

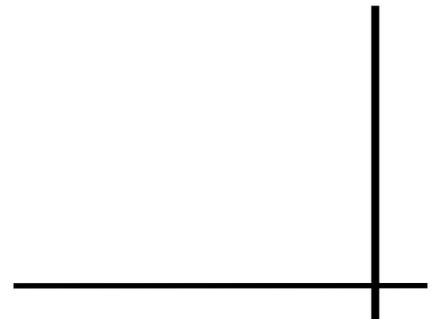
DATABOOK

Preventable Hospitalizations
in Connecticut:
*An Updated Assessment of
Access to
Community Health Services*

FYs 2000 - 2006



April 2008



Preventable Hospitalizations in Connecticut: An Updated Assessment of Access to Community Health Services, FYs 2000-2006

“Preventable hospitalizations” are instances of inpatient hospital care for health conditions or illnesses typically treated or managed outside of the hospital.¹ These include chronic conditions such as diabetes and asthma or acute episodes of illnesses like bacterial pneumonia or urinary tract infections. These conditions are considered “preventable” because timely and effective primary care and medical management of these conditions have been clinically demonstrated to reduce the need for hospitalization.²

Although preventable hospitalizations are instances of inpatient care, they provide insight into the quality of the healthcare system *outside* of the hospital because timely primary care generally “prevents” most people with these conditions from becoming so severely ill that they require hospital care. Of course, general health status, adherence to treatment recommendations and other environmental conditions can predispose individual patients to hospitalization. However, at the community and state level, preventable hospitalizations provide a valid starting point for assessing the quality of primary health care services in the community.

As a screening tool, preventable hospitalizations help identify possible gaps in the primary care system, disparities in access to primary care and community health resource needs. They also suggest areas of potential cost savings by identifying instances of inpatient acute care that may be reduced through primary care, case management and outreach.

Preventable hospitalizations methodology

For this publication, the Office of Health Care Access (OHCA) utilized the Quality Indicators (QI) software tool developed under the auspices of the U.S. Department of Health and Human Services Agency for Healthcare Research and Quality (AHRQ).³ As part of the QI project, an AHRQ-sponsored team of clinical researchers identified and statistically validated a set of health conditions for which effective primary care significantly reduced the incidence of

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Prevention Quality Indicators (PQIs)

AHRQ's Quality Indicators related to preventive care include five Pediatric area-level Quality Indicators and 14 Adult Prevention Quality Indicators. Hospitalizations for these conditions have been shown to significantly decrease with access to high-quality primary care and proper disease management.

Pediatric Quality Indicators

- Asthma
- Diabetes, short-term complications
- Gastroenteritis
- Perforated appendix
- Urinary tract infection

Adult Quality Indicators

- Angina without an in-hospital therapeutic procedure
- Asthma
- Bacterial pneumonia
- Chronic obstructive pulmonary disease
- Congestive heart failure
- Dehydration
- Diabetes, long-term complications
- Diabetes, short-term complications
- Diabetes-related lower extremity amputation
- Diabetes, uncontrolled
- Hypertension
- Low birth weight newborns
- Perforated appendix
- Urinary tract infection

hospitalization. These conditions are referred to as Ambulatory Care Sensitive Conditions (ACSCs). Two QI modules, Prevention Quality Indicators (PQIs) for adults and Pediatric Quality Indicators (PQIs) for children, identify instances of ACSC (preventable) hospitalizations. They also generate per capita population rates of the incidence of preventable hospitalizations among all residents and for selected subgroups. Use of the QI tool provides researchers with a standardized approach for studying preventable hospitalizations which facilitates comparisons across communities as well as over time.

For the purposes of this publication, PQI refers to both adult and pediatric preventable hospitalizations. Fiscal Year (FY) runs from October 1 to September 30. Previous hospitalization refers to a prior hospitalization at the same hospital.

AHRQ periodically updates the QI tool and since the publication of OHCA's 2005 preventable hospitalizations databook, it has undergone a number of revisions.⁴ In order to report consistent results over time that reflect these most recent changes, this databook includes FYs 2005 and 2006 as well as the years covered by the prior databook (FYs 2000 - 2004).

Structure of the Preventable Hospitalization Databook

The *Preventable Hospitalizations Databook* is intended as a reference document providing extensive, though not exhaustive, information. It is organized to allow the reader to quickly find relevant information. The first section presents overall trends in preventable hospitalization volume and patient days. The next section focuses on preventable hospitalization charges and insurers. The third section examines PQI condition hospitalization characteristics such as volume by hospital, previous admission, admission source, discharge status and multiple hospitalizations for the same PQI condition. Together, they suggest that many PQI hospitalizations required extensive acute and other health services. Demographic characteristics of PQI hospitalizations are presented in the fourth section. The final section presents PQI data for subgroups based on age, race and type of insurance. This highlights differences in disease prevalence, use of the emergency department, the need for health care services following discharge from the hospital and multiple hospitalizations for the same PQI condition.

Significant findings

- In FY 2006, there were nearly 48,000 “preventable hospitalizations” of Connecticut residents (i.e., hospitalizations for a PQI condition), with over 266,000 total patient days and associated total charges of over \$1 billion.
- Preventable hospitalizations accounted for 12% of all hospitalizations and hospital charges and 16% of patient days.
- From FY 2000 through 2006, the number of preventable hospitalizations grew by 4%. Increased hospitalizations for adult urinary tract infections, long-term complications of diabetes and adult asthma accounted for nearly two-thirds of this growth.
- Compared with the United States on a per capita basis, Connecticut residents experienced fewer preventable hospitalizations. In 2004, the last year for which national rates were available, Connecticut had lower hospitalization rates for 16 of 19 PQI conditions. The exceptions were the state’s slightly higher rates for bacterial pneumonia, dehydration and low birth weight newborns. Connecticut also had lower overall rates of PQI hospitalizations for both children and adults.
- Within Connecticut in FY 2006, New Haven county had the highest per capita rates for 12 of the 19 PQI conditions. New Haven county also had higher than the statewide average for five out of seven other PQI conditions.
- Preventable hospitalization patients tended to require extensive health care resources, both within the hospital and following discharge. Most had been previously hospitalized (70%). They were largely admitted through the Emergency Department (83%) and nearly half received additional care after discharge (26% transferred to another health care facility and 23% required home health services).
- In FY 2006, eleven percent of all preventable hospitalization patients had multiple hospitalizations for the same PQI condition (e.g., 19% of children hospitalized for diabetes had multiple diabetes-related hospitalizations).
- Senior citizens accounted for 59% of preventable hospitalizations, nearly all covered by Medicare.
- From FY 2000 through 2006, Hispanics (43%), Medicaid enrollees (30%) and children (21%) experienced the largest growth of preventable hospitalizations.
- In comparison with non-Hispanic whites, Blacks and Hispanics had higher per capita rates for every PQI condition, meaning they were at greater risk for preventable hospitalizations. Blacks had particularly high rates of hypertension and pediatric and adult diabetes. Hispanics had high incidences of uncontrolled diabetes, adult asthma and Chronic Obstructive Pulmonary Disease (COPD).

Connecticut's incidence of preventable hospitalizations was lower than U.S.

From FY 2000 through 2006, PQI hospitalizations grew slightly (4%), with adult urinary tract infections, diabetes long-term complications and adult asthma accounting for nearly two-thirds of total growth. Compared to the U.S., Connecticut's PQI rates were lower for 16 of 19 PQI conditions and overall pediatric and adult PQI rates, meaning Connecticut residents were less likely to be hospitalized for these conditions. Exceptions were bacterial pneumonia, dehydration and low birth weight newborns.

Table 1: PQI hospitalizations and rates, FY 2006

Quality Indicator	Hospitalizations	Change in hospitalizations, FYs 2000 - 2006	Rate (per 100,000 people) ⁴	CT 2004 rates compared to U.S. 2004 rates ⁵
Pediatric Quality Indicators (Ages 0 - 17)				
Asthma	1,145	8%	162	-18%
Diabetes short-term complications	98	14%	18	-48%
Gastroenteritis	984	53%	130	-38%
Perforated appendix ¹	222	0%	25	-38%
Urinary tract infection	279	14%	36	-36%
Overall pediatric PQI rate	---	---	164	-32%
Adult Quality Indicators (Ages 18+)				
Angina without a procedure ²	627	-59%	22	-26%
Asthma	3,082	23%	112	-4%
Bacterial pneumonia	10,348	0%	344	4%
Chronic obstructive pulmonary disease	3,765	-28%	130	-23%
Congestive heart failure	10,772	3%	353	-14%
Dehydration	2,725	-8%	90	2%
Diabetes - long-term complications	3,090	23%	110	-15%
Diabetes - short-term complications	1,232	26%	48	-20%
Diabetes - lower extremity amputation	953	-12%	33	-2%
Diabetes - uncontrolled	211	5%	8	-66%
Hypertension	753	62%	27	-48%
Low birth weight newborns ¹	2,764	8%	7	4%
Perforated appendix ¹	729	21%	24	-14%
Urinary tract infection	4,467	68%	148	-23%
Overall adult PQI rate	---	---	1,126	-40%
Totals³	47,640	4%	---	---

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

Reporting hospitalizations of Connecticut residents admitted to Connecticut acute care hospitals with a PQI condition.

¹Condition-specific rates — populations were those who had appendicitis and all births. These rates are per 100 appendicitis hospitalizations or 100 births. Low birth weight newborns are grouped with the adult PQI conditions because low birth weight is related to the mother's prenatal care.

²Changing coding practices contributed to the precipitous decline in the number of angina discharges.

³Reported total FY 2006 hospitalizations are not the summed total hospitalizations of all of the individual PQI conditions. Several patients had more than one PQI condition during a hospital stay and therefore their hospitalizations are counted in the individual totals of multiple PQI conditions. Fiscal year 2006 overall total hospitalizations are presented here without any double counting of patients.

⁴Rates calculated by dividing the number of PQI hospitalizations by the appropriate population and multiplying by 100,000. The exceptions were pediatric and adult perforated appendix and low birth weight newborn rates, which are per 100 appendicitis hospitalizations or births. These observed rates were then risk adjusted by age and gender.

⁵Comparison of 2004 observed Connecticut and U.S. rates, the most recent rates available (*AHRQ Comparative PQI Data and Comparative PDI Data, March 2007*).

Total PQI patient days and average hospital stays declined, FYs 2000 - 2006

From FY 2000 through 2006, total PQI patient days fell slightly (-1%) although the number of hospitalizations increased (4%). In contrast, total patient days for all hospitalizations regardless of diagnosis increased 11%, due largely to increased patient volume. As a result, PQI hospitalizations' share of total patient days dropped from 18% to 16%.

Declining or no change in average hospital stays for 16 of the 19 PQIs suggest that hospitals became more efficient in treating these conditions. The exceptions were pediatric diabetes short-term complications, diabetic lower extremity amputations and low birth weight newborns. Angina, COPD and dehydration had the sharpest declines in total patients days due to a combination of shorter hospitalizations and reduced patient volume.

Table 2: PQI patient days, FY 2006

Quality Indicator	Total hospital days	Change in total hospital days, FYs 2000 - 2006	Average hospital stay	Change in average hospital stay, FYs 2000 - 2006
Pediatric Quality Indicators (Ages 0 - 17)				
Asthma	2,304	-9%	2.0	-16%
Diabetes short-term complications	212	20%	2.2	6%
Gastroenteritis	1,776	37%	1.8	-10%
Perforated appendix	1,171	0%	5.3	0%
Urinary tract infection	709	2%	2.5	-11%
Adult Quality Indicators (Ages 18+)				
Angina without a procedure ¹	1,164	-65%	1.9	-15%
Asthma	12,565	21%	4.1	-2%
Bacterial pneumonia	55,120	-10%	5.3	-10%
Chronic obstructive pulmonary disease	18,661	-38%	5.0	-14%
Congestive heart failure	58,485	1%	5.4	-2%
Dehydration	11,305	-19%	4.1	-12%
Diabetes - long-term complications	21,734	12%	7.0	-9%
Diabetes - short-term complications	5,071	8%	4.1	-15%
Diabetes - lower extremity amputation	11,697	-8%	12.3	5%
Diabetes - uncontrolled	761	1%	3.6	-4%
Hypertension	2,026	46%	2.7	-10%
Low birth weight newborns ²	44,863	17%	16.2	8%
Perforated appendix	3,990	10%	5.5	-9%
Urinary tract infection	19,987	56%	4.5	-7%
Totals³	266,256	-1%	---	---

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

Reporting hospital days of Connecticut residents admitted to Connecticut acute care hospitals with a PQI condition.

¹Changing coding practices contributed to the precipitous decline in the number of angina discharges and their patient days.

²Low birth weight newborns are grouped with the adult PQI conditions because low birth weight is related to the mother's prenatal care.

³Reported total FY 2006 patient days are not the summed total patient days of all individual PQI conditions. Several patients had more than one PQI during a hospital stay and therefore their total patient days are counted in the individual totals of multiple PQI conditions. Fiscal year 2006 overall total patient days (column 2) are presented without any double counting of total patient days.

Average and total charges for nearly all PQI hospitalizations increased, FYs 2000 - 2006

Although PQI hospitalizations increased by only 4% since FY 2000 and total patient days fell by 1%, charges grew by 69% from \$596 million to over \$1 billion. This was still lower than the growth in charges for all hospitalizations (90%). Congestive heart failure, low birth weight newborns, bacterial pneumonia, adult urinary tract infections and diabetes long-term complications accounted for 80% of the increase in PQI total charges.

