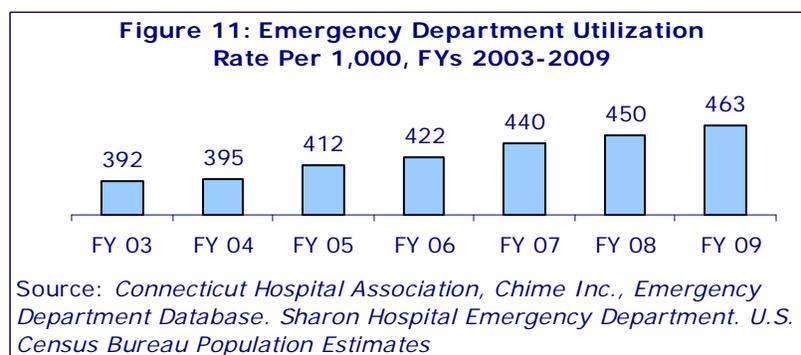
Emergency department care

Emergency department (ED) care is a critical component of Connecticut's health care system and also serves as a safety net for many who may not have access to other resources. All 30 acute care hospitals and five satellite EDs in Connecticut provide their communities with emergency care. In the last three years, EDs experienced more than a 5% increase in patient volume, with over 84,000 additional patients treated (See **Appendix VII** for hospital details).

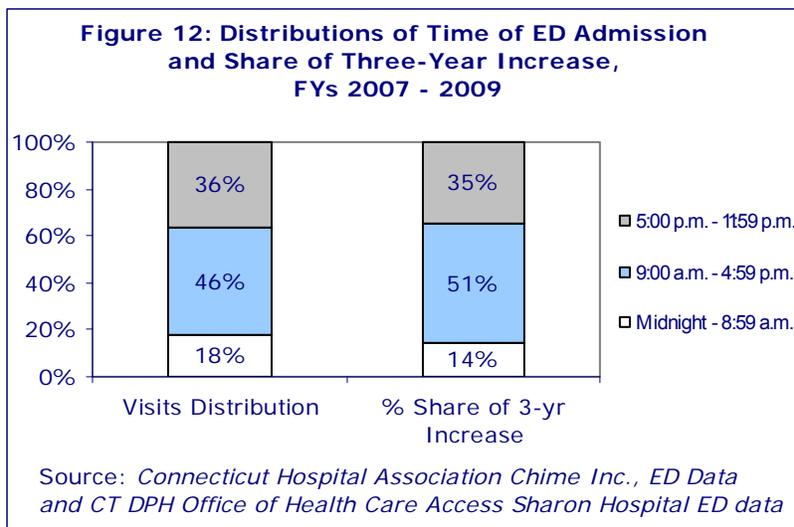
ED visits include patients treated and discharged, treated and admitted for inpatient care, or transferred to other types of institutions. On average, about 15% of ED patients are admitted to Connecticut hospitals for inpatient care each year and in the last five years ED patients accounted for more than half of all inpatient admissions (**Figure 10**). The upward trending of unscheduled inpatient admissions makes it more difficult for hospitals to plan for new patients.¹⁰



Between FY 2003 to FY 2009, ED utilization grew at an average annual rate of 3%, from 392 visits to 463 visits per 1,000 population (**Figure 11**). In 2008, the most recent year for which comparable data is available, the utilization rate in Connecticut was 417 visits per 1,000, exceeding the national rate of 404 visits per 1,000.¹¹



As **Figure 12** shows, almost half of ED visits occurred between 9:00 a.m. and 5:00 p.m., during physician and community services office hours. More than half of the increase in ED visits occurred during these same hours.



ED utilization rates varied significantly by gender and age group (**Table 9**). As in prior years, females in Connecticut utilized emergency departments at a higher rate than males. Using a three-year average, females had a utilization rate of 471 per 1,000 population compared to 433 for males. Seniors (65+) of either gender had the highest ED utilization rates among all age groups. For example, for males, seniors averaged 572 visits per 1,000, compared to 416 for adults (18-64) and 410 for children (0-17). Seniors accounted for only 14% of Connecticut's population, yet represented 17% of patients treated in EDs.

Table 9: ED Visits Age, Gender Distribution and Utilization Rates, FYs 2007-2009

	Visits ¹		Connecticut		Utilization per 1,000 Population
	3-yr Avg.	% Distribution	Population	% Distribution	
Male	736,048	47%	1,701,789	49%	433
0 - 17	171,724	11%	418,640	12%	410
18 - 64	453,436	29%	1,089,145	31%	416
65+	110,887	7%	194,004	6%	572
Female	843,361	53%	1,791,217	51%	471
0 - 17	147,934	9%	399,441	11%	370
18 - 64	532,611	34%	1,114,137	32%	478
65+	162,817	10%	277,639	8%	586
Total	1,579,413	100%	3,493,006	100%	452

Source: Connecticut Hospital Association Chime ED Data, CT DPH Office of Health Care Access Sharon Hospital ED Database and U.S Census Bureau 2006-2008 Population Estimates.

¹ Total may not add due to rounding and the inclusion of two visits where gender reported as "unknown."

ED utilization rates for minorities were considerably higher (2.4 times) than for whites. **Table 10** shows that minorities comprised 20% of Connecticut's population, yet accounted for nearly one-third of ED use. About 13% of race/ethnicity was not indicated by the patient.

**Table 10: ED Visits Race and Ethnicity Distributions and Utilization
Per 1,000 Population, FYs 2007-2009 (3 yr. avg.)**

Race	Visits		Connecticut		Utilization per 1,000 Population
	3-yr Avg.	% Distribution	Population ¹	% Distribution	
White	860,036	54.5%	2,790,080	80%	308
Minorities	511,658	32.4%	702,926	20%	728
Black	207,454	13%	327,433	9%	634
American Indian/Eskimo/Aleut	4,573	0.3%	7,990	0.2%	572
Hawaiian/Pacific Islander	632	0.0%	1,146	0.0%	551
Asian	12,679	1%	116,879	3%	108
Other ²	38,426	2%	51,069	1%	752
Hispanics ³	247,894	16%	405,724	12%	611
Unknown	207,717	13.2%	-	-	-
Total	1,579,411	100%	3,493,006	100%	452

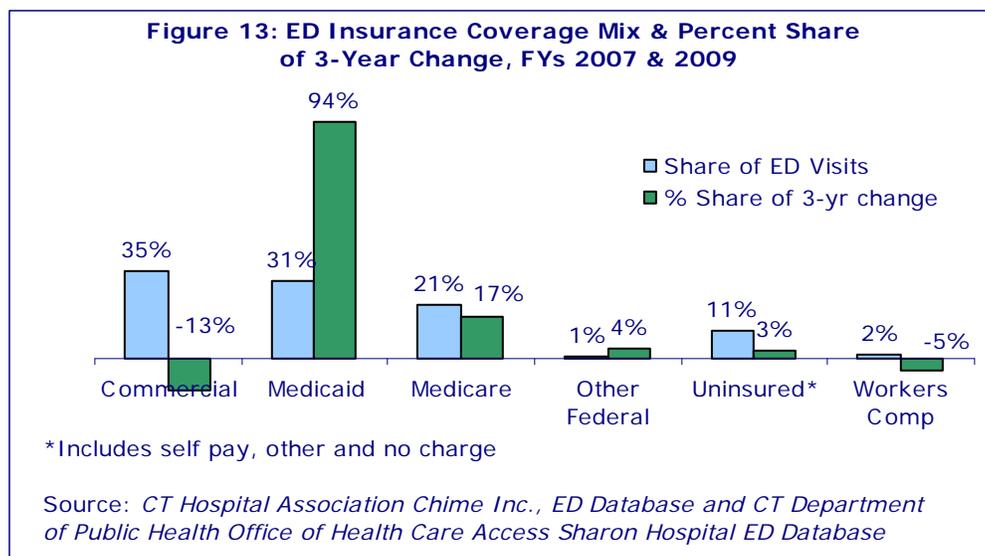
Source: Connecticut Hospital Association Chime ED Data and US Census Bureau 2006-2008 Population Estimates

¹ Census race categories are one race only.

² The Acute Care Hospital Inpatient Discharge Database "Other" category is defined as "other non-white," whereas the Census "Other" category includes "two or more races." These definitional differences may result in highly variable utilization rates in the "Other" category.

³ Hispanics or Latinos of any race.

In the last three years, patients with public coverage accounted for more than half of ED visits, while patients with commercial coverage dropped by 13%. Medicaid patients accounted for an overwhelming majority (94%) of the observed increase in ED utilization during the same period (**Figure 13**). The uninsured accounted for one in ten ED visits and 3% of increased utilization.



