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Rising Acute Care Hospital Inpatient Charges -- FYs 1991 to 1999

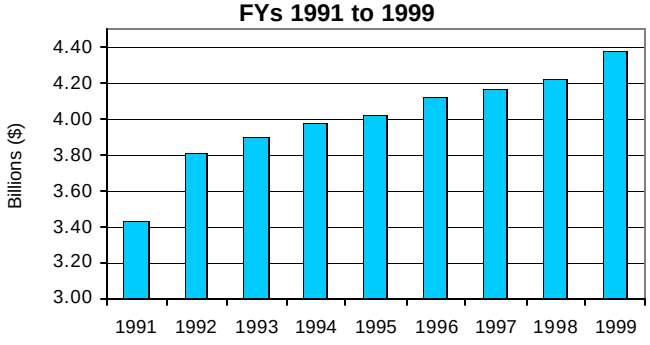
This is the second in a series of reports that examines recent trends in Connecticut's acute care hospital industry. The first report focused upon changing patterns in the delivery of acute care. In the mid-1990s, the Connecticut General Assembly sought to arrest the growth of health care costs by promoting the development of a more competitive health care market. New legislation (PA 94-9) diminished state regulation of the health service industry and thus created a more hospitable environment for competition. Hospitals gained the ability to set their own prices and thus directly influence their revenue.

This new competitive environment affected the delivery of acute care and other health services, as did other factors such as the spread of managed care to half of Connecticut's residents, changing patterns of hospital reimbursements, and advancements in medical technology. From FY 1991 to FY 1999, inpatient discharges declined by over 5% while outpatient visits increased by 19%. (The hospital FY runs from October 1st to September 30th). During this period, the average inpatient stay fell from 7 to 5 days as more people were discharged to home health care (10% of all discharges) and the proportion of patients transferred to other care facilities doubled to 16%. This report explores how these changes in the delivery of services affected inpatient hospital charges.

"Charges" are the amounts that hospitals billed payers, whether HMOs, the government, or individual patients. They are not, however, identical with either the actual cost of care or the reimbursements that they collected. Hospitals negotiate contracts with payers such as HMOs, in which they agree to be reimbursed upon the basis of a discounted fee schedule of services for the payers' enrollees, in return for inclusion in the payers' networks of providers. From FY 1994 to FY 1998, aggregate managed care discounts for all of Connecticut's acute care hospitals grew from 9% to 30% of all charges, or $2.25 billion in FY 1998. Medicare reimburses hospitals through the prospective payment system, a fee schedule in which payment rates are based upon diagnosis-related estimates of the cost of efficient care. These reimbursements may be adjusted by a number of factors including local labor costs. Payers such as the government and managed care companies also review charges and enter into a billing reconciliation process with hospitals in which patients' diagnoses and charges may be changed. Today, few patients pay charges without some discounts; in FY 1999, only 2% of all inpatient discharges were classified as "self-pay."

An Increase in Acute Care Hospital Inpatient Charges

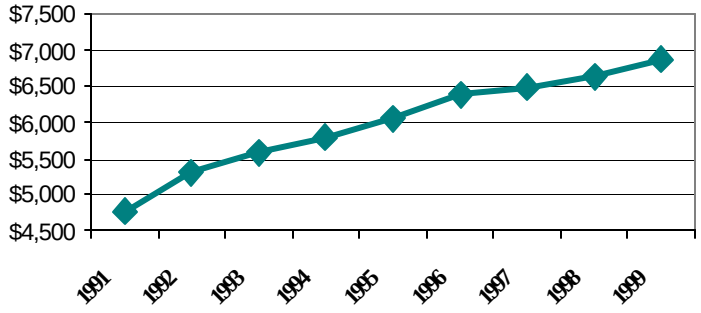
Fig 1: Rising Total Inpatient Charges, FYs 1991 to 1999



Source: CT Office of Health Care Access Inpatient Database.

Figure 1 shows that although from FY 1992 to FY 1999 the number of discharges declined by 5.7% and the average hospital stay fell from 7 to 5 days, total actual inpatient charges expanded from $3.43 billion to $4.38 billion (28%). However, much of this increase occurred in the early 1990s prior to the establishment of a more competitive health care market. Since 1993, the annual growth in total charges averaged 2%, or around the rate of inflation.