Average charges for all PQI conditions increased, even though the average hospital stays fell for nearly all conditions. Average charges more than doubled for pediatric short-term diabetes and low birth weight newborns.

Table 3: PQI total and average charges, FY 2006

Quality Indicator	Total charges	Change in total charges, FYs 2000 - 2006	Average charge	Change in average charge
Pediatric Quality Indicators (Ages 0 - 17)				
Asthma	\$8,655,520	74%	\$7,559	61%
Diabetes short-term complications	\$938,383	132%	\$9,575	104%
Gastroenteritis	\$5,024,649	132%	\$5,106	51%
Perforated appendix	\$5,115,001	79%	\$23,041	78%
Urinary tract infection	\$2,136,435	82%	\$7,657	60%
Adult Quality Indicators (Ages 18+)				
Angina without a procedure ¹	\$6,920,636	-39%	\$11,038	48%
Asthma	\$43,477,617	97%	\$14,107	60%
Bacterial pneumonia	\$196,212,551	46%	\$18,963	46%
Chronic obstructive pulmonary disease	\$66,957,154	-1%	\$17,794	38%
Congestive heart failure	\$221,547,146	65%	\$20,571	60%
Dehydration	\$38,488,139	41%	\$14,134	53%
Diabetes - long-term complications	\$83,478,626	92%	\$27,016	56%
Diabetes - short-term complications	\$20,879,207	76%	\$16,947	39%
Diabetes - lower extremity amputation	\$47,789,761	57%	\$50,147	79%
Diabetes - uncontrolled	\$2,630,915	84%	\$12,469	75%
Hypertension	\$9,557,958	146%	\$12,693	52%
Low birth weight newborns ²	\$194,541,011	147%	\$70,614	129%
Perforated appendix	\$19,066,499	84%	\$26,154	52%
Urinary tract infection	\$65,010,959	160%	\$14,557	54%
Totals³	\$1,009,330,023	69%	---	---

Source: CT Office of Health Care Access I=Acute Care Hospital Inpatient Discharge Database

Reporting hospital charges of Connecticut residents admitted to Connecticut acute care hospitals with a PQI condition.

Due to discounts and other factors, payments differ from charges. In FY 2006, the ratio of charges to payments was 41%, meaning that total payments were 41 cents for every dollar of charges.

¹Changing coding practices contributed to the precipitous decline in the number of angina discharges and their total charges.

²Low birth weight newborns are grouped with the adult PQI conditions because low birth weight is related to the mother's prenatal care.

³Reported total FY 2006 charges are not the summed total charges of all of the individual PQI conditions. Several patients had more than one PQI during a hospital stay and therefore their total charges are counted in the individual totals of multiple PQI conditions. Fiscal year 2006 overall total charges are presented without any double counting of total charges.

Medicare was the largest primary insurer of PQI charges, FY 2006

Table 4: Primary Insurer's PQI total charges and discharges, FY 2006

Payer	Total charges	Change in total charges, FYs 00-06	PQI Hospitalizations	Share of payer's hospitalizations with a PQI
Medicare/other federal	\$582,119,555	60%	30,022	18%
Private	\$242,345,824	65%	9,824	6%
Medicaid	\$168,956,182	131%	6,724	9%
Uninsured ¹	\$15,908,462	16%	1,070	9%
Total	\$1,009,330,023	69%	47,640	12%

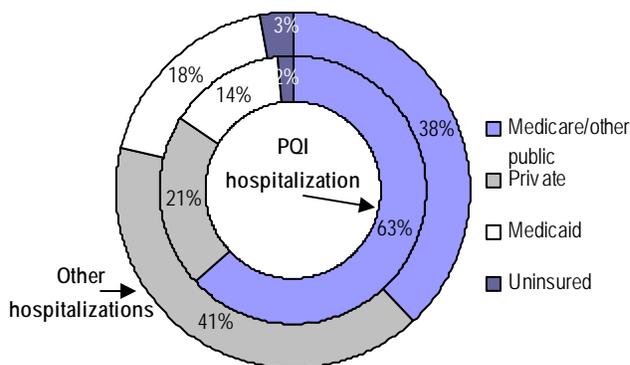
Source: CT Office of Health Care Access Acute Care Hospital Inpatient Discharge Database
 Reporting hospital charges of Connecticut residents admitted to Connecticut acute care hospitals with a PQI.
 Due to discounts and other factors, actual payments are significantly lower than charges. In FY 2006, the ratio of charges to payments was 41 percent, meaning that payments were 41 cents for every dollar of charges.
¹Uninsured hospitalizations include all those for which no third party payer was responsible for charges.

Medicare was the largest primary insurer for PQI hospitalizations with over one-half billion in total charges and 30,000 hospitalizations. Nearly one in five Medicare hospitalizations had a PQI condition.

From FY 2000 through 2006, Medicaid PQI charges more than doubled. Low birth weight newborns accounted for over half of this growth with a total increase of nearly \$52 million.

PQI hospitalizations were largely Medicare patients, FY 2006

Figure 1: Primary insurer's share of PQI and other hospitalizations, FY 2006



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

Compared to other types of hospitalizations, PQI hospitalizations were disproportionately Medicare patients (63% versus 38%). Conversely, private coverage patients were significantly underrepresented among PQI hospitalizations (21% versus 41%). This skewed PQI payer mix is reflective of the preponderance of elderly among PQI patients. From FY 2000 to 2006, the number of private coverage and uninsured PQI hospitalizations declined (-10% and -19%, respectively), while Medicare and Medicaid hospitalizations increased (5% and 30%, respectively).

Primary insurers' share of hospitalizations varied by PQI, FY 2006

Medicare was the largest primary insurer for 11 of the 19 PQIs. It covered at least three-quarters of all hospitalizations for bacterial pneumonia, COPD, congestive heart failure, dehydration and urinary tract infections.

Medicaid and private insurers accounted for nearly all pediatric PQI hospitalizations and low birth weight newborns. Medicaid was also a significant payer for adult asthma and diabetes (short-term and uncontrolled) while private insurers were for perforated appendix, angina, asthma, diabetes (short and long-term) and hypertension.

While the uninsured were only 2% of all PQI hospitalizations, they constituted a larger share of diabetes short-term complications, perforated appendix, hypertension and adult asthma hospitalizations.

Table 5: Primary insurer's share of hospitalizations by PQI, FY 2006

Quality Indicator	Medicare/ other federal	Private	Medicaid	Uninsured ²	Total
Pediatric Quality Indicators (Ages 0 - 17)					
Asthma	1%	42%	55%	2%	100%
Diabetes short-term complications	---	47%	53%	---	100%
Gastroenteritis	1%	55%	43%	1%	100%
Perforated appendix	1%	66%	31%	2%	100%
Urinary tract infection	---	57%	42%	1%	100%
Adult Quality Indicators (Ages 18+)					
Angina without a procedure	47%	40%	10%	3%	100%
Asthma	39%	27%	28%	6%	100%
Bacterial pneumonia	75%	15%	8%	2%	100%
Chronic obstructive pulmonary disease	79%	13%	7%	1%	100%
Congestive heart failure	85%	8%	6%	1%	100%
Dehydration	75%	18%	6%	1%	100%
Diabetes - long-term complications	63%	22%	13%	2%	100%
Diabetes - short-term complications	24%	29%	38%	9%	100%
Diabetes - lower extremity amputation	68%	20%	10%	2%	100%
Diabetes - uncontrolled	56%	13%	26%	5%	100%
Hypertension	46%	30%	17%	7%	100%
Low birth weight newborns ¹	1%	58%	39%	2%	100%
Perforated appendix	25%	58%	9%	8%	100%
Urinary tract infection	77%	13%	8%	2%	100%
Totals	63%	21%	14%	2%	100%

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

Bold blue numbers indicate the largest payer for each PQI.

Reporting primary payer's share of Connecticut residents admitted to Connecticut acute care hospitals with a PQI condition.

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

²Uninsured hospitalizations include all those for which no third party payer is responsible for charges.

PQI volume by hospital, FY 2006

PQI patients were nearly 12% of all hospital discharges. For many of Connecticut's smaller community hospitals, they represented an even larger share of patient volume: Bradley (27%), Milford (18%), Windham (17%), Johnson (17%), Bristol (16%) and MidState (16%).

Table 6: Prevention Quality Indicator (PQI) hospitalizations by hospital, FY 2006

Hospital	PQI Hospitalizations	Share of all PQI Hospitalizations	Change in PQI volume, FYs 2000 - 2006	PQIs as a share of all hospitalizations
Bradley	630	1%	-10%	27%
Bridgeport	1,990	4%	-5%	10%
Bristol	1,303	3%	-4%	16%
Charlotte Hungerford	766	2%	-18%	12%
CT Children's Medical Center	479	1%	33%	9%
Danbury	1,985	4%	7%	10%
Day Kimball	781	2%	3%	14%
Greenwich	1,317	3%	55%	11%
Griffin	950	2%	13%	13%
Hartford	3,275	7%	7%	8%
John Dempsey	1,014	2%	27%	10%
Johnson	726	1%	5%	17%
Lawrence and Memorial	1,925	4%	-14%	13%
Manchester	932	2%	-13%	10%
Middlesex	1,461	3%	2%	11%
MidState	1,602	3%	18%	16%
Milford	902	2%	-13%	18%
New Britain	2,739	6%	37%	15%
New Milford	419	1%	2%	13%
Norwalk	1,830	4%	12%	12%
Rockville	503	1%	-33%	14%
Sharon	369	1%	-24%	13%
St. Francis	2,788	6%	-14%	9%
St. Mary's	1,738	4%	-3%	13%
St. Raphael's	3,106	6%	8%	12%
St. Vincent's	2,386	5%	-3%	12%
Stamford	1,797	4%	-13%	11%
Waterbury	1,938	4%	0%	13%
William Backus	1,435	3%	-2%	13%
Windham	941	2%	9%	17%
Yale-New Haven	5,217	11%	47%	10%
Total	49,244	100%	5%	12%

Source: CT Office of Health Care Access Acute Care Hospital Inpatient Discharge Database
Table includes both Connecticut and out of state residents admitted to Connecticut hospitals with a PQI condition.

PQI hospitalizations varied by hospital type, FY 2006

PQI hospitalizations' share of all total hospital volume and even the characteristics of PQI patients varied by hospital type.⁵ Large urban hospitals accounted for over one-third of all PQI hospitalizations, smaller than their share of all hospitalizations. PQI hospitalizations are a more limited share of their total volume compared to smaller hospitals (e.g., 10% versus 15% for small community hospitals), although they experienced the largest PQI growth since FY 2000. Large urban hospitals treated the majority of pediatric, minority and Medicaid PQI hospitalizations. Medium urban hospitals treated the largest share of PQI hospitalizations, including significant portions of children, Medicaid and minority patients. Small urban and small community hospitals treated a larger share of PQI patients than their share of all hospitalizations and PQIs were a larger share of their overall volume. Their PQI patients were typically elderly non-Hispanic whites with Medicare. Since FY 2000, Small community hospitals experienced a 14% decline in the number of PQI hospitalizations, a significant drop in an important portion of their total hospital volume (15%).

Table 7: PQI hospitalization characteristics by hospital type, FY 2006

PQI Characteristic	Large Urban	Medium Urban	Small Urban	Small Community	All Hospitals
PQIs as a share of all hospitalizations	10%	12%	13%	15%	12%
PQI volume change (FYs 00-06)	11%	3%	5%	-14%	5%
<i>Share of:</i>					
All hospitalizations	40%	37%	18%	5%	100%
All PQI hospitalizations	34%	38%	21%	7%	100%
All Pediatric PQI hospitalizations	57%	30%	12%	1%	100%
Minority PQI hospitalizations	52%	37%	10%	1%	100%
Medicaid PQI hospitalizations	52%	33%	13%	2%	100%
<i>Share of PQI hospitalizations that are:</i>					
Senior Citizens	49%	61%	64%	75%	58%
Medicare	54%	64%	68%	78%	63%
Medicaid	21%	12%	9%	5%	14%
Non-Hispanic white	62%	76%	88%	96%	75%
Average age of PQI patients	56	63	66	72	62

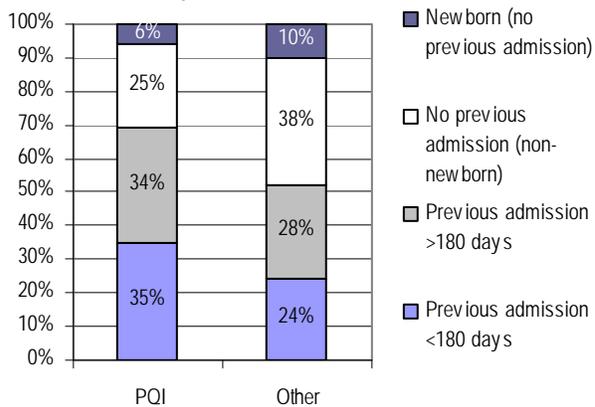
Source: CT Office of Health Care Access Acute Care Hospital Inpatient Discharge Database

Table figures derived from all volume of Connecticut and out of state residents admitted to Connecticut hospitals with a PQI condition.