Hospital-based outpatient services

Outpatient services are medical procedures or tests provided by a health care facility that do not require an overnight stay.¹² Generally, outpatient services include wellness and prevention care, diagnostic, treatment and rehabilitation services.¹³ Providers of outpatient services include acute care hospitals, surgery centers, community health care centers (including federally qualified health centers (FQHCs)), school based clinics, doctors' offices and physician group practices. It should be noted that OHCA currently has access to data from acute care hospitals and FQHCs only, which provide a partial picture of outpatient services availability and utilization. In a later section, this report will attempt to measure the adequacy of available services utilizing nationally accepted standards.

Outpatient services Connecticut acute care hospitals provide include clinic care, rehabilitation (physical therapy, occupational therapy and speech therapy), cardiac rehabilitation, chemotherapy, gastroenterology and other outpatient visits. Another vital outpatient service, emergency department treatment, has been excluded from this section, as greater detail is provided in the previous section of this report.

Hospital-based outpatient visits in Connecticut have risen by 29% over the past five years, surpassing 6 million visits in FY 2009. While 78% of outpatient visits were for services ranging from laboratory work to imaging, over 20% were for primary care-related visits such as medical, specialty and psychiatric care. Utilization rates have responded accordingly, rising from 1.3 visits per person in FY 05 to 1.7 visits in FY 09, a 31% increase (see **Table II** below). An examination of both outpatient volume and population estimates suggests that increased outpatient utilization is only marginally influenced by growth in the state's population (1% increase from FY 2005 to FY 2009). See **Appendix V** for a complete listing of outpatient visits by hospital.

Table 11:--Hospital-Based Outpatient Utilization, FYs 2005-2009

	Total Outpatient Visits	Connecticut Population	Utilization Rate
FY 05	4,695,991	3,478,714	1.3
FY 06	4,795,926	3,487,896	1.4
FY 07 ²	5,570,859	3,489,868	1.6
FY 08 ³	5,712,587	3,501,252	1.6
FY 09 ³	6,035,002	3,518,288	1.7
3-yr Avg.	5,772,816	3,503,136	1.6

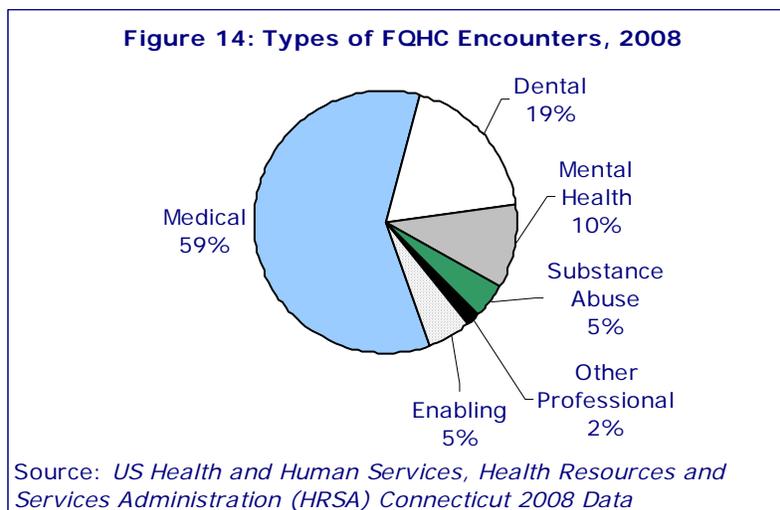
Source: CT Department of Public Health Office of Health Care Access Hospital Budget System (HBS) Schedule 500, Hospital Reporting System (HRS) Report 450 and U.S Census Bureau population estimates.

¹ FY07 revised. Implementation of new reporting systems accounts for a significant portion of variation from 2006.

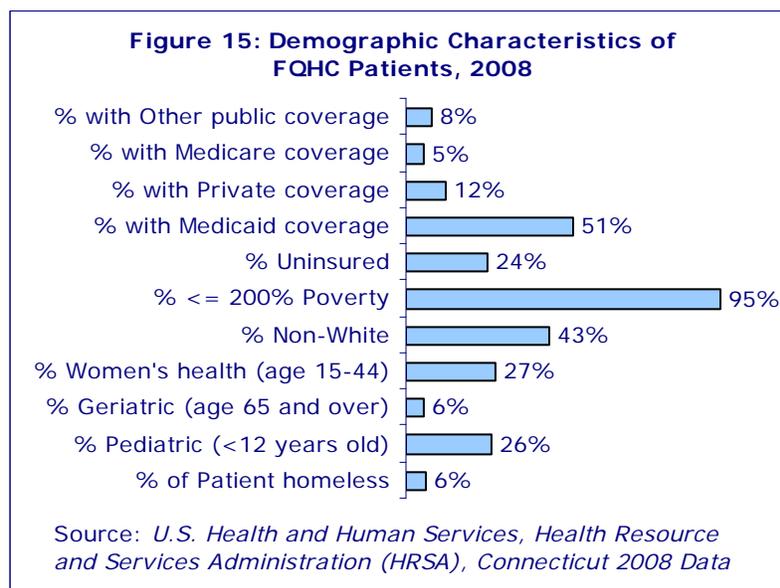
² FY07-FY09 outpatient visits source: HRS-Report 450, FY03-FY06 source: HBS-Schedule 500.

COMMUNITY-BASED OUTPATIENT SERVICES

FQHCs provide medical and dental care supplemented by behavioral health and enabling services, such as transportation and translation services, to underserved urban and rural communities.¹⁴ In 2008, Connecticut had ten such facilities located in Hartford, Middletown, East Hartford, New Haven, Willimantic, Bridgeport and Waterbury. More than 242,000 patients in Connecticut made an average of 4.6 visits per year to an FQHC, the majority of which were for medical care (59%), dental (19%) and mental health (10%) services (**Figure 14**).



As **Figure 15** illustrates, an overwhelming majority (95%) of FQHC patients earned less than or equal to 200% of the federal poverty level (FPL). More than half had Medicaid coverage and one quarter were uninsured. A significant proportion (43%) were non-White and more than half were either women of child-bearing age (27%) or children under age 12 (26%).



PRIMARY CARE AND PREVENTIVE SERVICES

As previously stated, in the last three years, Connecticut EDs have experienced 3% average annual increases in utilization. Experts have linked growth in ED utilization, especially for non-urgent care or primary care treatable conditions, to lack of timely access to primary care services.¹⁵ This section of the report provides insight into primary care services utilization in Connecticut – in addition to discussing access to health care coverage and primary care providers, it examines prevalence of risk factors to gauge availability and accessibility of primary care services to the state’s residents and uses nationally recognized methodologies to identify occurrences of avoidable hospitalizations and ED use for non-urgent care.

The Institute of Medicine defines primary care as “the provision of integrated, accessible health care services by clinicians accountable for addressing a large majority of personal health care needs, developing a sustainable partnership with patients, and practicing in a context of the family and community.”¹⁶ While not necessarily intended to provide primary care and preventive services, Connecticut residents may receive such services in a number of health care facilities: hospital outpatient clinics, doctors’ offices, school-based clinics, community health centers (including federally qualified health centers), urgent care centers and in some cases, hospital EDs.

Availability of and access to primary care services

Among the major factors influencing access to primary and preventive care are: access to health care coverage, availability of primary care providers and the distribution of such providers.

According to the U.S Center for Disease Control and Prevention, in 2009, only 9.5% of Connecticut residents lacked health care coverage compared to the median rate of 14.4% for the nation (**Table 12**). Although Connecticut's young adults were between 1.5 and 2.5 times more likely to lack coverage than the general population, they fared better than their peers nationally. Minorities and people with incomes below \$50,000 were also more likely to lack coverage; race/ethnicity and income are both known to influence access to timely and appropriate primary care.