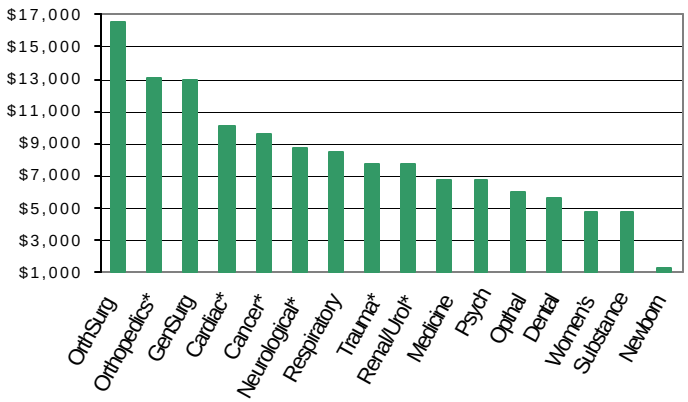
Fig 2: The Growth in Total Charges per Discharge (Median), FYs 1991 - 1999



From FYs 1991 to 1999, the median charge per discharge swelled from $4,770 to $6,886 (44%). The median is the middle charge, or the one for which half of all patients had higher total charges and half had lower total charges. Interestingly, the largest expansion of charges occurred prior to the 1994 statute that gave hospitals the ability to set their own prices (6.6% average annual growth). In the three fiscal years immediately following price deregulation (FYs 1994 – 1996), the growth in total charges per patient increased annually by an average of 4.5%, but from FYs 1997 to 1999, this fell to 2.5%.

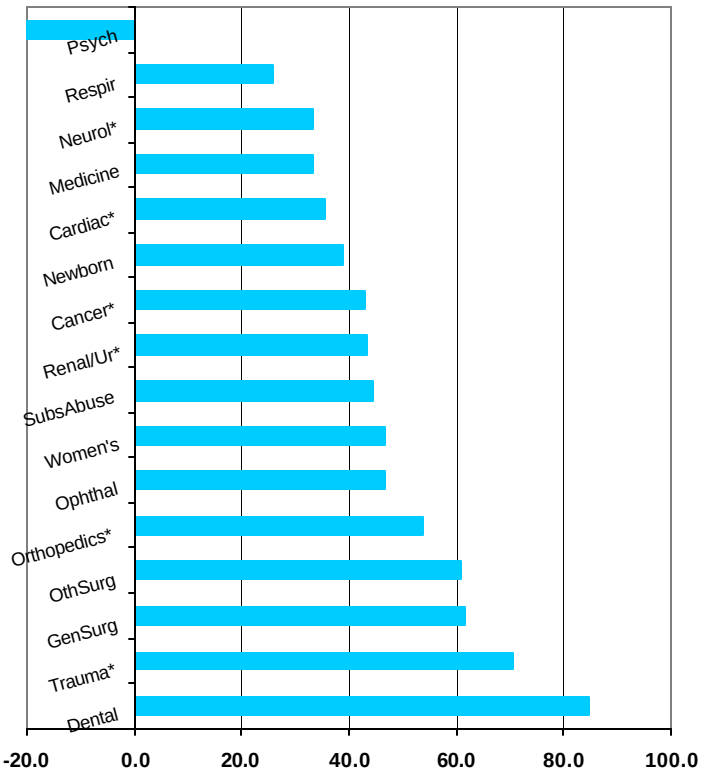
Expanding Charges Across Service Lines

Fig 3: The Median Charge by Service Line, FY 1999



Service lines are 22 broad classes of inpatient hospital care based upon the Diagnosis Related Groups (DRGs) that physicians assign to patients. Figure 3 shows that in FY 1999, the most inexpensive inpatient care was related to childbirth, newborns ($1,370) and women's health (the majority of cases were for delivery - $4,719) and inpatient substance abuse services ($4,673). Surgeries were the most expensive, specifically general surgery ($12,860), other surgery ($16,520), and orthopedics ($13,060 – which includes surgical care).

Fig 4: Percent Change in Median Total Charges by Service Line, FY 1991 to FY 1999



From FY 1991 to FY 1999, the median charge for each service line grew by at least one-quarter, with the exception of inpatient psychiatric care. The greatest increases in average charges were for inpatient dental services, trauma care, and surgery. Behavioral health was unique. Inpatient psychiatric care was the only service line that saw a decline in median charge (-20%). The average length of stay for inpatient psychiatric care fell from 15 to 9 days, a drop of 42%, which was steeper than the decline for all discharges, 28%. At a time when inpatient

discharges declined by over 5%, the number of inpatient psychiatric discharges increased by 34%, the largest service line expansion during the 1990s.

Factors Contributing to Increased Charges for Inpatient Care

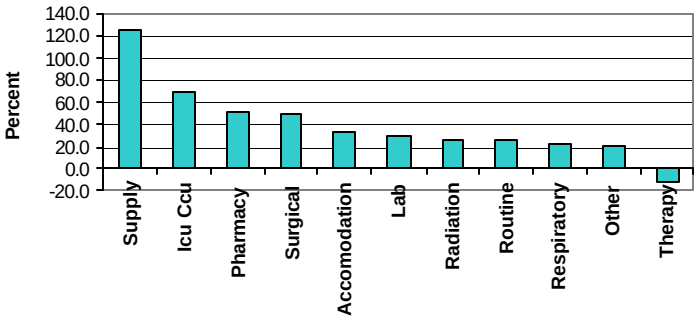
The Increased Severity of Inpatients

For all Connecticut hospitals from FY 1995 to FY 1999, the case mix index, which measures the severity of all patients' illnesses, increased from 1.1041 to 1.2083 (9.4%). Over the 1990s, hospitals increasingly shifted those patients they could to outpatient clinics, home health care, and other care facilities. As a result, the most acutely ill patients became a greater proportion of all inpatients. Technological advances also enhanced the ability of physicians to diagnose and treat the severely ill.