Previous hospitalization of PQI patients for any cause, FYs 2000 - 2006

PQI patients were more likely to have had previous hospitalizations, FY 2006

Figure 2: Previous hospital admission of PQI and other hospitalizations, FY 2006



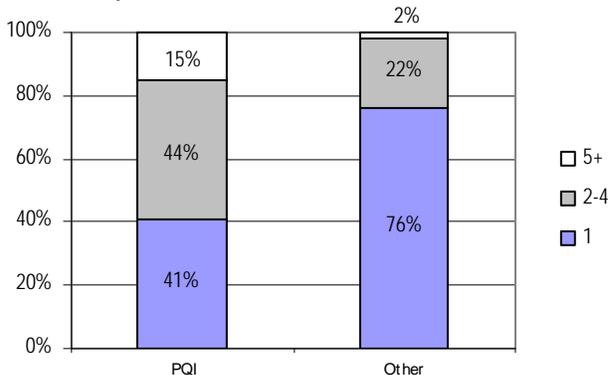
Source: CT Office of Health Care Access Acute Care Hospital Inpatient Discharge Database

PQI patients were more likely than others to have been previously hospitalized (at the same hospital) prior to their current hospital stay. Thirty-five percent had been hospitalized within six months prior to their current PQI hospitalization, while for 34% it had been six or more months since their last hospitalization.

PQI patients' prior hospitalizations may not have been for a PQI condition. However, the greater use of hospital care suggests that many PQI patients may be more severely or chronically ill than others.

PQI patients had more hospitalizations than others, FYs 2004 - 2006

Figure 3: Total hospitalizations of PQI and other patients, FYs 2004 - 2006



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

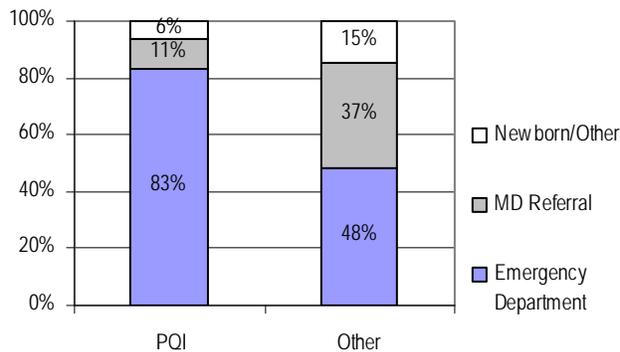
Over the last three years, 59% of PQI patients had more than one hospitalization (at the same hospital), far above the share for other patients (24%). Just under half were hospitalized between two and four times, while 15% had five or more hospitalizations.

On average, PQI patients had twice as many hospitalizations as all others (2.8 versus 1.4, excluding newborns).

Most PQI patients utilized the emergency department, FY 2006

Four of every five PQI patients were admitted to the hospital through the Emergency Department, FY 2006

Figure 4: Admission source of PQI and other hospitalizations, FY 2006



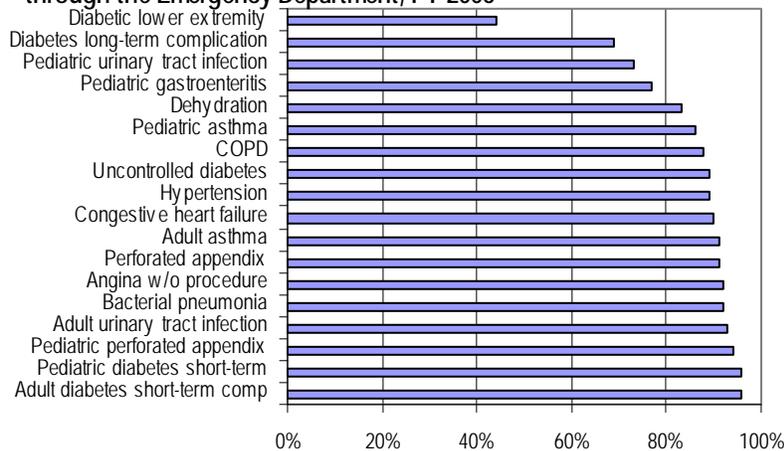
Source: CT Office of Health Care Access Acute Care Hospital Inpatient Discharge Database

Nearly all PQI hospitalizations began in the emergency department (ED), significantly higher than other types of patients (83% versus 48%). Since FY 2000, the volume of PQI hospitalizations admitted through the ED increased by 19%.

Almost one of every five hospitalizations that originated in the ED had a related PQI hospitalization.

Emergency Department admissions varied by PQI, FY 2006

Figure 5: Share of PQI hospitalizations admitted through the Emergency Department, FY 2006



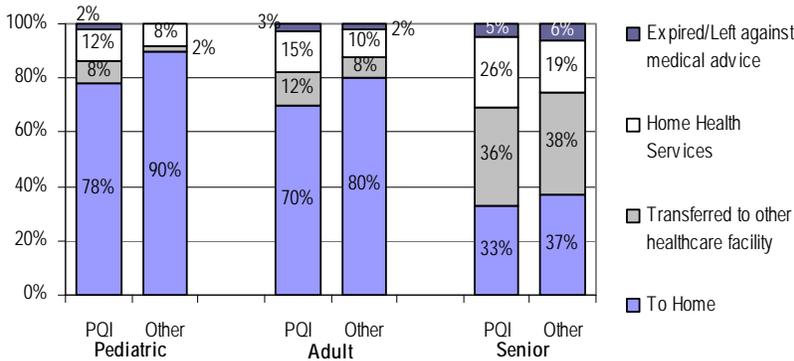
Source: CT Office of Health Care Access Acute Care Hospital Inpatient Discharge Database

Among PQI hospitalizations, adults and children with short-term diabetic complications, (96%), children with a perforated appendix (94%) and adults with a urinary tract infection (93%) were the most likely to have originated in the emergency department. With the exception of lower extremity amputation hospitalizations (44%), all other PQI conditions had high rates of emergency department admission: 14 of the 18 were above 80% and nine were above 90% (excluding newborns).

After leaving the hospital, many PQI patients required additional health care services, FY 2006

Regardless of age, PQI patients received more health care services after being discharged, FY 2006

Figure 6: Discharge status of PQI and other hospitalizations, FY 2006



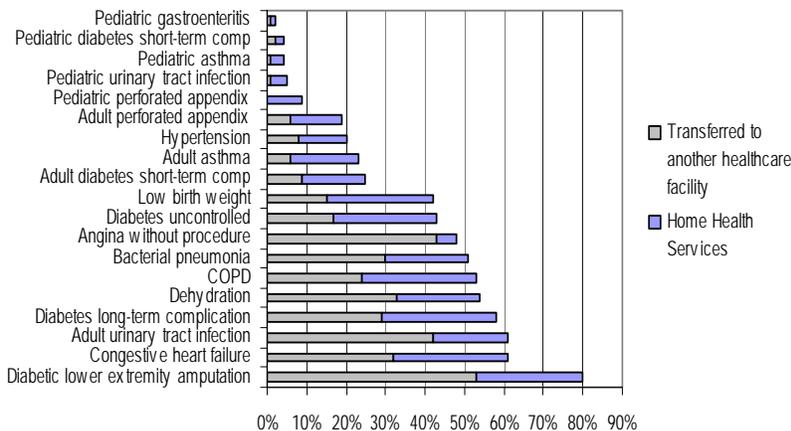
Pediatric (0-17), adult (18-64) and senior (65+)

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

Pediatric, working age adult and senior PQI patients were more likely than other types of patients to use additional health care services following discharge from the hospital. In particular, seniors received further services, as 32% were transferred to skilled nursing facilities, 4% to other health care facilities and 26% received home health care services.

The use of additional health care services following discharge varied by PQI, FY 2006

Figure 7: Share of PQI hospitalizations that required further services after discharge, FY 2006



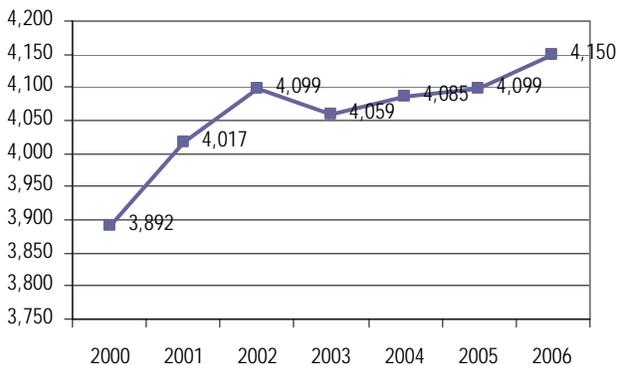
Source: CT Office of Health Care Access Acute Care Hospital Inpatient Discharge Database

PQI conditions with the highest use of health care services following discharge included diabetic lower extremity amputations (80%), congestive heart failure (61%) and adult urinary tract infections (61%). Pediatric PQI hospitalizations were the least likely to require care following discharge from the hospital.

Patients with multiple hospitalizations for the same PQI condition within the same year, FYs 2000 - 2006

The number of PQI patients with multiple hospitalizations for the same PQI condition within the same year increased slightly, FYs 2000 - 2006

Figure 8: Patients with multiple admissions for the same PQI condition in the same year, FYs 2000 - 2006

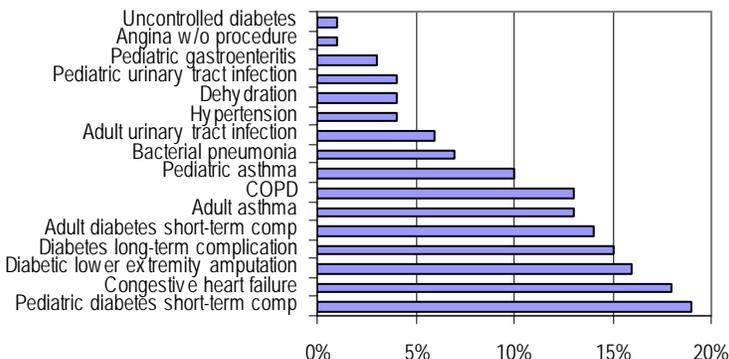


Source: CT Office of Health Care Access Acute Care Hospital Inpatient Discharge Database

From FY 2000 to 2006, the number of patients who had multiple hospitalizations (at the same hospital) for the same PQI condition increased nearly 7%.

Incidence of multiple hospitalizations varied by PQI condition, FY 2006

Figure 9: Share of PQI patients with multiple admissions for the same PQI condition in the same year, FY 2006



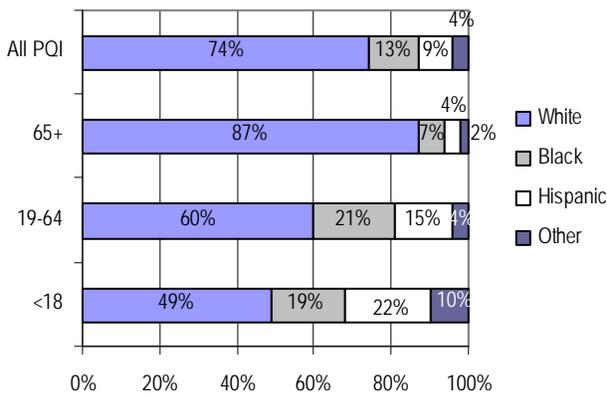
Source: CT Office of Health Care Access Acute Care Hospital Inpatient Discharge Database

In FY 2006, eleven percent of all PQI patients had multiple hospitalizations (at the same hospital) for the same condition. Patients with pediatric diabetes (19%), congestive heart failure (18%), diabetic lower extremity amputation (16%) and diabetes long-term complications (15%) were the most likely to require multiple hospitalizations for these conditions. Those with uncontrolled diabetes (1%), angina without a procedure (1%) and pediatric gastroenteritis (3%) had the lowest incidence of multiple hospitalizations.

Race of PQI hospitalizations, FYs 2000 - 2006

Race of PQI hospitalizations varied by age, FY 2006

Figure 10: Race and age of PQI hospitalizations, FY 2006

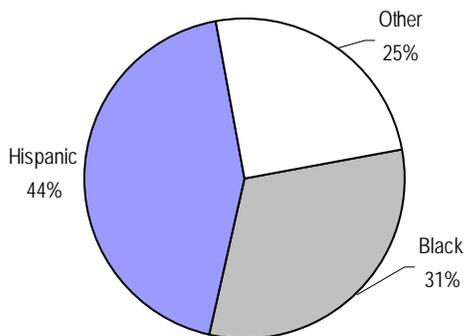


Source: CT Office of Health Care Access Acute Care Hospital Inpatient Discharge Database

Nearly three-quarters of all PQI hospitalizations were non-Hispanic whites. In large part, this was because most PQI hospitalizations were elderly (58%) and nearly all elderly PQI patients were non-Hispanic whites (87%).⁶ However, minorities constituted a larger share of younger PQI hospitalizations. They were 40% of working age adults (ages 19-64) and 51% of all children.

Minorities accounted for all of the growth in PQI hospitalizations, FY 2000 - 2006

Figure 11: Share of PQI hospitalization growth by race, FYs 2000 - 2006



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

From FY 2000 through 2006, minorities accounted for all growth in PQI hospitalizations. Hispanics alone constituted nearly half of this growth, with the largest increases among children and adults 40 to 64 years old. Black PQI hospitalizations increased by nearly one-third, driven principally by increases among those ages 40 to 54, 75 to 84 and children.

During this period, the number of non-Hispanic white PQI hospitalizations fell nearly 1,100 (-3%).⁷

Blacks and Hispanics had highest PQI rates, FY 2006

Compared to all Connecticut residents and non-Hispanic whites, Blacks and Hispanics had higher hospitalization rates for nearly every PQI, meaning they were more likely to be hospitalized for these conditions. Blacks were at least twice as likely as all Connecticut residents to be hospitalized for asthma (pediatric and adult), COPD, congestive heart failure, hypertension and all of the diabetes conditions. Hispanics were at particularly high risk for adult asthma, COPD, uncontrolled diabetes and diabetic-related lower extremity amputations.