Table 12: CT Residents without Health Insurance Coverage by Age Group, Income Level and Race/Ethnicity, 2009

		Connecticut	United States (median)
Age Group	All Ages	9.4	14.6
	18-24	22.9	25.8
	25-34	13.4	20.8
	35-44	7.6	14.7
	45-54	8.8	12.9
	55-64	7.8	10.3
	65+	2.2	1.7
Income Level	< \$15,000	25.8	32.3
	\$15,000- 24,999	22.7	29.7
	\$25,000- 34,999	12.8	20.1
	\$35,000- 49,999	9.8	12.8
	\$50,000+	4.5	4.4
Race & Ethnicity	White	6.6	11.2
	Black	21.9	20.9
	Hispanic	30.3	31.2
	Other	15.7	15.8

Source: Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2009. Accessed June 10, 2010

Certain provisions of 2010's health care reform legislation (e.g., individual mandates, premium assistance for small employers and low income individuals, expansion of public coverage, and allowing young adults to remain on their parents' health insurance plan until age 26) are expected to alleviate the issue of insurance coverage. While some experts predict the coverage expansion will exacerbate the issue of more people attempting to access the limited number of primary care practitioners¹⁷ others see it as an opportunity to expand the role of community health centers in providing primary care to the insured, which do not typically use community health centers.¹⁸

Primary care practitioners

Connecticut currently has 1.9 primary care physicians per 1,000 population. If dentists, dental hygienists, advanced practice registered nurses, physician assistants and licensed nurse midwives are also included, Connecticut has 5.9 primary care practitioners per 1,000 population (**Table 13**). In 2008, the most recent year for which comparative data is available, Connecticut had 1.6 nonfederal primary care physicians per 1,000 population in comparison to the U.S rate of 1.2, and was the sixth highest among fifty states.¹⁹

Table 13: Number of Active Primary Care Practitioners per 1,000- 2010

Patient Age Group	Primary Care Practitioners ¹	Total Active Practitioners ²	Practitioners per 1,000
All ages	Physicians	6,396	1.9
Ages 0-17	Pediatrics	1,087	1.3
All ages	Family medicine/practice	574	0.2
Ages 18+	Internal medicine/hospitalist	3,727	1.4
Females 18+	Obstetrics & gynecology	646	0.9
All ages	Homeopath	18	0.0
All ages	Naturopath	344	0.1
All ages	Dentist	3,291	1.0
All ages	Dental hygienist	3,558	1.0
All ages	Advanced practice registered nurse	4,098	1.2
All ages	Physician assistant	2,782	0.8
Females 15-44	Licensed nurse midwife	266	0.4
	Total	20,391	5.9

Source: CT Department of Public Health Practitioner Licensing and Investigations Section April 2010. US Census Bureau Current Population Survey, Annual Social and Economic Supplement, 2009.

¹ Defined by US Health and Human, Health Resource Service Administration to include general and family practice, general internal medicine and pediatrics. Institute of Medicine includes advanced practice registered nurses (APRN) and physicians' assistants (PA). Some HMO's include obstetrics and gynecology physicians. CT Primary Care Access Authority includes homeopathic and naturopathic physicians, certified midwives and other health professions working in accessible settings. CT Department of Public Health includes dentists and dental hygienists. Physicians that were unclassified by specialty in the database are excluded from the count.

² Includes those in direct patient care, administration, medical research, teaching or other non-direct patient care activities.

While overall there appears to be an adequate supply of primary care providers, there are, however, geographic pockets with shortages. An April 2010 Connecticut Department of Public Health issue brief on medically underserved areas reported that there are 98 designations of shortages in all or parts of 32 towns and eight counties in the state.²⁰ According to this report, Hartford, New Haven and Fairfield counties, the state's most populous, had the most shortage designations. In fact, shortages were concentrated around poorer communities throughout the state. Designations are assigned according to a variety of factors such as counts of health providers, the poverty level of the population, and other community health status information. In 2008, the state had the eighth lowest rate of underserved population in the nation, at 8.9%, versus the U.S rate of 11.8%.

Utilization of primary care services

Primary care consists of three levels of preventive care: primary, secondary and tertiary. Primary preventive care involves disease prevention before biological onset, such as childhood vaccinations, newborn screening, smoking cessation, preventative dental care and adult influenza and pneumonia immunizations. Secondary preventive care involves screening for early detection of disease onset, e.g., cancer screening. Tertiary preventive care is discussed in the next section of this report.

National and state objectives embodied in the U.S. Department of Health and Human Services' *Healthy People* are to promote health and prevent disease.²¹ One tool utilized to determine how effectively the goals are being achieved is the Centers for Disease Control and Prevention Behavioral Risk Factor Surveillance System (BRFSS), an on-going monthly telephone survey. It tracks health conditions and risk behaviors for leading health indicators that provide insight into access to primary and preventive care.

According to BRFSS, in the area of primary preventive care, Connecticut residents fared better than national medians for certain leading indicators in 2008 (**Table 14**). These include higher ratios of adults over age 65 that received flu and pneumonia shots and population that visited a dentist or ceased smoking within the year. Connecticut also fared better in the area of secondary preventive care measured by the proportion of men and women that received mammogram, colorectal or prostate cancer screenings. Success in achieving the goals of *Healthy People* is measured by higher or improved year-to-year ratios of people and subpopulations for leading health indicators.

Table 14: Primary and Secondary Preventive Care, 2008

Level of Preventive Care	Type of Care	Connecticut	United States (median)
Primary	Influenza shots for Adults 65+	75%	71%
	Pneumonia shots for Adults 65+	67%	67%
	Visited dentist in past year for any reason	80%	71%
	Ceased smoking	30%	26%
Secondary	Women 40+ receive mammogram within past 2 yrs	84%	76%
	Women 18+ receive pap smear within past 3 yrs	84%	83%
	Women 50+ receive mammogram within past 2 yrs	85%	80%
	Age 50+ received colorectal cancer (stool) screening	24%	21%
	Men 40+ received prostate cancer screening (PSA test) within last 2 yrs	58%	55%

Source: Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2008. Accessed on web on April 9, 2010.

Events that indicate insufficient access to primary care

While compared to the nation Connecticut has relatively higher levels of primary and secondary preventive care, there may be areas of the state or subpopulations with lower than statewide levels, as indicated in preceding report sections. This is illustrated by examining the area of tertiary preventive care.

Tertiary preventive care involves prevention of disease progression through management of acute and chronic diseases. Determining the incidence of preventable hospitalizations for acute and chronic disease is one way to evaluate the effectiveness of the health care delivery system in providing timely primary care, especially in non-hospital settings.²² Some “hospitalizations may be avoided if clinicians effectively diagnose, treat, and educate patients, and if patients actively participate in their care and adopt healthy lifestyle behaviors.”²³ Areas of the state with higher levels of preventable hospitalizations highlight possible disparities in access to primary care, identify community health resource needs, suggest areas for resource redistribution and identify potential cost savings through primary care, case management and outreach.

In 2008, about 11% (or 47,000) of hospitalizations for conditions shown below, with associated 255,000 patient days and \$1.2 billion in charges may have been prevented.²⁴ Hospitalizations, patient days and charges were almost evenly split between acute and chronic conditions (**Table 15**).

Table 15: Preventable Hospitalizations, patient days and total charges, 2008

Condition & Age Group	Hospitalizations		Patient Days		Total Charges ³	
	Number	%	in Days	%	in \$	%
Acute Conditions						
Angina without a procedure (18+)	442	1%	1,630	1%	6,023,004	1%
Bacterial pneumonia (18+)	9,075	19%	66,531	26%	219,600,096	19%
Dehydration (18+)	2,659	6%	15,155	6%	44,980,579	4%
Gastroenteritis (<18)	622	1%	1,794	1%	4,493,061	0%
Low birth weight newborns (18+) ¹	2,604	6%	40,135	16%	183,964,519	16%
Perforated appendix (all ages)	994	2%	5,263	2%	32,497,477	3%
Urinary tract infection (all ages)	5,559	12%	17,938	7%	96,164,404	8%
Sub Total	21,955	46%	148,446	58%	587,723,140	51%
Chronic Conditions						
Asthma (all ages 18)	4,428	9%	14,176	6%	66,570,906	6%
Chronic obstructive pulmonary disease (18+)	4,880	10%	22,161	9%	101,186,159	9%
Congestive heart failure (18+)	10,007	21%	55,017	22%	248,751,318	21%
Diabetes - long-term complications (18+)	2,988	6%	21,372	8%	91,818,885	8%
Diabetes - lower extremity amputation (18+)	866	2%	12,800	5%	44,198,095	4%
Diabetes - short-term complications (all ages)	1,427	3%	4,606	2%	26,192,740	2%
Diabetes - uncontrolled (18+)	289	1%	689	0%	4,582,362	0%
Hypertension (18+)	1,075	2%	1,985	1%	17,812,562	2%
Sub Total	25,960	55%	132,806	52%	601,113,027	52%
Totals²	47,345	100%	255,550	100%	1,158,881,731	100%