Non-Hispanic whites' rates were lower than (or equal to) statewide rates for all PQI conditions. Whites' highest rates were for perforated appendix (pediatric and adult) and conditions more common among the elderly, such as bacterial pneumonia, congestive heart failure and urinary tract infections.

Table 8: PQI rates by race, FY 2006 (per 100,000 population)

Quality Indicator	Black	Hispanic	White	CT
Pediatric Quality Indicators (Ages 0 - 17)				
Asthma	439	273	87	162
Diabetes short-term complications	49	13	13	18
Gastroenteritis	115	194	109	130
Perforated appendix ¹	32	25	24	25
Urinary tract infection	32	59	29	36
Overall pediatric PQI rate	428	290	100	167
Adult Quality Indicators (Ages 18+)				
Angina without a procedure	27	30	21	22
Asthma	300	307	75	112
Bacterial pneumonia	479	453	328	344
Chronic obstructive pulmonary disease	300	307	75	130
Congestive heart failure	710	504	321	353
Dehydration	145	80	86	90
Diabetes - long-term complications	315	188	88	110
Diabetes - short-term complications	145	75	33	48
Diabetes - lower extremity amputation	96	62	27	33
Diabetes - uncontrolled	25	21	5	8
Hypertension	118	46	17	27
Low birth weight newborns ¹	11	8	6	7
Perforated appendix ¹	28	22	24	24
Urinary tract infection	201	196	140	148
Overall adult PQI rate	2,211	1,754	1,010	1,126

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

Bold blue numbers indicate rates above state averages presented in the last column.

Rate (per 100,000 people): Rate calculation according to AHRQ guidelines. For each PQI, the number of hospital discharges was divided by the appropriate population figure and then multiplied by 100,000. These observed rates were then risk adjusted by gender and age. Age is significantly related to PQI hospitalization and non-Hispanic whites (15%) have a higher share of elderly than Blacks (6%) or Hispanics (3%). Risk adjustment facilitates comparison between the races by adjusting for these disparities.

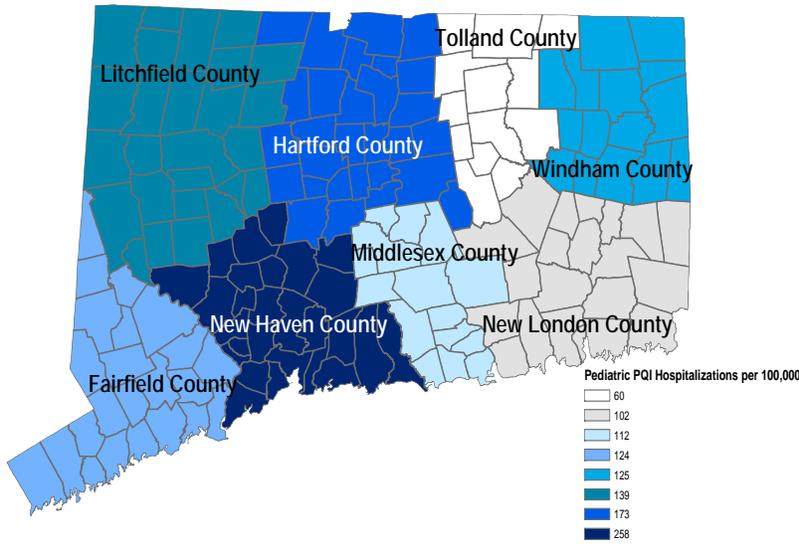
¹Condition specific rates – populations were those who had appendicitis and all births. These rates are per 100 appendicitis hospitalizations and 100 births.

Low birth weight newborns are grouped with the adult PQIs because low birth weight is related to the mother's prenatal care.

White and Black are non-Hispanic. Rates for other racial groups are not presented because their small number of PQIs hospitalizations affects the reliability of their rates.

Overall PQI hospitalization county rates, FY 2006

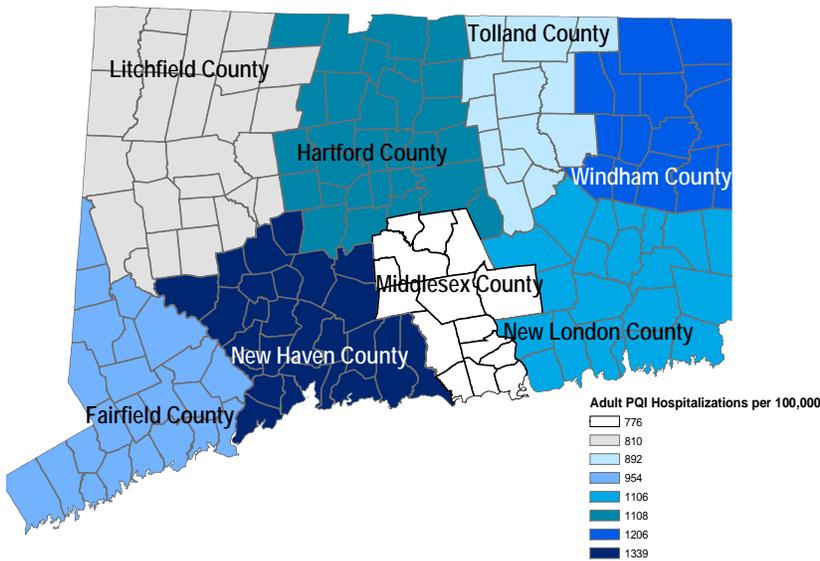
Map 1: New Haven and Hartford counties had highest incidence of pediatric PQI hospitalizations, FY 2006



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

New Haven and Hartford counties had the highest overall pediatric PQI rates (258 and 173 per 100,000 children respectively). The overall rate is a composite indicator of the total number of hospitalizations for the five pediatric PQI conditions. New Haven county's rate was significantly higher (57%) than the statewide rate (167). Tolland (60), New London (102) and Middlesex (112) were well below the statewide average.

Map 2: New Haven and Windham counties had highest adult PQI hospitalization rates, FY 2006



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

New Haven (1,339) and Windham (1,206) counties' overall adult PQI hospitalization rates were higher than Connecticut's (1,126). Middlesex (776), Litchfield (810) and Tolland (892) counties had the lowest rates.

PQI county rates, FY 2006

Compared to Connecticut, New Haven county had higher rates for 17 of the 19 PQI conditions as well as the overall pediatric and adult PQI rates, meaning they had more per capita hospitalizations for these conditions.⁸ Among the counties, New Haven county had the highest rates for 12 PQIs, with particularly higher incidence of pediatric and adult asthma, pediatric gastroenteritis and diabetes long and short term complications. Hartford county rates largely mirrored state averages, with just eight slightly higher rates. It did, however, have the highest incidence of low birth weight newborns. Windham county also had eight conditions with higher than statewide average rates, with the highest incidences of angina, COPD, dehydration and uncontrolled diabetes. Fairfield county, Connecticut's largest, had only three PQI rates higher than the state average and the highest incidence of pediatric diabetes hospitalizations. Middlesex (0), Litchfield (2), Tolland (2) and New London (4) had few PQI rates greater than the state averages.

Table 9: PQI rates by county, FY 2006 (rates per 100,000 population)

Quality Indicator	Fairfield	Hartford	Litchfield	Middlesex	New Haven	New London	Tolland	Windham	CT
Pediatric Quality Indicators (Ages 0 - 17)									
Asthma	94	161	118	96	285	99	66	132	162
Diabetes short-term complications	24	21	12	12	12	7	---	16	18
Gastroenteritis	130	92	139	46	186	120	30	127	130
Perforated appendix ¹	24	26	15	33	30	17	14	22	25
Urinary tract infection	39	25	23	21	53	18	14	40	36
Overall pediatric PQI rate	124	173	139	112	258	102	60	125	167
Adult Quality Indicators (Ages 18+)									
Angina without a procedure	21	15	26	19	27	12	27	38	22
Asthma	84	117	39	44	159	106	65	139	112
Bacterial pneumonia	267	344	287	276	399	347	292	393	344
Chronic obstructive pulmonary disease	95	102	112	125	164	176	109	220	130
Congestive heart failure	329	352	264	212	392	354	291	291	353
Dehydration	93	94	61	49	91	70	72	107	90
Diabetes - long-term complications	88	103	80	65	151	87	78	116	110
Diabetes - short-term complications	43	47	37	31	63	42	19	27	48
Diabetes - lower extremity amputation	25	34	25	18	48	28	21	25	33
Diabetes - uncontrolled	6	7	2	7	9	5	10	18	8
Hypertension	27	20	9	13	36	30	16	23	27
Low birth weight newborns ¹	7	8	6	6	7	6	6	6	7
Perforated appendix ¹	23	26	20	23	26	19	18	23	24
Urinary tract infection	118	166	78	112	174	139	112	123	148
Overall adult PQI rate	954	1,108	810	776	1,339	1,106	892	1,206	1,126

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

Bold blue numbers indicate rates above state averages presented in the last column.

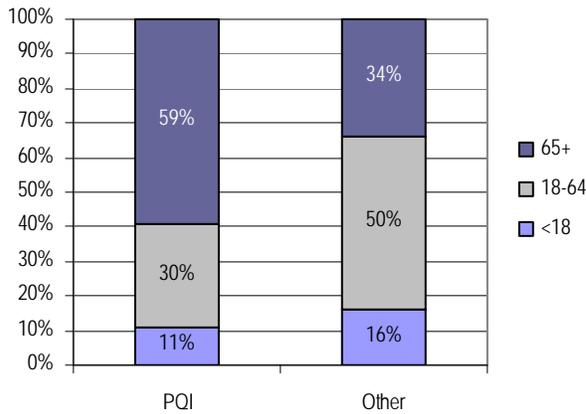
¹Condition specific rates – populations were all births and those who had appendicitis. These rates are per 100 births and 100 appendicitis discharges. Low birth weight newborns are grouped with the adult PQIs because as a quality indicator low birth weight is related to the mother's prenatal care.

Due to their lower volume of hospitalizations, some caution should be taken in interpreting the rates from the smaller counties. Additional caution is also necessary for low volume PQIs.

Age of PQI hospitalizations, FY 2000 - 2006

Senior citizens accounted for over half of all PQI hospitalizations, FY 2006

Figure 12: Age of PQI and other hospitalizations, FY 2006



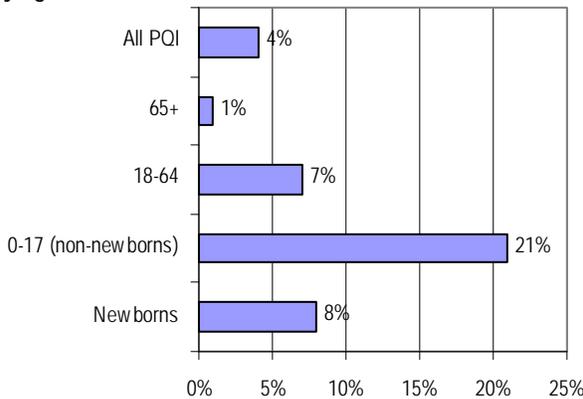
Source: CT Office of Health Care Access Acute Care Hospital Inpatient Discharge Database

Senior citizens accounted for 59% of all PQI hospitalizations, significantly higher than their share of all other types of hospitalizations (34%). Conversely, working age adults (30%) and children (11%) were smaller shares of PQI hospitalizations than other types of hospitalizations (50% and 16%, respectively).

Nineteen percent of all senior citizens in the hospital had a PQI condition. The share of all hospitalized working age adults and children with a PQI were 7% and 12%, respectively.

Children and low birth weight newborns experienced the largest growth, FYs 2000 - 2006

Figure 13: Growth of PQI hospitalizations by age, FYs 2000 - 2006



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

From FY 2000 through FY 2006, children (21%) and low birth weight newborns (8%) experienced the largest PQI increases. Together they accounted for 35% of the total growth in PQI hospitalizations. Adults ages 18 to 64 increased 7% and were nearly half of all PQI hospitalization growth. Senior citizen PQI hospitalizations increased by only 1%, yet because of their large volume, were responsible for 18% of the total growth in PQI hospitalizations.

Low birth weight newborns, FYs 2000 - 2006

In FY 2006, there were over 2,700 low birth weight newborns with total charges of nearly \$195 million. Since FY 2000, the number of low birth weight newborns increased 8% at a time when other newborns declined 10%. The average low birth weight newborn had total charges over \$70,000 with a hospital stay of 16 days, well above that for a normal newborn (\$2,800 with a stay of just under two and a half days). Nearly 7% of all newborns were low birth weight (less than 2,500 grams). After leaving the hospital, just over half of all low birth weight newborns were discharged to home while 27% received home health care services and 15% were transferred to other health care facilities.

Private insurers and Medicaid were the primary payers for nearly all low birth weight newborns. Minorities accounted for nearly half of all low birth weight newborns, slightly higher than their share of all births (41%).

Table 10: Low birth weight newborn volume, FY 2006

Statistic	Volume statistic	Change, FYs 2000 - 2006
Volume		
Hospitalizations	2,764	8%
Total charges ¹	\$194,541,011	147%
Average charge	\$70,614	129%
Total patient days	44,863	17%
Average hospital stay (days)	16	8%
Share of Low Birth Weight Newborns		
<i>Disposition after hospitalization</i>		
To home	53%	-14%
Transferred to other facility	15%	13%
Home health services	27%	119%
Expired	5%	7%
<i>Primary insurer</i>		
Private	58%	1%
Medicaid	39%	27%
Uninsured	2%	-44%
Medicare/other federal	1%	73%
<i>Race</i>		
White	51%	-6%
Black	19%	9%
Hispanic	18%	37%
Other	12%	66%

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

Reporting CT resident newborns with birth weight less than 2500 grams.

¹Due to discounts and other factors, payment differs from charges. In FY 2006, the ratio of charges to payments was 42%, meaning that total payments were 42 cents for every dollar of charges.

Pediatric PQI hospitalizations (under age 18 and excluding low birth weight newborns), FY 2006

In FY 2006, there were over 2,700 pediatric PQI hospitalizations, representing about 12% of all non-newborn pediatric hospitalizations. Since FY 2000, they have increased 21%. Gastroenteritis (71%) and asthma (19%) accounted for most pediatric PQI hospitalization growth.

In comparison to all PQI hospitalizations, fewer pediatric PQI hospitalizations required additional health care services at another facility or home (4% versus 49%). In addition, fewer pediatric PQI patients had multiple hospitalizations for the same PQI in FY 2006 (6% versus 11%). Nearly one in five children with diabetes had multiple diabetes-related hospitalizations in FY 2006.

Table 11: Pediatric PQI volume, FY 2006

Quality Indicator	Hospitalizations	Patient Days	Charges	Emergency Department Admission	Transferred to other institution/or discharged to home healthcare	Multiple admissions for same PQI
Asthma	1,145	2,539	\$8,655,520	86%	4%	10%
Diabetes short-term complications	98	176	\$938,383	96%	4%	19%
Gastroenteritis	984	1,292	\$5,024,649	77%	2%	3%
Perforated appendix	222	1,171	\$5,115,001	94%	9%	---
Urinary tract infection	279	697	\$2,136,435	73%	5%	3%
Totals¹	2,728	6,172	\$21,869,988	83%	4%	6%

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

Reporting hospitalizations of Connecticut non-newborn children ages 0 to 17 admitted to Connecticut acute care hospitals with a PQI condition.

Emergency Department Admissions: Share of hospitalizations for a PQI condition that were admitted to the hospital through the emergency department.

Transferred to other institution/or discharged to home health care: Share of hospitalizations for a PQI condition who were transferred to another health care facility for additional treatment or those discharged to home health care services.

Multiple admissions for same PQI: Share of PQI patients with multiple admissions for the same PQI in FY 2006.

¹Reported total FY 2006 hospitalizations, charges, and patient days are not the summed total for all individual PQI conditions. Several patients had more than one PQI during a hospital stay and therefore their hospitalizations, charges and patient days are counted in the individual totals of multiple PQI conditions.

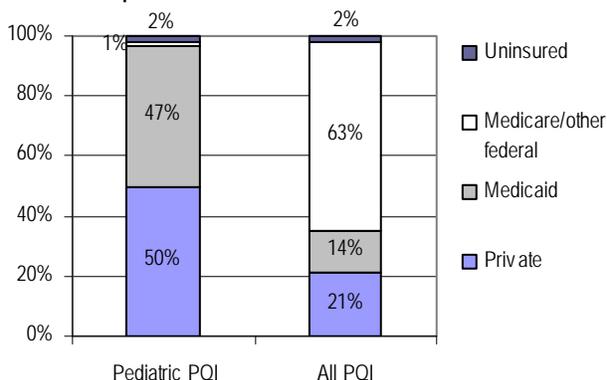
Fiscal year 2006 overall totals are presented without any double counting of these patients.

Due to discounts and other factors, payments differ from charges. In FY 2006, the ratio of charges to payments was 42%, meaning that total payments were 42 cents for every dollar of charges.

Demographic characteristics of pediatric PQI hospitalizations, FY 2006

Private insurers and Medicaid covered most pediatric PQI hospitalizations, FY 2006

Figure 14: Primary insurer for pediatric and all PQI hospitalizations, FY 2006



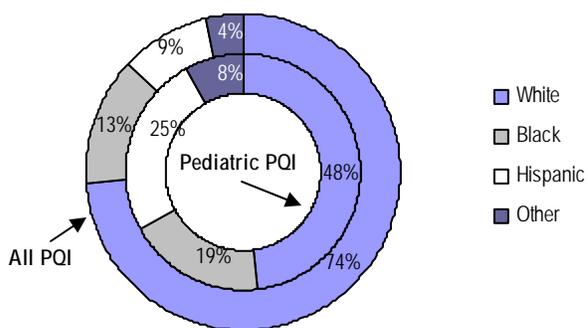
Source: CT Office of Health Care Access Acute Care Hospital Inpatient Discharge Database

Private insurers and Medicaid covered most pediatric PQIs, with each accounting for about half. Their shares of pediatric PQI hospitalizations were significantly larger than for all PQI hospitalizations.

Since FY 2000, the number of uninsured pediatric PQI hospitalizations declined by half while Medicaid PQIs increased by half. This may be the result of the SCHIP expansions of Medicaid.

Over half of all pediatric PQI hospitalizations were minorities, FY 2006

Figure 15: Race of pediatric and all PQI hospitalizations, FY 2006



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

Twice as many pediatric PQI hospitalizations were minorities than among all PQI hospitalizations (52% versus 26%). From FY 2000 through 2006, minority pediatric PQI hospitalizations grew more rapidly than Non-Hispanic white ones (44% versus 3%).

Working age PQI hospitalizations (ages 18 - 64), FY 2006

In FY 2006, there were over 14,000 PQI hospitalizations for people ages 18 to 64 with total charges of nearly \$265 million. For this age group, PQI hospitalizations constituted 7% of all hospitalizations. Bacterial pneumonia, asthma, congestive heart failure, diabetes long-term complications and urinary tract infections accounted for nearly 70% of their PQI hospitalizations. For working age adults, PQI hospitalization increased slower than other types of hospitalizations (7% versus 15%), with diabetes conditions and asthma responsible for over half of this growth.

Nearly all PQI hospitalizations for this age group originated in the emergency department (87%). Just over one-quarter required additional care at another facility or home and 11% of patients had multiple hospitalizations (at the same hospital) for the same PQI condition in FY 2006.

Table 12: Working age PQI volume, FY 2006

Quality Indicator	Hospitalizations	Patient Days	Charges	Emergency Department Admission	Transferred to other institution/or discharged to home healthcare	Multiple admissions for same PQI
Angina without a procedure ¹	343	582	\$3,751,899	91%	46%	1%
Asthma	2,200	7,992	\$28,254,941	91%	12%	15%
Bacterial pneumonia	2,996	14,731	\$56,914,435	90%	22%	6%
Chronic obstructive pulmonary disease	1,014	4,738	\$17,461,053	86%	33%	14%
Congestive heart failure	1,834	9,875	\$40,538,459	90%	33%	17%
Dehydration	754	2,842	\$10,095,013	73%	26%	5%
Diabetes - long-term complications	1,604	11,637	\$44,963,644	68%	46%	18%
Diabetes - short-term complications	1,063	4,032	\$17,019,500	96%	17%	15%
Diabetes - lower extremity amputation	432	5,962	\$24,808,694	54%	71%	15%
Diabetes - uncontrolled	127	354	\$1,350,089	94%	21%	2%
Hypertension	436	1,126	\$5,531,479	89%	9%	4%
Perforated appendix	568	2,622	\$12,762,687	91%	10%	---
Urinary tract infection	1,229	4,731	\$16,539,765	89%	25%	6%
Totals²	14,302	67,407	\$264,508,577	87%	26%	11%

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

Reporting hospitalizations of Connecticut residents ages 18 to 64 admitted to Connecticut acute care hospitals with a PQI condition.

Emergency Department Admissions: Share of hospitalizations for a PQI condition that were admitted to the hospital through the emergency department.

Transferred to other institution/or discharged to home health care: Share of hospitalizations for a PQI condition who were transferred to another health care facility for additional treatment or those discharged to home health care services.

Multiple admissions for same PQI: Share of PQI patients with multiple admissions for the same PQI in FY 2006.

¹Changing coding practices contributed to the precipitous decline in the number of angina discharges.

²Reported total FY 2006 hospitalizations, charges, and patient days are not the summed total for all individual PQI conditions. Several patients had more than one PQI during a hospital stay and therefore their hospitalizations, charges and patient days are counted in the individual totals of multiple PQI conditions.

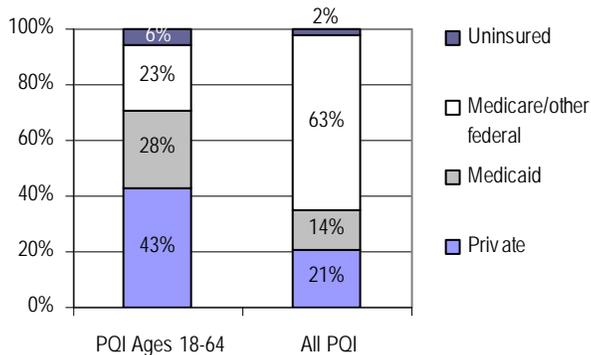
Fiscal year 2006 overall totals are presented without any double counting of these patients.

Due to discounts and other factors, payments differ from charges. In FY 2006, the ratio of charges to payments was 41%, meaning that total payments were 41 cents for every dollar of charges.

Characteristics of working age (ages 18 - 64) PQI hospitalizations, FY 2006

Private insurers were the largest source of coverage for working age PQI hospitalizations, FY 2006

Figure 16: Primary insurer for working age (18-64) and all PQI hospitalizations, FY 2006

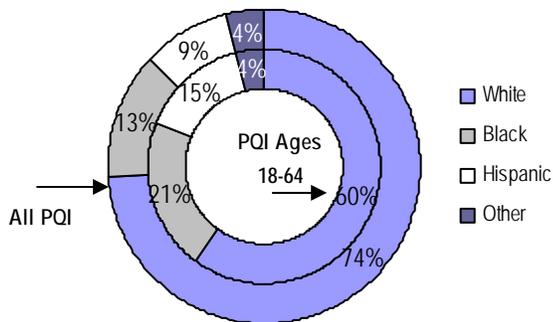


Source: CT Office of Health Care Access Acute Care Hospital Inpatient Discharge Database

Private insurers' share of working age PQI hospitalizations was twice that for all PQI hospitalizations (43% versus 21%). Working age PQI hospitalizations were more likely to be uninsured (6%) than all PQI hospitalizations (2%), children (2%) and senior citizens (0.3%). Among working age PQI hospitalizations, the highest share of uninsured were those ages 18 to 29 (12%) and 30 to 39 (8%). In Connecticut, young adults (19-29) are the most likely to be uninsured.⁹

Forty percent of working age PQI hospitalizations were minorities, FY 2006

Figure 17: Race of working age (18-64) and all PQI hospitalizations, FY 2006



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

Minorities were a larger share of working age PQI hospitalizations (40%) than all PQI hospitalizations (26%), all hospitalizations for people age 18 to 64 (33%), and even all Connecticut's residents in this age group (25%).

Since FY 2000, the number of minority working age PQI hospitalizations increased by 29%, while it fell by 4% for non-Hispanic whites.

Senior citizen PQI hospitalizations (Ages 65+), FY 2006

In FY 2006, there were nearly 28,000 senior citizen PQI hospitalizations with total charges of \$528 million and almost 148,000 hospital days. Congestive heart failure, bacterial pneumonia and urinary tract infections accounted for 70% of these hospitalizations.

Since FY 2000, the number of PQI hospitalizations among senior citizens increased by 1%, well below the growth of other types of hospitalizations for this age group (14%). Urinary tract infections constituted over half of the total PQI hospitalization increase among senior citizens. During this period, asthma and hypertension hospitalizations also increased by half.

Nearly all PQI hospitalizations for those 65 and older originated in the emergency department (90%) and 11% of whom had multiple hospitalizations for the same PQI condition. Following discharge, nearly two-thirds required additional care at another health care facility (37%) or at home (28%).

Table 13: Senior Citizen PQI volume, FY 2006

Quality Indicator	Hospitalizations	Patient Days	Charges	Emergency Department Admission	Transferred to other institution/or discharged to home healthcare	Multiple admissions for same PQI
Angina without a procedure ¹	284	582	\$3,168,737	92%	51%	0%
Asthma	882	4,573	\$15,222,676	90%	50%	8%
Bacterial pneumonia	7,352	40,389	\$139,298,116	92%	63%	7%
Chronic obstructive pulmonary disease	2,751	13,923	\$49,496,101	89%	61%	13%
Congestive heart failure	8,938	48,610	\$181,008,687	90%	67%	18%
Dehydration	1,971	8,463	\$28,393,126	87%	65%	3%
Diabetes - long-term complications	1,486	10,097	\$38,514,982	70%	71%	12%
Diabetes - short-term complications	169	1,039	\$3,859,707	96%	70%	6%
Diabetes - lower extremity amputation	521	5,735	\$22,981,067	37%	86%	17%
Diabetes - uncontrolled	84	407	\$1,280,826	82%	73%	1%
Hypertension	317	900	\$4,026,479	89%	34%	3%
Perforated appendix	161	1,368	\$6,303,812	93%	52%	---
Urinary tract infection	3,238	15,256	\$48,471,194	94%	75%	6%
Totals²	27,846	147,814	\$528,410,447	90%	65%	11%

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

Reporting hospitalizations of Connecticut residents ages 65+ admitted to Connecticut acute care hospitals with a PQI condition.

Emergency Department Admissions: Share of hospitalizations for a PQI condition that were admitted to the hospital through the emergency department.

Transferred to other institution/or discharged to home health care: Share of hospitalizations for a PQI condition who were transferred to another health care facility for additional treatment or those discharged to home health care services.

Multiple admissions for same PQI: Share of PQI patients with multiple admissions for the same PQI in FY 2006.

¹Changing coding practices contributed to the precipitous decline in the number of angina discharges.