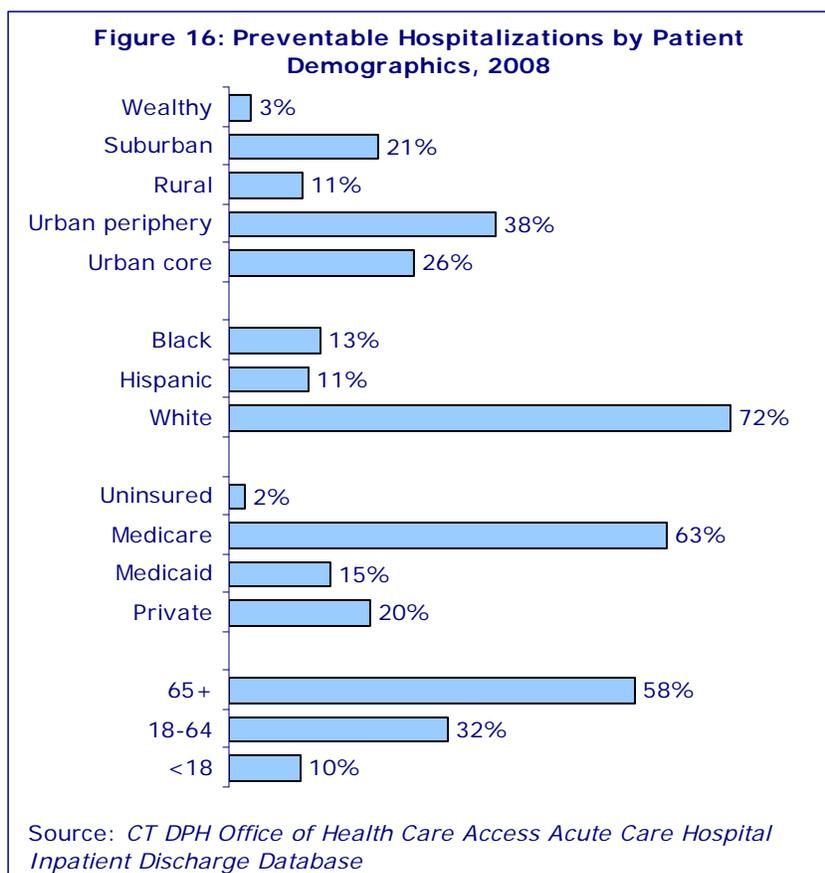
Source: CT Department of Public Health Office of Health Care Access Acute Care Hospital Inpatient Discharge Database

¹ Low birth weight newborns are grouped with adult conditions because it is related to the mother's prenatal care.

² Reported totals are not sum of individual conditions. Several patients had more than one condition during a hospital stay and therefore are counted in individual totals of multiple conditions. Totals are presented without multiple counting.

³ In 2008, the state wide ratio of cost to charge was 0.40, meaning total costs were 40 cents of every dollar of charges.

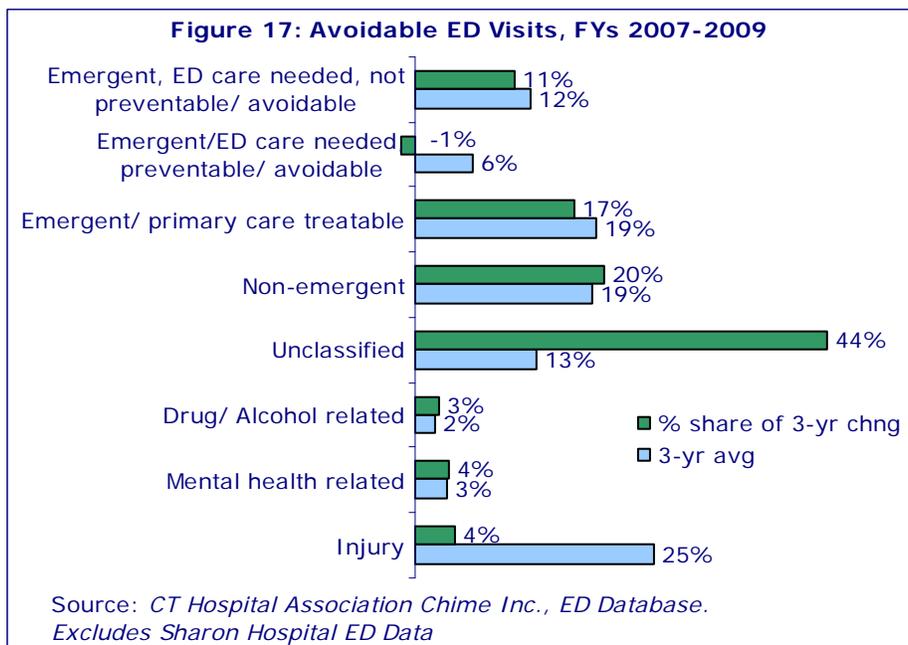
Nearly one-third of these hospitalizations were patients between ages 18 and 64, two-thirds were Medicare-covered and nearly two-thirds lived in an urban core or periphery town (**Figure 16**). While only one-quarter were minorities, preventable hospitalizations rates per 100,000 were higher for Blacks (2,171) and Hispanics (1,560) than for non-Hispanic Whites (1,484) and the state in general (1,526).²⁵



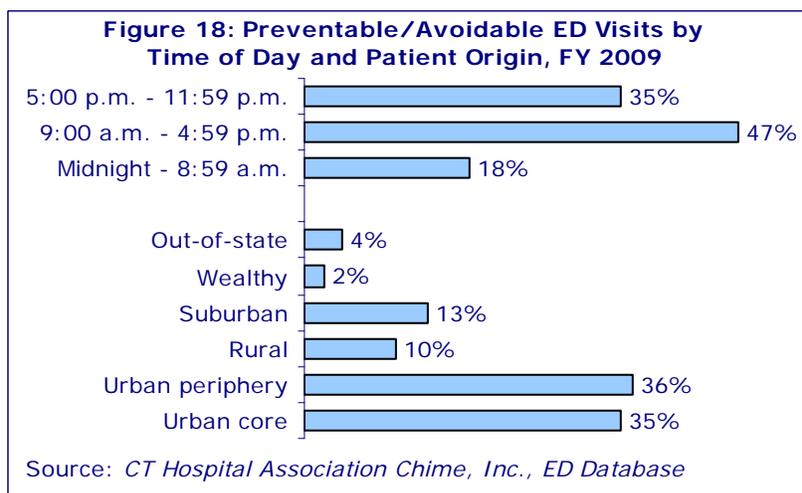
Another indicator of gaps in the primary care system is related to avoidable ED visits. The Emergency Medical Treatment and Active Labor Act (EMTALA) requires hospitals to provide ED services to individuals regardless of ability to pay or the severity of condition. As a result, some individuals are utilizing the relatively more expensive ED services as a source of primary care.

Based on a methodology and categorization in a widely accepted Commonwealth Fund study developed by New York University Center for Health and Public Health Research and the United Hospital Fund of New York, ED visits were classified into eight major groups by conditions presented.²⁶ Four groups of visits were identified as potentially avoidable or treatable in primary care settings. In the study, rising utilization of EDs for non-emergent or primary care treatable conditions provided possible evidence of gaps in the health care delivery system, particularly related to primary and preventive care.

Between 2007 and 2009, 44% of ED visits were either non-emergent (19%), emergent but primary care treatable (19%), or emergent, ED care needed, but were preventable or avoidable (6%). These visits accounted for over a third of the growth in ED visits in the last three years (see **Figure 17**). Findings that are consistent with those for other states.



In 2009, almost half of avoidable ED visits occurred between 9:00 a.m. and 5:00 p.m., the hours of operation of most physician offices and community health centers (see **Figure 18**). The majority of these visits (71%) were from residents of urban core or periphery towns. OHCA is currently conducting further study on non-emergent or avoidable emergency department utilization and will publish a report on additional findings this summer.



SUMMARY

In assessing the current availability and utilization of health care services in Connecticut, it appears that acute care inpatient services are accessible to most residents of the state. Certain groups, most notably seniors, minorities and those residing in poorer, more densely populated towns, had higher inpatient utilization rates. Additionally, inpatient discharges with public coverage have increased while those covered by commercial insurance have declined. Acute care hospital inpatient rates have remained steady for the past several years, while hospital-based outpatient visits have risen nearly 30% over the past five years.

Emergency department utilization in Connecticut, which exceeds the national rate, has grown at an average annual rate of 3% since FY 2003. Patients with public coverage accounted for more than half of all ED visits, and Medicaid patients accounted for more than 90% of the increase in ED utilization in the past three years. Nearly half of all ED visits examined in this report occurred when physician offices and clinics generally have office hours.