²Reported total FY 2006 hospitalizations, charges, and patient days are not the summed total for all individual PQI conditions. Several patients had more than one PQI during a hospital stay and therefore their hospitalizations, charges and patient days are counted in the individual totals of multiple PQI conditions.

Fiscal year 2006 overall totals are presented without any double counting of these patients.

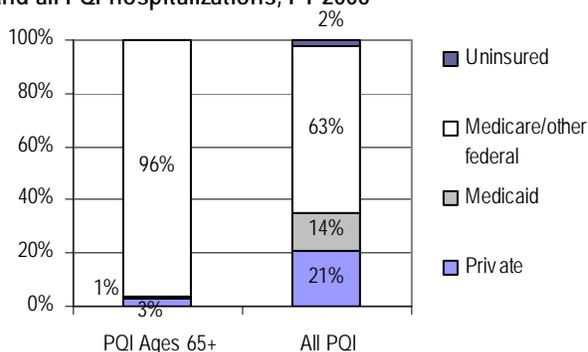
Due to discounts and other factors, payments differ from charges. In FY 2006, the ratio of charges to payments was 42%, meaning that total payments were 42 cents for every dollar of charges and for Medicare the ratio was 40%.

Demographic characteristics of PQI hospitalizations of senior citizens (age 65+), FY 2006

Medicare was the primary insurer for nearly all PQI hospitalizations among senior citizens, FY 2006

Medicare was the primary insurer for nearly all PQI hospitalizations for those age 65 and older.

Figure 18: Primary insurer for senior citizen and all PQI hospitalizations, FY 2006

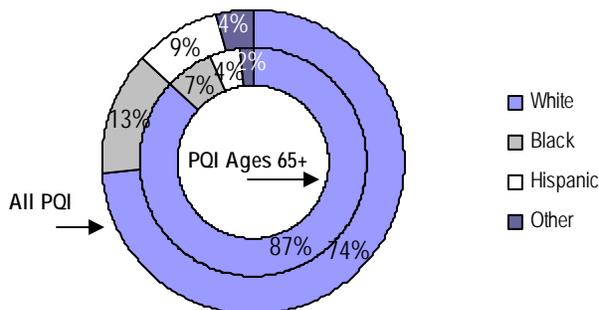


Source: CT Office of Health Care Access Acute Care Hospital Inpatient Discharge Database

Senior citizen PQI hospitalizations were largely non-Hispanic whites, FY 2006

Most senior PQI hospitalizations were non-Hispanic whites (87%), which was consistent with their share of Connecticut's population age 65 and older (91%).

Figure 19: Race of senior citizen and all PQI hospitalizations, FY 2006



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

Private coverage PQI hospitalizations, FY 2006

In FY 2006, there were nearly 10,000 private coverage PQI hospitalizations with over 59,000 patient days and \$242 million in total charges. Since FY 2000, private coverage PQI hospitalizations fell by 10%. Declining COPD, congestive heart failure, angina and bacterial pneumonia hospitalizations accounted for most of this decrease.

Compared with all PQI hospitalizations, fewer private coverage PQI hospitalizations originated in the emergency department (68% versus 83%) or required additional health care services at another facility or home (22% versus 49%).¹⁰ In addition, fewer had multiple admissions for the same PQI in FY 2006 (7% versus 11%).

Table 14: Private coverage PQI volume, FY 2006

Quality Indicator	Hospitalizations	Patient Days	Charges	Emergency Department Admission	Transferred to other institution/or discharged to home healthcare	Multiple admissions for same PQI
Pediatric Quality Indicators (Ages 0 - 17)						
Asthma	478	942	\$3,427,164	84%	1%	5%
Diabetes short-term complications	46	94	\$428,562	96%	4%	10%
Gastroenteritis	541	903	\$2,619,340	75%	1%	3%
Perforated appendix	147	731	\$3,357,329	93%	7%	5%
Urinary tract infection	158	396	\$1,226,373	71%	7%	5%
Adult Quality Indicators (Ages 18+)						
Angina without a procedure ¹	254	386	\$2,561,062	89%	50%	1%
Asthma	833	3,067	\$10,237,951	87%	7%	11%
Bacterial pneumonia	1,567	7,483	\$28,565,145	85%	17%	4%
Chronic obstructive pulmonary disease	476	2,128	\$8,043,165	81%	23%	10%
Congestive heart failure	891	4,625	\$19,381,409	85%	31%	13%
Dehydration	487	1,770	\$6,149,010	67%	21%	4%
Diabetes - long-term complications	675	4,426	\$17,121,136	60%	45%	17%
Diabetes - short-term complications	356	1,096	\$4,733,724	95%	17%	10%
Diabetes - lower extremity amputation	189	2,111	\$9,355,870	48%	71%	15%
Diabetes - uncontrolled	27	61	\$232,436	89%	15%	0%
Hypertension	226	552	\$2,839,536	87%	4%	2%
Low birth weight newborns ²	1,599	25,869	\$111,336,754	---	39%	---
Perforated appendix	424	1,876	\$9,080,871	90%	9%	---
Urinary tract infection	580	2,071	\$7,529,352	86%	16%	3%
Totals³	9,824	59,198	\$242,345,824	68%	22%	7%

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

Reporting hospitalizations of Connecticut residents with private coverage admitted to Connecticut acute care hospitals with a PQI condition.

¹Changing coding practices contributed to the precipitous decline in the number of angina discharges.

²Low birth weight newborns are grouped with the adult PQI conditions because low birth weight is related to the mother's prenatal care.

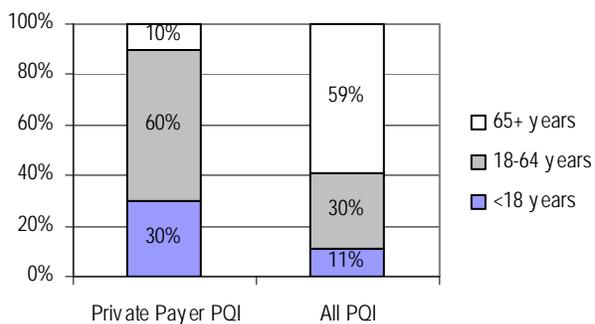
³Reported total FY 2006 hospitalizations, charges, and patient days are not the summed total for all individual PQI conditions. Several patients had more than one PQI during a hospital stay and therefore their hospitalizations, charges and patient days are counted in the individual totals of multiple PQI conditions. Fiscal year 2006 overall totals are presented here without any double counting of these patients.

Due to discounts and other factors, payments differ from charges. In FY 2006, the ratio of charges to payments for private payers was 49 percent, meaning that total payments were 49 cents for every dollar of charges.

Demographic characteristics of private coverage PQI hospitalizations, FY 2006

Working age adults were the majority of private coverage PQI hospitalizations, FY 2006

Figure 20: Age of private coverage and all PQI hospitalizations, FY 2006

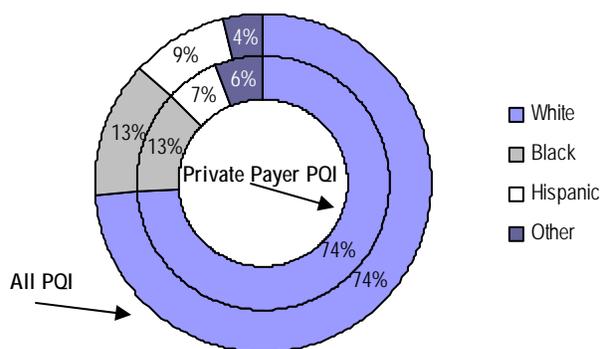


Source: CT Office of Health Care Access Acute Care Hospital Inpatient Discharge Database

Nearly all private coverage PQI hospitalizations were working age adults or children, unlike all PQI hospitalizations which were predominantly senior citizens (59%). The average age of private coverage PQI hospitalizations (38) was younger than all PQI hospitalizations (62). Since FY 2000, the number of private coverage working age (-10%) and senior citizens PQI hospitalizations fell (-36%), while pediatric hospitalizations increased slightly (4%).¹¹

Nearly three quarters of all private coverage PQI hospitalizations were non-Hispanic whites, FY 2006

Figure 21: Race of private coverage and all PQI hospitalizations, FY 2006



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

Private coverage PQI hospitalizations were racially almost identical to all PQI hospitalizations, as almost three-quarters were non-Hispanic whites. However, from FY 2000 through 2006, their hospitalizations declined (-16%) while private payer minority PQI hospitalizations grew (18%).

Medicaid PQI hospitalizations, FY 2006

In FY 2006, there were almost 7,000 Medicaid PQI hospitalizations, with nearly 42,000 patient days and \$169 million in total charges. From FY 2000 through 2006, Medicaid PQI hospitalizations, along with their total charges and patient days expanded faster than for all PQI hospitalizations.¹² Low birth weight newborns accounted for half of the increase in Medicaid PQI total charges and patient days and was the largest factor in the growth of hospitalizations. Compared to other PQI hospitalizations, fewer Medicaid patients were admitted to the hospital through the emergency department (76% versus 83%) and received home health services or additional health care at another facility 25% versus 49%.¹³ However, a slightly larger share had multiple hospitalizations for the same PQI condition in FY 2006 (13% versus 11%). Multiple hospitalizations were most common among pediatric and adult diabetes short-term complications, congestive heart failure and adult asthma.

Table 15: Medicaid PQI Volume, FY 2006

Quality Indicator	Hospitalizations	Patient Days	Charges	Emergency Department Admission	Transferred to other institution/or discharged to home healthcare	Multiple admissions for same PQI
Pediatric Quality Indicators (Ages 0 - 17)						
Asthma	635	1,309	\$5,020,689	87%	5%	14%
Diabetes short-term complications	52	118	\$509,821	96%	4%	29%
Gastroenteritis	421	824	\$2,268,145	80%	2%	3%
Perforated appendix	68	398	\$1,614,852	94%	12%	---
Urinary tract infection	116	300	\$868,283	76%	3%	3%
Adult Quality Indicators (Ages 18+)						
Angina without a procedure ¹	62	140	\$845,547	95%	29%	2%
Asthma	872	3,011	\$11,172,542	95%	14%	19%
Bacterial pneumonia	856	4,146	\$16,258,383	97%	26%	8%
Chronic obstructive pulmonary disease	267	1,228	\$4,592,100	90%	37%	15%
Congestive heart failure	600	3,441	\$13,835,709	94%	35%	21%
Dehydration	167	659	\$2,284,717	81%	29%	4%
Diabetes - long-term complications	413	3,180	\$11,116,374	79%	40%	15%
Diabetes - short-term complications	466	1,809	\$7,881,426	97%	17%	20%
Diabetes - lower extremity amputation	100	1,687	\$6,036,772	60%	64%	16%
Diabetes - uncontrolled	56	149	\$482,686	96%	18%	2%
Hypertension	130	365	\$1,728,691	92%	12%	8%
Low birth weight newborns ²	1,080	18,063	\$78,904,568	---	48%	---
Perforated appendix	65	354	\$1,878,448	91%	15%	---
Urinary tract infection	363	1,502	\$5,306,674	93%	25%	7%
Totals³	6,724	41,678	\$168,956,182	76%	25%	13%

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

Reporting hospitalizations of Connecticut residents with Medicaid coverage admitted to Connecticut acute care hospitals with a PQI condition.

¹Changing coding practices contributed to the precipitous decline in the number of angina discharges.

²Low birth weight newborns are grouped with the adult PQI conditions because low birth weight is related to the mother's prenatal care.

³Reported total FY 2006 hospitalizations, charges, and patient days are not the summed total for all individual PQI conditions. Several patients had more than one PQI during a hospital stay and therefore their hospitalizations, charges and patient days are counted in the individual totals of multiple PQIs conditions.

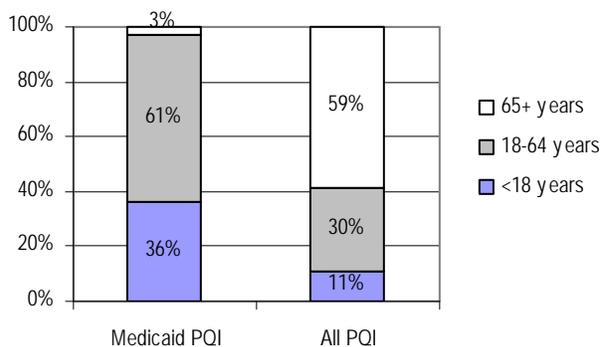
Fiscal year 2006 overall totals are presented here without any double counting of these patients.

Due to discounts and other factors, payments differ from charges. In FY 2006, the ratio of Medicaid charges to payments was 30%, meaning that total payments were 30 cents for every dollar of charges.

Demographic characteristics of Medicaid PQUI hospitalizations, FY 2006

Medicaid PQUI hospitalizations were younger than all PQUI hospitalizations, FY 2006

Figure 22: Age of Medicaid and all PQUI hospitalizations, FY 2006



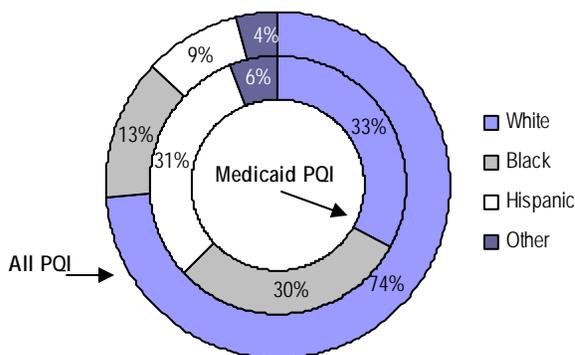
Source: CT Office of Health Care Access Acute Care Hospital Inpatient Discharge Database

Medicaid predominantly serves low-income children and their parents and consequently younger people were a larger share of Medicaid PQUI hospitalizations than for all PQUI hospitalizations.

Among PQUI hospitalizations, Medicaid had the youngest average age (31) compared to private insurers (38), uninsured (42) and Medicare (78).

Two-thirds of Medicaid PQUI hospitalizations were minorities, FY 2006

Figure 23: Race of Medicaid and all PQUI hospitalizations, FY 2006



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

Two-thirds of Medicaid PQUI hospitalizations were minorities, a much larger share than among all PQUI hospitalizations (26%). Since FY 2000, minority Medicaid PQUI hospitalizations grew more than twice as fast as Non-Hispanic white PQIs (37% versus 18%).

Uninsured PQI hospitalizations, FY 2006

In FY 2006, there were over 1,000 uninsured PQI hospitalizations with total charges of nearly \$16 million. Adult asthma, bacterial pneumonia, congestive heart failure, diabetes short-term complications and urinary tract infections accounted for 63% of all uninsured PQI hospitalizations. Although the number of uninsured PQI hospitalizations was 19% lower in FY 2006 than in FY 2000, all of this decline occurred between 2000 and 2002. Since that time the number of uninsured has increased by nearly one-third.

Most uninsured PQI hospitalizations were admitted through the emergency department. Few uninsured received additional services at another health care facility or home and fewer had multiple hospitalizations for the same PQI condition (9% versus 11% for all PQI patients).

Table 16: Uninsured PQI Volume, FY 2006

Quality Indicator	Hospitalizations	Patient Days	Charges	Emergency Department Admission	Transferred to other institution/or discharged to home healthcare	Multiple admissions for same PQI
Pediatric Quality Indicators (Ages 0 - 17)						
Asthma	23	37	\$147,684	91%	2%	5%
Gastroenteritis	15	32	\$100,053	100%	73%	7%
Perforated appendix	<6	<6	<6	<6	<6	<6
Urinary tract infection	<6	<6	<6	<6	<6	<6
Adult Quality Indicators (Ages 18+)						
Angina without a procedure ¹	19	34	\$203,896	100%	16%	0%
Asthma	170	456	\$1,697,577	96%	3%	14%
Bacterial pneumonia	167	765	\$2,863,354	90%	4%	5%
Chronic obstructive pulmonary disease	39	178	\$666,168	87%	13%	6%
Congestive heart failure	131	590	\$2,447,703	95%	17%	15%
Dehydration	36	136	\$568,160	83%	17%	0%
Diabetes - long-term complications	68	469	\$1,357,337	88%	25%	14%
Diabetes - short-term complications	114	392	\$1,807,263	95%	47%	15%
Diabetes - lower extremity amputation	17	223	\$762,188	88%	9%	16%
Diabetes - uncontrolled	10	34	\$99,318	100%	0%	0%
Hypertension	54	105	\$537,306	93%	4%	2%
Low birth weight newborns ²	59	287	\$826,286	---	---	---
Perforated appendix	61	261	\$1,208,741	97%	5%	---
Urinary tract infection	93	299	\$1,109,714	95%	9%	6%
Totals³	1,070	4,148	\$15,908,462	88%	10%	9%

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

Reporting hospitalizations of Connecticut residents admitted to Connecticut acute care hospitals with a PQI condition and for whom no third party payer was responsible for hospital charges.

Fewer than six observations cannot be released, per OHCA regulations.

¹Changing coding practices contributed to the precipitous decline in the number of angina discharges.

²Low birth weight newborns are grouped with the adult PQI conditions because low birth weight is related to the mother's prenatal care.

³Reported total FY 2006 hospitalizations, charges, and patient days are not the summed total for all individual PQI conditions. Several patients had more than one PQI during a hospital stay and therefore their hospitalizations, charges and patient days are counted in the individual totals of multiple PQI conditions.

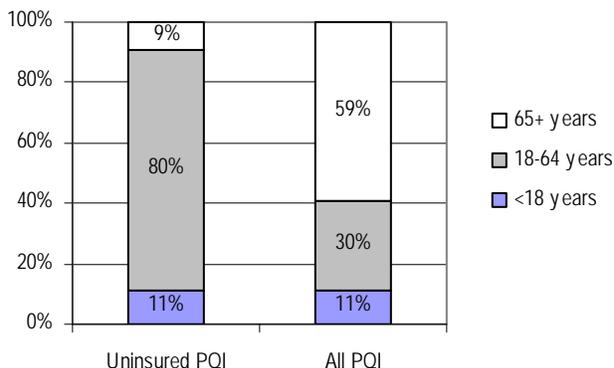
Fiscal year 2006 overall totals are presented here without any double counting of these patients.

Due to discounts and other factors, actual payments are significantly lower than charges. In FY 2006, the ratio of charges to payments was 42 percent, meaning that total payments were 42 cents for every dollar of charges.

Demographic characteristics of uninsured PQI hospitalizations, FY 2006

Uninsured PQI patients were largely working age adults, FY 2006

Figure 24: Age of uninsured and all PQI hospitalizations, FY 2006

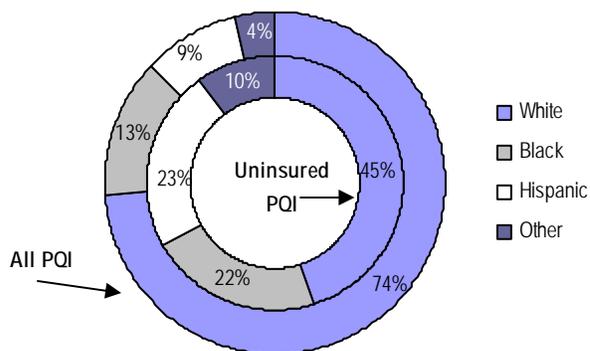


Source: CT Office of Health Care Access Acute Care Hospital Inpatient Discharge Database

Distinct from all PQI hospitalizations, working age adults accounted for four of every five uninsured hospitalizations. The preponderance of working age adults among uninsured PQI hospitalizations was consistent with their overall share of Connecticut's uninsured (86%).¹⁴

The majority of uninsured PQI hospitalizations were minorities, FY 2006

Figure 25: Race of uninsured and all PQI hospitalizations, FY 2006



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

Twice as many uninsured PQI hospitalizations were minorities as compared to all PQI hospitalizations (55% versus 26%). Over the last five years, uninsured minority PQI volume increased by nearly half, outpacing whites (14%).

Hispanic PQI hospitalizations, FY 2006

In FY 2006, there were over 4,400 Hispanic PQI hospitalizations with nearly 24,000 patient days and total charges of \$94 million. Since FY 2000, Hispanic PQI hospitalizations increased 43%, with the largest volume increases in low birth weight newborns, diabetes long-term complications and adult asthma.

Fewer Hispanic PQI hospitalizations resulted in health care services at another facility or at home than for all PQI hospitalizations (33% versus 49%). They did have slightly more multiple hospitalizations for the same PQI condition during FY 2006 (12% versus 11%).

Table 17: Hispanic PQI Volume, FY 2006

Quality Indicator	Hospitalizations	Patient Days	Charges	Emergency Department Admission	Transferred to other institution/or discharged to home healthcare	Multiple admissions for same PQI
Pediatric Quality Indicators (Ages 0 - 17)						
Asthma	304	685	\$2,618,244	91%	6%	13%
Diabetes short-term complications	16	33	\$155,466	94%	0%	25%
Gastroenteritis	245	416	\$1,194,369	82%	2%	2%
Perforated appendix	43	274	\$1,111,392	95%	7%	---
Urinary tract infection	71	181	\$534,699	77%	0%	3%
Adult Quality Indicators (Ages 18+)						
Angina without a procedure ¹	152	93	\$543,770	96%	22%	0%
Asthma	612	2,515	\$8,779,298	93%	21%	18%
Bacterial pneumonia	75	2,847	\$10,851,636	96%	36%	9%
Chronic obstructive pulmonary disease	301	674	\$2,374,731	91%	53%	14%
Congestive heart failure	41	3,093	\$12,819,564	94%	53%	22%
Dehydration	93	383	\$1,370,265	77%	37%	3%
Diabetes - long-term complications	631	2,298	\$9,195,274	77%	53%	14%
Diabetes - short-term complications	198	674	\$2,722,192	97%	20%	17%
Diabetes - lower extremity amputation	510	1,182	\$4,717,924	55%	85%	18%
Diabetes - uncontrolled	76	123	\$431,668	95%	34%	5%
Hypertension	49	176	\$935,967	92%	14%	4%
Low birth weight newborns ²	652	7,503	\$30,620,367	---	45%	---
Perforated appendix	113	350	\$1,727,536	93%	13%	---
Urinary tract infection	312	1,220	\$4,078,586	94%	32%	5%
Totals³	4,436	23,941	\$93,884,918	80%	33%	12%

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

Reporting hospitalizations of Hispanic Connecticut residents admitted to Connecticut acute care hospitals with a PQI condition.

¹Changing coding practices contributed to the precipitous decline in the number of angina discharges.

²Low birth weight newborns are grouped with the adult PQI conditions because low birth weight is related to the mother's prenatal care.

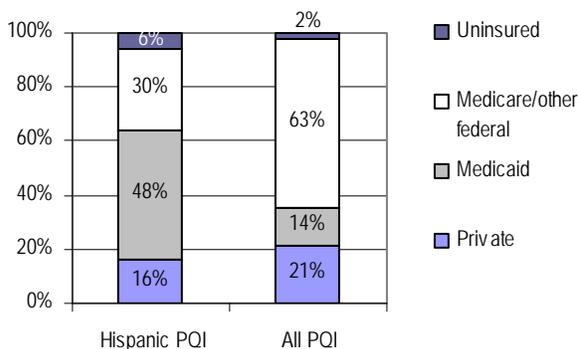
³Reported total FY 2006 hospitalizations, charges, and patient days are not the summed total for all individual PQI conditions. Several patients had more than one PQI during a hospital stay and therefore their hospitalizations, charges and patient days are counted in the individual totals of multiple PQI conditions.

Fiscal year 2006 overall totals are presented without any double counting of these patients.

Demographic characteristics of Hispanic PQI hospitalizations, FY 2006

Medicaid was the primary payer for nearly half of all Hispanic PQI hospitalizations, FY 2006

Figure 26: Primary insurer for Hispanic and all PQI hospitalizations, FY 2006

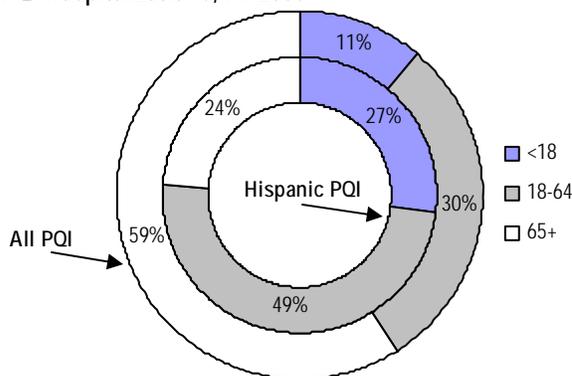


Source: CT Office of Health Care Access Acute Care Hospital Inpatient Discharge Database

Hispanic PQI hospitalizations were three times as likely as all others to either have Medicaid or to have been uninsured. Hispanics were half as likely as all PQIs to have Medicare.

Hispanic PQI hospitalizations tended to be younger than other PQI hospitalizations, FY 2006

Figure 27: Age of Hispanic and all PQI hospitalizations, FY 2006



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

Fewer than one-quarter of all Hispanic PQI hospitalizations were age 65 or older, less than half that for all PQI hospitalizations (59%). This was consistent with Connecticut's Hispanic population, as only 3% were age 65 or older.

The average age of Hispanic PQI hospitalizations was 41, as compared to 64 for non-Hispanics.

Black PQI hospitalizations, FY 2006

In FY 2006, there were over 5,900 black PQI hospitalizations with nearly 37,000 patient days and \$155 million in total charges. From FY 2000 through 2006, black PQI hospitalizations increased 19%, with the largest volume increases in congestive heart failure, urinary tract infection, COPD and adult asthma.

Slightly more black PQI patients had multiple hospitalizations during the year for the same PQI condition than for all PQI patients (13% versus 11%).

Table 18: Black PQI Volume, FY 2006

Quality Indicator	Hospitalizations	Patient Days	Charges	Emergency Department Admission	Transferred to other institution/or discharged to home healthcare	Multiple admissions for same PQI
Pediatric Quality Indicators (Ages 0 - 17)						
Asthma	351	677	\$2,661,024	90%	3%	16%
Diabetes short-term complications	31	67	\$295,625	100%	0%	26%
Gastroenteritis	100	255	\$734,485	90%	3%	3%
Perforated appendix	17	106	\$410,181	94%	6%	---
Urinary tract infection	29	70	\$238,712	83%	7%	4%
Adult Quality Indicators (Ages 18+)						
Angina without a procedure ¹	254	1,182	\$4,409,990	96%	29%	2%
Asthma	1,157	6,624	\$26,351,203	94%	17%	20%
Bacterial pneumonia	51	301	\$1,350,342	94%	33%	5%
Chronic obstructive pulmonary disease	360	1,682	\$5,613,079	94%	57%	15%
Congestive heart failure	51	233	\$913,910	93%	46%	21%
Dehydration	176	2,087	\$8,724,297	87%	43%	4%
Diabetes - long-term complications	824	4,270	\$16,577,749	72%	53%	18%
Diabetes - short-term complications	340	1,488	\$6,090,737	98%	27%	13%
Diabetes - lower extremity amputation	522	10,978	\$53,974,584	50%	78%	17%
Diabetes - uncontrolled	228	629	\$2,922,621	90%	31%	2%
Hypertension	52	128	\$795,114	94%	17%	5%
Low birth weight newborns ²	646	2,231	\$8,196,569	---	43%	---
Perforated appendix	251	974	\$3,567,104	94%	14%	---
Urinary tract infection	604	4,367	\$17,137,107	93%	53%	9%
Totals³	5,930	36,947	\$155,111,143	82%	26%	13%

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

Reporting hospitalizations of black Connecticut residents admitted to Connecticut acute care hospitals with a PQI condition.