Access to health care coverage and the availability and distribution of providers influence access to primary care. While Connecticut has a comparatively lower uninsured rate, young adults, low income individuals and minorities have higher uninsured rates. Additionally, while the state appears to have an adequate number of primary care providers, they are not necessarily distributed adequately across the state; Connecticut currently has 98 health professional shortage area (HPSA) designations in 32 towns within its eight counties. And although surveillance systems tracking health conditions and risk factors demonstrate that Connecticut fares better than the nation with respect to primary and secondary preventive care, other indicators point to the possibility of access issues with respect to tertiary preventive care.

Possible delayed or insufficient access to primary care has led to high levels of potentially avoidable hospitalizations for acute and chronic diseases which could have been better managed with timely and appropriate care in the outpatient setting. This has also led to significant ED utilization for non-urgent or primary care related visits, especially during operating hours of most physicians and community-based providers. The state has also seen an increasing ratio of inpatients readmitted within thirty days of discharge, possibly due to lack of coordination between hospital discharge planners, patients, home health agency intake coordinators and primary care practitioners.

Implications of federal health care reform on future utilization and access

It is important to note that this report is released within the context of impending federal health care reform, which has the potential to dramatically change the health care system landscape in the coming years. The many complex provisions of health care reform that will be rolled out over the next four years are likely to change where and how people access care. Ideally, it will affect residents' health status by targeting some of the determinants of health identified in this report. However with such large-scale change comes uncertainty. It will be critical to monitor future utilization patterns in order to understand reform's effects on Connecticut's residents and health care providers. OHCA's utilization studies over the coming years will no doubt reflect a health care system that is dramatically evolving from the one we describe today.

RECOMMENDATIONS

It is hoped that this publication will serve as a starting point for OHCA's planning efforts in examining how health care utilization in the state occurs, what gaps may exist in the current delivery of care and provide a better understanding of our evolving health care system. In this report, OHCA has attempted to provide an overview of trends in Connecticut's delivery of health care and, using available data, identify areas of our health care system that may have utilization or access implications. As a result, OHCA recommends several actions be undertaken in an effort to better understand and address issues identified in this report:

Recommendation I: In order to provide a better understanding of Connecticut's health care system and assist in assessing future service needs, OHCA should undertake further study to fill critical gaps in our knowledge regarding: regional variation in utilization, preventable ED visits, the effect of an aging population on health care utilization and the future impact of health care reform on access to care.

Recommendation II: As part of this effort, OHCA should continue its attempts (including establishing a data needs work group) to obtain access to all necessary data to conduct critical, comprehensive analyses.

Recommendation III: As the state's entity charged with ensuring that the citizens of Connecticut have access to a quality health care delivery system, OHCA should collaborate with all relevant stakeholders on issues related to improving health care system access by focusing on creating a system that emphasizes quality, eliminates fragmentation and encourages coordinated public policy efforts in developing effective strategies to address these issues.

Recommendation IV: As the state's entity responsible for implementing and overseeing health care reform, OHCA should be a partner in evaluating and exploring all available funding/demonstration/pilot opportunities for Connecticut to strengthen the primary care workforce, particularly in denser urban/poor areas and for the Medicaid population, as those populations are likely to see the biggest increase in demand/strain on the system with health care reform.

FOOTNOTES

¹ Changes in Health Care Financing and Organization. *Social Determinants of Health*. A national program of the Robert Johnson Wood Foundation administered by AcademyHealth. May 15, 2009. Accessed on the web at <http://news.statecoverage.net/ahhcf/issues/2009-05-15/index.html> on May 3, 2010.

²Fiscal Year runs from October 1st through September 30th of the following year.

³ Shailesh Bhandari. *Health Status, Health Insurance, and Health Services Utilization: 2001*. U.S Department of Commerce, Economics and Statistics Administration, U.S Census Bureau Household Economic Studies Current Population Studies. P70–106. February 2006.

⁴ University of Connecticut State Data Center. *The Changing Demographics of Connecticut – 1990 – 2000. Part 2: The Five Connecticut*s. Occasional Paper Number: OP 2004-01, May 2004. Accessed on the web at http://ctsdc.uconn.edu/Reports/CtSDC_CT_Part02_OP2004-01.pdf

⁵ The Henry J. Kaiser Family Foundation. www.statehealthfacts.org.

⁶Atlantic Information Services. *CMS Targets Readmission Through Payment, Audits: 'Coaching' Model Reduces Rates*. Report on Medicare Compliance Vol 17 Number 24, June 30, 2008. Accessed on the web at <http://www.cfmcc.org/files/rmc063008.pdf>

⁷ Method by which CMS reimburses hospitals for inpatient stays.

⁸ CT Department of Public Health Office of Vital Records, Vital Statistics.

⁹ CT Department of Public Health Office of Health Care Access. *Databook- Preventable Hospitalizations in Connecticut: A Current Assessment of Access to Community Health Services, 2004-2008*. January 2010. http://www.ct.gov/ohca/lib/ohca/publications/2010/prev_hosp_report01-2010.pdf

¹⁰ Derek DeLia, Ph. D. *Potentially Avoidable Use of Hospital Emergency Departments in New Jersey*. Rutgers, The State University of New Jersey. Rutgers Center for State Health Policy. The Institute for Health, Health Care Policy and Aging Effect. A Report to the New Jersey Department of Health and Senior Services. July 2006.

¹¹ The Henry J. Kaiser Family Foundation. www.statehealthfacts.org.

¹² WebMD. <http://www.webmd.com/a-to-z-guides/outpatient-services-learning-about-outpatient-services>.

¹³ Ibid.

¹⁴ Centers for Medicare and Medicaid Services. *Federally Qualified Health Center Fact Sheet*. April 2009. <https://www2.cms.gov/MLNProducts/downloads/fqhcfactsheet.pdf>

¹⁵ Sarah Goodell, M.A., Derek DeLia, Ph.D., and Joel C. Cantor, Sc. D. *Emergency Department Utilization and Capacity*. Robert Wood Johnson Foundation . The Synthesis Project. Policy Brief No. 17. July 2009.

¹⁶ Institute of Medicine. *Primary Care: America's Health in a New Era*. Washington D.C.; National Academy Press, 1996.

¹⁷ American College of Physicians. *How is the Shortage of Primary Care Physicians affecting the Quality of Medical Care?* Philadelphia: American College of Physicians; 2008 White Paper. (Available from American College of Physicians, 190 N. Independence Mall West, Philadelphia, PA 19106).

¹⁸ Eli Y. Adashi, M.D., H. Jack Geiger, M.D., and Michael D. Fine, M.D.. *Health Care Reform and Primary Care — The Growing Importance of the Community Health Center*. The New England Journal of Medicine. April 28, 2010. <http://healthcarereform.nejm.org/?p=3377>

¹⁹ The Henry J. Kaiser Family Foundation. www.statehealthfacts.org.

²⁰ CT Department of Public Health. *Health Care for Connecticut's Underserved Population*. April 2010. http://www.ct.gov/dph/lib/dph/hisr/pdf/medically_underserved_issuebrief2010.pdf

²¹ U.S Department of Health and Human Services, Office of Disease Prevention and Health Promotion. *Healthy People*. <http://www.healthypeople.gov/default.htm>

²² Agency for Health Care Research and Quality. *AHRQ Quality Indicators-Guide to Prevention Quality Indicators: Hospital Admission for Ambulatory Care Sensitive Conditions Version 3.1*. March 12, 2007.

²³ Agency for Health Care Research and Quality. *Preventable Hospitalizations: A Window Into Primary and Preventive Care, 2000*. Healthcare Cost and Utilization Project Fact Book 5. AHRQ Publication No. 04-0056. September 2004.

²⁴ Office of Health Care Access. *Databook – Preventable Hospitalizations in Connecticut: A Current Assessment of Access to Community Health Services: 2004-2008*. January 2010.
http://www.ct.gov/ohca/lib/ohca/publications/2010/prev_hosp_report01-2010.pdf

²⁵ Ibid.

²⁶ New York University, Robert F. Wagner School of Public Service. *Emergency Department Classification Algorithm, V2.0*.

APPENDICES

Appendix I: Socioeconomic Profile of Connecticut Residents by Towns, Income, Level of Poverty, Population Density and Share of Elderly, 2000, 2010 and 2020

Five Connecticut	Major Characteristics of Group	Representative Town & # of Towns in Group	Total Population ¹				Median Age (Years) ²			% Share of Pop 65+
			2000	2010	2020	Average % Share	2000	2010	2020	
Rural	1. Average income 2. Below average poverty 3. Lowest pop. density	N. Stonington 63 Towns	435,501	460,769	485,909	13	38.0	43.4	42.2	13
Suburban (suburb of urban areas)	1. Above average income 2. Low poverty 3. Moderate pop. density	Cheshire 61 Towns	874,659	933,964	991,290	27	38.3	43.7	42.8	26
Urban Core	1. Lowest income 2. Highest poverty 3. Highest pop. density (extremely high)	Bridgeport 7 Towns	612,773	618,313	641,498	18	31.8	31.4	31.2	16
Urban Periphery (transition between core urban & suburbs)	1. Below average income 2. Average poverty 3. High pop. density	Norwich 30 Towns	1,192,034	1,223,131	1,263,463	36	37.1	37.5	42.1	39
Wealthy	1. Exceptionally high income (high income/wealth) 2. Low poverty 3. Moderate pop. density	Westport 8 Towns	182,659	194,917	208,376	6	38.8	44.6	36.6	5
Connecticut		169 Towns	3,297,626	3,431,094	3,590,536	100	37.6	43.1	41.6	100

Source: University of Connecticut, College of Liberal Arts and Sciences, Connecticut State Data Center. Published in May 2007. Accessed at <http://ctsdsc.uconn.edu/Projections.html>

Bold text represent primary characteristic of the category

¹ Excludes group quarters populations.

² Increasing median age implies overall population is aging.

Appendix II: Connecticut Acute Care Hospitals, FY 2009

Hospital Name	Affiliation/Parent Corporation	Town	County	Teaching	Licensed Beds ¹	Available Beds	Staffed Beds
Backus (William W.) Hospital	Backus Corporation	Norwich	New London		233	223	202
Bridgeport Hospital	Yale-New Haven Health Services Corporation	Bridgeport	Fairfield	√	425	377	288
Bristol Hospital	Bristol Hospital & Health Care Group	Bristol	Hartford		154	154	132
Charlotte Hungerford Hospital	Charlotte Hungerford Hospital	Torrington	Litchfield		122	122	81
CT Children's Medical Center	CCMC Corporation, Inc.	Hartford	Hartford	√	147	142	142
Danbury Hospital	Danbury Health Systems, Inc.	Danbury	Fairfield	√	371	351	271
Day Kimball Hospital	Day Kimball Healthcare Inc., d/b/a Day Kimball Hospital	Putnam	Windham		122	122	72
Essent - Sharon Hospital	Essent Healthcare Inc.	Sharon	Litchfield		94	94	47
Greenwich Hospital	Yale-New Haven Health Services Corporation	Greenwich	Fairfield	√	206	206	206
Griffin Hospital	Griffin Health Services Corporation	Derby	New Haven	√	180	180	95
Hartford Hospital	Hartford Health Care Corporation	Hartford	Hartford	√	867	752	595
Hospital of Central Connecticut ²	Central Connecticut Health Alliance	New Britain	Hartford	√	446	370	349
John Dempsey Hospital	University of Connecticut Health Center	Farmington	Hartford	√	224	224	224
Johnson Memorial Hospital	Johnson Memorial Corporation	Stafford	Tolland		101	95	72
Lawrence and Memorial Hospital	Lawrence & Memorial Corporation	New London	New London	√	308	252	252
Manchester Memorial Hospital	Eastern Connecticut Health Network, Inc.	Manchester	Hartford		283	283	140
Middlesex Memorial Hospital	Middlesex Health System, Inc.	Middletown	Middlesex	√	297	214	176
MidState Medical Center	Hartford Health Care Corporation	Meriden	New Haven		156	142	140
Milford Hospital	Milford Health and Medical Incorporated	Milford	New Haven		118	118	59
New Milford Hospital	New Milford Hospital, Inc.	New Milford	Litchfield		95	95	32
Norwalk Hospital	Norwalk Health Services Corporation	Norwalk	Fairfield	√	366	322	200
Rockville General Hospital	Eastern Connecticut Health Network, Inc.	Vernon	Tolland		118	118	66
St. Francis Hospital	Saint Francis Care, Inc.	Hartford	Hartford	√	682	593	593
St. Mary's Hospital	Saint Mary's Health System, Inc.	Waterbury	New Haven	√	379	196	196
St. Raphael Hospital	Saint Raphael Healthcare System, Inc.	New Haven	New Haven	√	533	488	417
St. Vincent's Medical Center	St. Vincent's Health Services Corporation	Bridgeport	Fairfield	√	520	423	415
Stamford Hospital	Stamford Health System	Stamford	Fairfield	√	330	330	321
Waterbury Hospital	Greater Waterbury Health Network	Waterbury	New Haven	√	393	292	214
Windham Community Hospital	Windham Community Memorial Hospital	Willimantic	Windham		144	144	87
Yale-New Haven Hospital	Yale-New Haven Health Services Corporation	New Haven	New Haven	√	944	895	851
Statewide				18	9,358	8,327	6,935

Source: CT Department of Public Health Division of Office of Health Care Access Hospital Reporting System Report 400

¹ CT Department of Public Health license data and includes newborn bassinets.

² Established on October 1, 2007 from the merger of New Britain General Hospital and Bradley Memorial Hospital.

**Appendix III
Connecticut Acute Care Hospital Available and Staffed Bed Occupancy Rate, FYs2007-2009**

Hospital	2007					2008					2009				
	Patient Days	Beds		Occupancy Rate		Patient Days	Beds		Occupancy Rate		Patient Days	Beds		Occupancy Rate	
		Available	Staffed	Available	Staffed		Available	Staffed	Available	Staffed		Available	Staffed	Available	Staffed
Backus (William W.)	46,965	233	199	55%	65%	50,572	233	202	59%	69%	49,521	233	202	58%	67%
Bridgeport	103,574	425	335	67%	85%	108,274	389	302	76%	98%	104,355	377	288	76%	99%
Bristol	33,502	154	115	60%	80%	33,293	154	115	59%	79%	33,319	154	132	59%	69%
Charlotte Hungerford	27,131	122	82	61%	91%	27,254	122	78	61%	96%	28,325	122	81	64%	96%
CTChildren's	32,707	135	123	66%	73%	37,110	126	126	81%	81%	36,200	142	142	70%	70%
Danbury	88,182	371	246	65%	98%	87,317	347	248	69%	96%	92,474	350	271	72%	93%
Day Kimball	20,357	122	72	46%	77%	20,491	122	72	46%	78%	20,251	122	72	45%	77%
Essent-Sharon	11,470	94	47	33%	67%	11,806	94	47	34%	69%	11,466	94	47	33%	67%
Greenwich	48,780	206	206	65%	65%	51,606	206	206	69%	69%	50,243	206	206	67%	67%
Griffin	33,464	180	96	51%	96%	34,295	180	97	52%	97%	33,040	180	95	50%	95%
Hartford	212,268	867	749	67%	78%	212,318	749	583	78%	100%	216,274	723	595	82%	100%
Central CT*	89,396	446	331	55%	74%	88,517	344	310	70%	78%	86,383	370	349	64%	68%
John Dempsey	60,142	224	224	74%	74%	60,351	224	224	74%	74%	56,200	223	224	69%	69%
Johnson Memorial	24,906	101	86	68%	79%	21,730	95	72	63%	83%	18,031	95	72	52%	69%
Lawrence & Memorial	69,545	308	252	62%	76%	69,988	252	252	76%	76%	68,917	252	252	75%	75%
Manchester Memorial	44,817	283	140	43%	88%	43,893	283	140	42%	86%	43,426	273	140	44%	85%
Middlesex Memorial	54,739	297	163	50%	92%	56,882	214	176	73%	89%	55,485	214	176	71%	86%
MidState Medical	44,438	142	136	86%	90%	45,254	142	136	87%	91%	43,145	142	140	83%	84%
Milford	22,421	118	65	52%	95%	21,719	118	61	50%	98%	19,657	118	59	46%	91%
New Milford	11,205	95	35	32%	88%	11,757	95	37	34%	87%	9,858	95	32	28%	84%
Norwalk	79,391	366	221	59%	98%	77,978	330	217	65%	98%	71,088	321	200	61%	97%
Rockville General	14,769	118	66	34%	61%	15,087	118	66	35%	63%	15,335	118	66	36%	64%
St. Francis	161,360	682	553	65%	80%	165,453	584	572	78%	79%	162,468	568	593	78%	75%
St. Mary's	60,774	379	196	44%	85%	58,529	196	196	82%	82%	53,532	196	196	75%	75%
St. Raphael	135,118	533	408	69%	91%	134,996	474	417	78%	89%	131,885	468	417	77%	87%
St. Vincent's Medical	99,440	444	336	61%	81%	105,110	349	340	83%	85%	124,028	423	415	80%	82%
Stamford	72,518	330	319	60%	62%	75,315	330	319	63%	65%	73,767	330	321	61%	63%
Waterbury	71,098	393	235	50%	83%	70,697	292	238	66%	81%	68,137	287	214	65%	87%
Windham Community	21,590	144	87	41%	68%	20,882	144	87	40%	66%	20,761	144	87	39%	65%
Yale-New Haven	266,384	944	897	77%	81%	272,728	847	752	88%	99%	279,366	880	851	87%	90%
Total	2,062,451	9,256	7,020	61%	80%	2,091,202	8,153	6,688	70%	86%	2,076,937	8,220	6,935	69%	82%

Source: CT Department of Public Health Office of Health Care Access Acute Care Discharge Database and Hospital Reporting System Report 400.