¹Changing coding practices contributed to the precipitous decline in the number of angina discharges.

²Low birth weight newborns are grouped with the adult PQI conditions because as a quality indicator low birth weight is related to the mother's prenatal care.

³Reported total FY 2006 hospitalizations, charges, and patient days are not the summed total for all individual PQIs conditions. Several patients had more than one PQI during a hospital stay and therefore their hospitalizations, charges and patient days are counted in the individual totals of multiple PQI conditions.

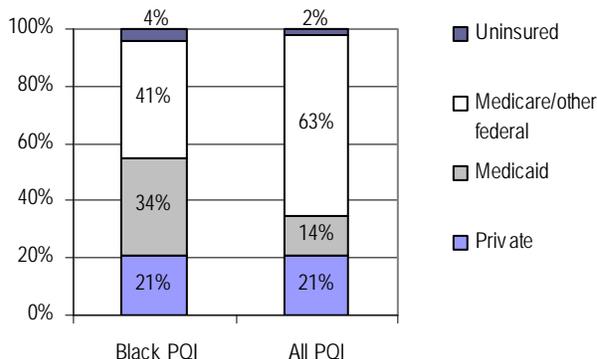
Fiscal year 2006 overall totals are presented without any double counting of these patients.

Due to discounts and other factors, actual payments are significantly lower than charges. In FY 2006, the ratio of charges to payments was 42 percent, meaning that total payments were 42 cents for every dollar of charges.

Demographic characteristics of black PQI hospitalizations, FY 2006

Medicare was the largest insurer for Black PQI hospitalizations, FY 2006

Figure 28: Primary insurer for Black and all PQI hospitalizations, FY 2006



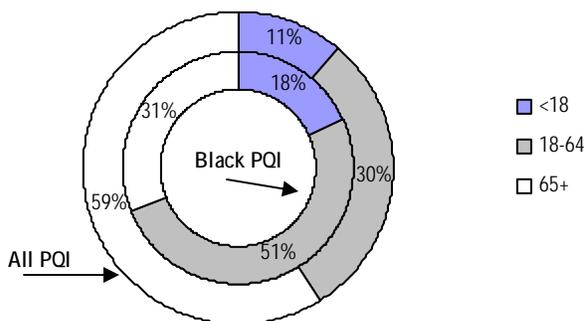
Source: CT Office of Health Care Access Acute Care Hospital Inpatient Discharge Database

While Medicare was the largest source of coverage for black PQI hospitalizations, its share was smaller than among all PQI hospitalizations (41% versus 63%). Blacks were nearly three times as likely to be covered by Medicaid, and twice as likely to be uninsured.

Since FY 2000, black Medicaid PQI hospitalizations grew by nearly one-third.

Most Black PQI hospitalizations were ages 18 to 64, FY 2006

Figure 29: Age of Black and all PQI hospitalizations, FY 2006



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

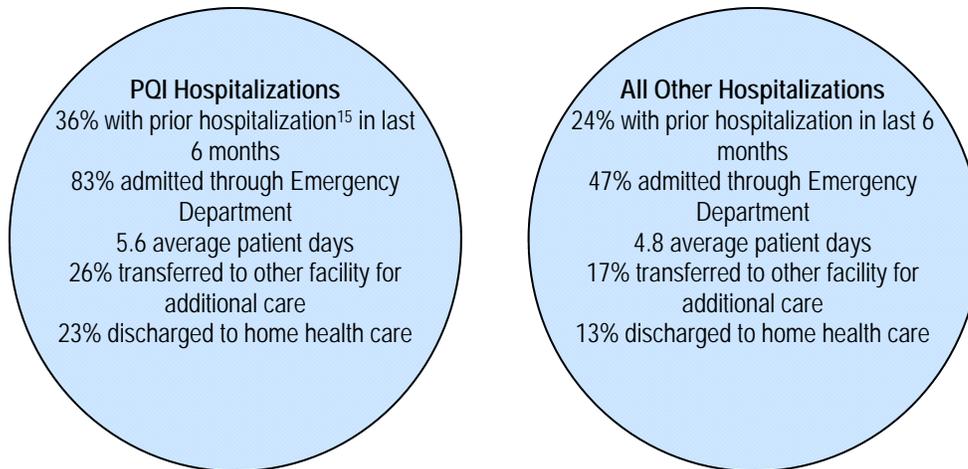
Most black PQI hospitalizations were between ages 18 and 64. The share of seniors among black PQI hospitalizations (31%) was nearly half that for all PQI hospitalizations (59%).

Summary

OHCA utilized the Agency for Healthcare Research and Quality (AHRQ) Quality Indicators (QI) tool to examine “preventable” hospitalizations. This includes a set of 19 health conditions considered preventable because timely and effective primary care and medical management of these conditions have been clinically demonstrated to reduce the need for hospitalization. In comparison with the U.S., Connecticut had lower hospitalization rates for 16 of these 19 conditions. In FY 2006, there were nearly 48,000 preventable hospitalizations, that is, instances of inpatient hospital care for chronic health conditions or acute episodes of illnesses typically treated outside of the hospital. Preventable hospitalizations accounted for one of every eight hospital patients and one of every five patients admitted to the hospital through the emergency department. From FY 2000 through 2006, the number of preventable hospitalizations grew by nearly 2,000 (4%) and their total charges increased from \$596 million to over \$1 billion (69%).

PQI patients as a group required extensive health care services in the hospital and following discharge, particularly in comparison with other hospitalizations (Illustration 1). Thirty-six percent of PQI patients had been previously hospitalized, compared to 24% of other hospitalizations. Nearly all PQI hospitalizations were admitted through the emergency department while less than half of other hospitalizations began there. On average, PQI hospitalizations lasted nearly a day longer than others. Following discharge from the hospital, PQI patients were more likely to receive additional health care services at either another facility (26% versus 17%) or at home (23% versus 13%). A key factor in PQI patients’ heavier use of health care services may have been its higher share of senior citizens (59% versus 34%), a group with a higher likelihood of having multiple health problems.

Illustration 1: Comparison of PQI hospitalizations and other types, FY 2006



Preventable hospitalizations provide a good starting point for examining the health care system, particularly outside of the hospital. They are designed to illuminate possible gaps in the primary health care system, community health needs and barriers to primary care. For example, minorities and New Haven county residents had higher per capita incidences of preventable hospitalizations. Senior citizen PQI patients required considerable acute care and outpatient health services as over 80% had been previously hospitalized and two-thirds required additional services after leaving the hospital. OHCA continues to provide data on these issues to state and local officials, providers and others attempting to address improved access to primary care, along with increased case management, outreach and patient education.

For questions regarding OHCA's PQI research or data requests please contact Marybeth Bonadies at (860) 418-7014 or marybeth.bonadies@po.state.ct.us.

TECHNICAL NOTES

This study updates a prior OHCA report (*Preventable Hospitalizations in Connecticut: Assessing Access to Community Health Services, FYs 2000 - 2004*) published in September 2005. Both projects implemented a methodology developed by the U.S. Department of Health and Human Services Agency for Health Research and Quality (AHRQ). AHRQ developed the Quality Indicators (QI) tool as part of a broader effort to promote public health research by providing clinically validated and standardized methods that can be applied to the administrative hospital data that most states now collect.

Quality indicators were first developed in 2001 by a panel of clinicians and researchers from the University of California-San Francisco and Stanford University sponsored by AHRQ. Through their review of the clinical literature and analysis of national hospital data, they identified 16 Ambulatory Care Sensitive Conditions (ACSCs) for which effective and timely primary care significantly reduced the likelihood of hospitalization. AHRQ has made software publicly available that processes administrative hospital data, identifying hospitalizations for these 16 ACSCs. The software also generates observed (discharges per the relevant population), risk adjusted (based on race and age) and smoothed (rates shrunk to national averages) population rates. OHCA's 2005 preventable hospitalization report utilized this methodology (AHRQ Prevention Quality Indicators tool version 2.1).

Since the publication of OHCA's 2005 report, AHRQ has made significant changes to its QI tool.¹⁶ Specifically, a pediatric module with five conditions was created in order to address the "differential epidemiology of child health care relative to adult health care."¹⁷ This change results in 19 area level prevention quality indicator conditions. AHRQ has also made substantive coding changes for some of these conditions, modified its rate calculations and added overall pediatric and adult PQI rates.

In order to report consistent results over time that reflect these most recent changes, OHCA included in this report data from the years covered in its 2005 preventable hospitalization report (FYs 2000 - 2004) as well as additional years of data (FYs 2005 - 2006).

ENDNOTES

¹Agency for Healthcare Research and Quality, *AHRQ Quality Indicators—Guide to Prevention Quality Indicators: Hospital Admission for Ambulatory Care Sensitive Conditions Version 3.1*, March 12, 2007.

²Other factors outside the direct control of the health care system such as poor environmental conditions or lack of patient adherence to treatment recommendations, comorbidities, patient age and physiology and general health status can result in hospitalization. Therefore, individual hospitalizations may not have been truly “preventable.” However, analyses of national samples of PQI patients show a statistically significant relationship between timely and effective primary care and a significant reduction in hospitalizations for these conditions.

³Agency for Healthcare Research and Quality, *AHRQ Quality Indicators—Guide to Prevention Quality Indicators: Hospital Admission for Ambulatory Care Sensitive Conditions Version 3.1*, March 12, 2007; *AHRQ Quality Indicators—Prevention Quality Indicators: Software Documentation, Version 3.1a*, April 6, 2007; *Measures of Pediatric Health Care Quality Based Upon Hospital Administrative Data: The Pediatric Quality Indicators*, September 2006 update; *Pediatric Quality Indicators Technical Specifications version 3.1*, March 2007.

⁴*Preventable Hospitalizations in Connecticut: Assessing Access to Community Health Services, FYs 2000 - 2004*, September 2005. For QI changes see Agency for Healthcare Research and Quality *Prevention Quality Indicators (PQIs) Log of Revisions to PQI Documentation and Software*, March 16, 2007, *ICD-9-CM Coding Updates to Version 3.1*, March 12, 2007; and *Pediatric Quality Indicators (PedQIs) Log of Revisions to PedQI Documentation and Software*, March 12, 2007.

⁵Hospital Type defined by OHCA based upon number of beds and location: Large Urban (Bridgeport, CT Children's Medical Center, Hartford, St. Francis, St. Raphael, and Yale), Medium Urban (Danbury, John Dempsey, Lawrence and Memorial, Middlesex, New Britain, Norwalk, St. Mary's St. Vincent's, Stamford, and Waterbury), Small Urban (Bristol, Charlotte Hungerford, Day Kimball, Greenwich, Griffin, Manchester, MidState, Backus, and Windham) and Small Community (Bradley, Johnson, Milford, New Milford, Rockville and Sharon).

⁶According to U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement 2006, 91% of Connecticut's population age 65 and older are non-Hispanic whites. The share of elderly varies by race as 15% of non-Hispanic whites are ages 65 and older, but only 6% of Blacks, and 3% of Hispanics.

⁷While total non-Hispanic white PQI volume fell, the volume of whites age 85+ increased by 26% or 1,765 additional PQI hospitalizations.

⁸The following counties had higher 2004 observed PQI rates than the U.S.: Fairfield (dehydration); Hartford (adult asthma, bacterial pneumonia, dehydration, low birth weight newborns and perforated appendix); Middlesex (adult overall PQI rate), New Haven (pediatric and adult asthma, pediatric gastroenteritis, pediatric overall PQI rate, bacterial pneumonia, dehydration, diabetes long term complications, diabetes related lower extremity amputations and low birth weight newborns); New London (adult asthma and bacterial pneumonia); and Windham (bacterial pneumonia, COPD and dehydration).

⁹*Office of Health Care Access 2006 Household Survey and 2006 Young Adults Survey*. Approximately 18% of Connecticut residents ages 19 to 29 were uninsured in 2006 compared to 6% for all residents.

¹⁰Private payers' lower overall share of emergency department admissions was in large part due to the share of newborns (16%).

¹¹Pediatric gastroenteritis accounted for nearly all of this growth.

¹²Reporting Medicaid PQI and all PQI hospitalizations: Patient Volume (30% and 4%), Total charges (131% and 69%) and Patient Days (25% and -1%). Medicaid PQI increases mirrored the overall growth in all Medicaid hospitalizations (patient volume 30%, charges 127% and patient days 32%).

¹³Medicaid PQI hospitalization's lower share of emergency department admissions was in largely due to its significant share of low birth weight newborns (16%).

¹⁴*Office of Health Care Access 2006 Household Survey*.

¹⁵At same hospital.

¹⁶See note 4.

¹⁷Agency for Healthcare Research and Quality, *Pediatric Quality Indicators Overview*, February 2006.

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410 Capitol Avenue
MS#13HCA
PO Box 340308
Hartford, CT 06134
(860) 418-7001
(800) 797-9688

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