*Bradley Memorial Hospital and New Britain General Hospital merged to establish the Hospital of Central Connecticut on October 1, 2007.

**Appendix IV
Connecticut Acute Care Hospital Staffed Beds by Service, FYs 2007 and 2009**

Hospital Name	FY 2007									Total	FY 2009									Total
	Adult Medical or Surgical	ICU/CCU	Exempt Psychiatric	Maternity	Newborn	Neonatal ICU	Exempt Rehabilitation	Pediatric	Other		Adult Medical or Surgical	ICU/CCU	Psychiatric	Maternity	Newborn	Neonatal ICU	Rehabilitation	Pediatric	Other	
Backus (William W.) Hospital	136	12	18	15	18					199	139	12	18	15	18					202
Bridgeport Hospital	201	25	15	31	20	18	16	9		335	176	22	16	22	15	15	7			288
Bristol Hospital	71	12	14	7	8			3		115	78	14	14	15	8		3			132
Charlotte Hungerford Hospital	48	7	17	4	4			2		82	52	6	16	3	3		1			81
CT Children's Medical Center		18				32		73		123	18				32		92			142
Danbury Hospital	148	12	20	18	15	10	14	9		246	166	13	21	21	15	11	13	11		271
Day Kimball Hospital	44	6	14	4	4					72	44	6	14	4	4					72
Essent - Sharon Hospital	22	5	12	4	4					47	22	5	12	4	4					47
Greenwich Hospital	124	10		30	22	10		10		206	129	10		25	22	10		10		206
Griffin Hospital	64	9	10	7	6					96	63	10	11	6	5					95
Hartford Hospital	455	64	139	43	48					749	376	62	97	33	27					595
Hospital of Central Connecticut*	240	24	22	22	13	6		4		331	222	32	24	25	20	12		14		349
John Dempsey Hospital	91	15	34	20	20	30			14	224	91	15	34	20	20	30			14	224
Johnson Memorial Hospital	50	7	17	6	6					86	42	5	17	4	4					72
Lawrence and Memorial Hospital	144	20	18	24	14	10	16	6		252	144	20	18	24	14	10	16	6		252
Manchester Memorial Hospital	82	8	30	10	10					140	72	18	30	10	10					140
Middlesex Memorial Hospital	97	28	17	11	10					163	111	28	17	11	9					176
MidState Medical Center	99	7	6	12	12					136	102	7	6	13	12					140
Milford Hospital	47	8		5	5					65	43	6		5	5					59
New Milford Hospital	24	4		3	3			1		35	21	4		3	3			1		32
Norwalk Hospital	109	40	17	14	11	4	22	4		221	92	38	12	15	12	5	21	5		200
Rockville General Hospital	46	6		6	8					66	46	6		6	8					66
St. Francis Hospital	341	42	85	30	27	28				553	374	42	85	37	27	28				593
St. Mary's Hospital	132	16	12	14	7			7	8	196	132	16	12	14	7		7	8		196
St. Raphael Hospital	247	67	43	15	11	8	16	1		408	259	67	40	15	11	8	16	1		417
St. Vincent's Medical Center	240	24	16	22	24		10			336	240	24	92	22	27		10			415
Stamford Hospital	183	14	20	32	25	16	16	13		319	183	16	20	32	25	16	16	13		321
Waterbury Hospital	139	20	30	17	11			10	8	235	133	20	23	19	11				8	214
Windham Community Hospital	53	12		14	8					87	53	12		14	8					87
Yale-New Haven Hospital	485	101	87	56	46	46		76		897	474	105	85	55	29	47		56		851
Total	4,162	643	713	496	420	218	110	228	30	7,020	4,079	659	734	492	383	224	107	227	30	6,935

Source: CT Department of Public Health *Office of Health Care Access Hospital Reporting System Report 400*.

*Bradley Memorial Hospital and New Britain General Hospital merged to establish the Hospital of Central Connecticut on October 1, 2007.

Appendix V: Connecticut Acute Care Discharges: FYs 2005 - 2009

Hospital Name	Discharges					Year-to-Year Change (%)				
	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	05/06	06/07	07/08	08/09	07/09
Backus (William W.) Hospital	11,900	11,021	11,127	11,918	11,849	-7	1	7	-1	6
Bridgeport Hospital	20,113	19,582	19,683	20,034	19,828	-3	1	2	-1	1
Bristol Hospital	8,082	7,954	7,971	7,931	7,723	-2	0	-1	-3	-3
Charlotte Hungerford Hospital	6,201	6,195	6,138	6,077	6,318	0	-1	-1	4	3
CT Children's Medical Center	5,520	5,615	5,530	5,793	6,349	2	-2	5	10	15
Danbury Hospital	19,871	20,403	20,719	20,432	20,445	3	2	-1	0	-1
Day Kimball Hospital	6,471	5,668	5,578	5,396	5,546	-12	-2	-3	3	-1
Essent - Sharon Hospital	2,966	2,880	2,837	2,834	2,658	-3	-1	0	-6	-6
Greenwich Hospital	11,920	12,348	12,790	12,701	12,904	4	4	-1	2	1
Griffin Hospital	7,148	7,430	7,696	7,467	7,395	4	4	-3	-1	-4
Hartford Hospital	39,312	39,490	39,817	40,105	41,434	0	1	1	3	4
Hospital of Central Connecticut*	19,904	20,992	22,743	20,989	20,056	5	8	-8	-4	-12
John Dempsey Hospital	9,789	9,923	10,008	9,858	9,586	1	1	-1	-3	-4
Johnson Memorial Hospital	3,844	4,212	4,444	4,080	3,609	10	6	-8	-12	-19
Lawrence and Memorial Hospital	15,213	14,696	14,550	14,568	14,819	-3	-1	0	2	2
Manchester Memorial Hospital	8,953	8,958	9,012	8,994	8,817	0	1	0	-2	-2
Middlesex Memorial Hospital	12,354	12,866	13,385	13,719	13,474	4	4	2	-2	1
MidState Medical Center	9,864	9,812	9,660	9,723	9,957	-1	-2	1	2	3
Milford Hospital	5,123	4,971	5,026	4,935	4,740	-3	1	-2	-4	-6
New Milford Hospital	3,377	3,116	2,817	3,010	2,768	-8	-10	7	-8	-2
Norwalk Hospital	15,721	15,341	15,352	15,560	15,638	-2	0	1	1	2
Rockville General Hospital	3,935	3,600	3,580	3,538	3,499	-9	-1	-1	-1	-2
St. Francis Hospital	32,184	31,647	31,595	32,766	33,062	-2	0	4	1	5
St. Mary's Hospital	12,241	12,984	13,156	13,135	12,459	6	1	0	-5	-5
St. Raphael Hospital	25,100	25,354	26,597	24,969	24,968	1	5	-6	0	-6
St. Vincent's Medical Center	19,365	19,672	19,421	20,199	21,718	2	-1	4	8	12
Stamford Hospital	17,407	17,003	16,428	15,300	14,855	-2	-3	-7	-3	-10
Waterbury Hospital	15,486	15,003	14,524	14,722	13,914	-3	-3	1	-5	-4
Windham Community Hospital	5,205	5,385	5,705	5,676	5,349	3	6	-1	-6	-6
Yale-New Haven Hospital	48,610	50,354	51,466	52,135	54,422	4	2	1	4	6
Statewide	423,179	424,475	429,355	428,564	430,159	0	1	0	0	0

Source: CT Department of Public Health Office of Health Care Access Acute Care Hospitals Inpatient Discharge Database

*Established on October 1, 2007 from the merger of New Britain General Hospital and Bradley Memorial Hospital.

Appendix VI: Connecticut Acute Care Patient Days: FYs 2005-2009

Hospital Name	Patient Days					Year-to-Year Change (%)				
	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	05/06	06/07	07/08	08/09	07/09
Backus (William W.) Hospital	52,716	47,281	46,965	50,572	49,521	-10	-1	8	-2	5
Bridgeport Hospital	108,044	101,413	103,574	108,274	104,355	-6	2	5	-4	1
Bristol Hospital	36,941	34,335	33,502	33,293	33,319	-7	-2	-1	0	-1
Charlotte Hungerford Hospital	27,163	27,117	27,131	27,254	28,325	0	0	0	4	4
CT Children's Medical Center	30,095	30,433	32,707	37,110	36,200	1	7	13	-2	11
Danbury Hospital	84,433	85,128	88,182	87,317	92,474	1	4	-1	6	5
Day Kimball Hospital	22,075	19,969	20,357	20,491	20,251	-10	2	1	-1	-1
Essent - Sharon Hospital	12,778	11,743	11,470	11,806	11,466	-8	-2	3	-3	0
Greenwich Hospital	45,475	48,277	48,780	51,606	50,243	6	1	6	-3	3
Griffin Hospital	31,335	33,466	33,464	34,295	33,040	7	0	2	-4	-1
Hartford Hospital	228,487	215,223	212,268	212,318	216,274	-6	-1	0	2	2
Hospital of Central Connecticut*	85,538	86,720	89,396	88,517	86,383	1	3	-1	-2	-3
John Dempsey Hospital	60,329	59,838	60,142	60,351	56,200	-1	1	0	-7	-7
Johnson Memorial Hospital	21,584	23,493	24,906	21,730	18,031	9	6	-13	-17	-28
Lawrence and Memorial Hospital	71,361	68,201	69,545	69,988	68,917	-4	2	1	-2	-1
Manchester Memorial Hospital	42,997	44,286	44,817	43,893	43,426	3	1	-2	-1	-3
Middlesex Memorial Hospital	52,012	53,817	54,739	56,882	55,485	3	2	4	-2	1
MidState Medical Center	43,115	43,671	44,438	45,254	43,145	1	2	2	-5	-3
Milford Hospital	23,083	22,099	22,421	21,719	19,657	-4	1	-3	-9	-12
New Milford Hospital	14,682	12,219	11,205	11,757	9,858	-17	-8	5	-16	-12
Norwalk Hospital	82,671	80,828	79,391	77,978	71,088	-2	-2	-2	-9	-10
Rockville General Hospital	15,464	14,237	14,769	15,087	15,335	-8	4	2	2	4
St. Francis Hospital	162,454	162,182	161,360	165,453	162,468	0	-1	3	-2	1
St. Mary's Hospital	55,038	59,899	60,774	58,529	53,532	9	1	-4	-9	-12
St. Raphael Hospital	136,821	133,674	135,118	134,996	131,885	-2	1	0	-2	-2
St. Vincent's Medical Center	102,144	100,206	99,440	105,110	124,028	-2	-1	6	18	25
Stamford Hospital	79,271	77,024	72,518	75,315	73,767	-3	-6	4	-2	2
Waterbury Hospital	70,824	72,356	71,098	70,697	68,137	2	-2	-1	-4	-4
Windham Community Hospital	20,261	20,025	21,590	20,882	20,761	-1	8	-3	-1	-4
Yale-New Haven Hospital	258,429	262,422	266,384	272,728	279,366	2	2	2	2	5
Statewide	2,077,620	2,051,582	2,062,451	2,091,202	2,076,937	-1	1	1	-1	1

Source: CT Department of Public Health Office of Health Care Access Acute Care Hospitals Inpatient Discharge Database

* Established on October 1, 2007 from the merger of New Britain General Hospital and Bradley Memorial Hospital.

Appendix VII: Connecticut Emergency Room and Other Outpatient Visits: FYs 2005 - 2009

Hospital Name	FY 2005		FY 2006		FY 2007		FY 2008		FY 2009	
	ED Visits	Other OP visits	ED Visits	Other OP visits	ED Visits	Other OP visits ²	ED Visits	Other OP visits ²	ED Visits	Other OP visits ²
Backus (William W.) Hospital	49,107	341,370	49,866	349,218	54,998	308,967	58,993	333,074	63,648	290,828
Bridgeport Hospital	62,611	129,702	64,634	134,918	67,543	110,212	66,638	153,686	77,422	164,425
Bristol Hospital	37,540	151,077	37,397	150,390	39,526	113,185	40,133	108,316	39,052	126,502
Charlotte Hungerford Hospital	38,084	159,711	37,735	161,826	39,173	158,999	38,829	168,130	38,940	170,965
CT Children's Medical Center	40,321	0	40,137	0	43,172	69,968	46,554	72,052	50,100	78,265
Danbury Hospital	68,154	144,006	66,850	88,394	67,929	129,484	67,553	132,779	69,582	132,541
Day Kimball Hospital	21,456	386,684	28,496	399,167	28,723	392,487	28,155	261,168	33,774	267,567
Essent - Sharon Hospital	16,963	69,315	15,910	70,027	16,004	60,319	16,363	60,096	16,013	65,728
Greenwich Hospital	35,841	332,839	38,329	296,629	39,862	380,127	40,670	409,821	43,285	420,011
Griffin Hospital	36,788	14,651	36,160	18,009	38,131	77,343	38,896	74,668	39,215	76,232
Hartford Hospital	80,473	125,478	79,994	117,038	80,269	144,413	82,327	143,244	90,108	155,517
Hospital of Central Connecticut ¹	78,555	144,442	84,338	160,409	90,358	202,458	94,736	171,714	103,056	175,251
John Dempsey Hospital	27,728	102,188	27,921	129,030	30,254	252,987	30,085	260,490	28,592	275,336
Johnson Memorial Hospital	20,319	98,854	20,799	99,253	21,384	68,710	20,744	92,302	20,363	84,181
Lawrence and Memorial Hospital	84,851	29,951	84,175	29,999	82,691	401,930	80,486	443,891	78,949	431,976
Manchester Memorial Hospital	32,009	253,567	29,106	279,575	44,832	223,198	44,134	218,532	45,655	201,422
Middlesex Memorial Hospital	84,044	418,346	84,936	492,523	87,169	538,958	94,699	578,547	92,292	574,644
MidState Medical Center	67,222	3,667	67,256	3,051	69,848	79,787	68,000	84,834	66,895	91,258
Milford Hospital	31,019	42,606	30,238	34,531	37,533	32,119	38,982	35,533	39,946	32,857
New Milford Hospital	19,533	78,465	18,118	81,650	19,309	87,248	19,553	86,557	19,146	92,641
Norwalk Hospital	45,015	37,766	46,717	41,223	47,723	130,373	48,813	139,464	49,730	155,389
Rockville General Hospital	15,160	83,703	14,960	85,481	23,647	85,867	24,928	71,391	25,945	60,851
St. Francis Hospital	60,637	588,209	62,778	596,349	66,586	248,819	64,655	260,651	69,240	261,723
St. Mary's Hospital	63,342	136,110	74,097	137,469	68,274	148,303	68,352	235,147	69,559	259,590
St. Raphael Hospital	53,295	209,247	51,953	204,601	50,896	88,350	48,763	90,458	53,373	86,306
St. Vincent's Medical Center	58,470	146,088	58,542	158,297	60,288	145,263	60,640	148,684	61,313	152,092
Stamford Hospital	43,208	132,813	43,155	144,197	44,613	206,982	45,440	256,234	46,300	296,705
Waterbury Hospital	57,032	170,238	56,331	169,573	53,824	158,164	54,460	159,562	58,132	155,086
Windham Community Hospital	21,343	12,533	23,482	13,565	26,502	128,137	28,668	31,269	30,014	32,530
Yale-New Haven Hospital	107,481	152,365	113,921	149,534	122,775	449,152	122,922	430,293	128,402	666,583
Total	1,457,601	4,695,991	1,488,331	4,795,926	1,563,836	5,622,309	1,584,171	5,712,587	1,648,041	6,035,002

Source: CT Department of Public Health Office of Health Care Access Hospital Budget System Schedule 500 and Hospital Reporting System Report 450.

¹ Established on October 1, 2007 from the merger of New Britain General Hospital and Bradley Memorial Hospital.

² Due to the implementation of the Hospital Reporting System (HRS) and revised data definitions, comparability between FYs 2007-2009 and previous years may show high variability.

DEPARTMENT OF PUBLIC HEALTH
COMMISSIONER J. ROBERT GALVIN,
M.D., M.P.H., M.B.A.

410 Capitol Avenue
MS#13HCA
PO Box 340308
Hartford, CT 06134

Phone: 860-418-7001
800-797-9688
Fax: 860-418-7053

www.ct.gov/ohca