The Components of Care: The Cost of New Technology

During the 1990s, great advances in medical equipment (e.g., MRIs, CT and PET scanners), new therapies, and pharmaceuticals expanded physicians' ability to heal and to shorten hospital stays. Hospitals' acquisition and utilization of these advanced medical equipment and therapies, however, contributed to the increased cost of inpatient care (See OHCA's *The Health of Connecticut's Hospitals*). From FY 1992 to FY 1999, the net operating expenses for all Connecticut hospitals increased from $3.3 billion to $3.9 billion (18%).

Fig 5: Growth in the Median Charge for the Components of Care, FY 1991 to FY 1999



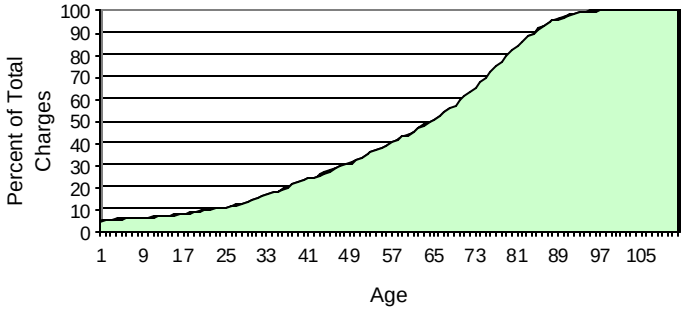
During that period, total hospital revenues barely kept pace, also growing from $3.4 billion to $3.8 billion. The average charge for each billed component of care increased by a minimum of 20%, with the exception of physical therapy, which declined. Reflecting the expanding cost of advanced medical equipment, the average supply charge, which includes equipment such as catheters, IVs, pacemakers and other implants, doubled.

An Aging Inpatient Population

In 1999, 14% of Connecticut's population was 65 years and older, yet senior citizens represented nearly 40% of all acute care discharges and generated almost half of all inpatient charges. During the 1990s, the inpatient population became older as the proportion of discharges less than 50 years of age declined by 6% and the elderly grew by 5%. The first report in this series on the delivery of acute care noted that during the 1990s, services were increasingly shifted away from inpatient to outpatient care. However as people age, they suffer more chronic illnesses. This makes them less responsive than other age groups to primary or outpatient care and leads to more frequent hospitalizations (See OHCA's issue brief, *Preventable Hospitalizations During the 1990s*). The natural aging process also results in higher morbidity and mortality for senior citizens. The maturing patient population was a factor in the increased severity of discharges. The elderly have higher average charges than other age groups and this also contributed to the rise in inpatient hospital charges. Nearly all elderly patients are covered by Medicare and not managed care organizations.

Connecticut's Medicare Managed Care program has spread slowly since its establishment in FY 1996. Most Medicare beneficiaries are still covered under the program's traditional system of prospective payment for inpatient care combined with fee-for-service payments to physicians; and this contributes to the higher costs incurred by elderly patients.

Fig 6: Distribution of Total Inpatient Charges by Age of Discharges, FY 1999



For each age, the area of Figure 6 indicates the percent of total charges that were incurred by discharges that age or younger. The graph is relatively flat until around age 40 because patients who were 40 years or less accounted for only 20% of all charges. At around age 50, the area of the graph balloons as the slope begins a steep ascent that eventually plateaus at age 86. From ages 50 to 86, each additional year of age corresponded to about a 2% average increase in the share of total charges. In contrast, for persons under 50 years, adding a year to the age of discharges increased the share of total charges by an average of only .6%. Age has a clear effect upon inpatient charges and its influence accelerates for those patients over 50 years.

Table 1: Inpatient Charges by Age Groups, FY 1999

Age Group	Percent of Discharges	Percent of Actual Total Charges	Median Charge
<18	17.5	8.5	$1,769
18 - 49	31.4	23.9	$5,607
50 - 64	14.4	18.4	$9,387
65+	36.8	49.2	$10,248

As Table 1 indicates, while half of all discharges were less than 50 years old, they accounted for only one-third of total inpatient charges. One of every two discharges in this age group was in the hospital for childbirth (either newborns or women giving birth), which is relatively less expensive than most other reasons for hospitalization. In contrast, senior citizens accounted for 37% of all discharges and incurred 49% of total inpatient charges. They have the highest average charge among these age groups, $4,641 more than that for adults between 18 and 49 years old.

Conclusion

During the 1990s, hospitals faced conflicting pressures to contain and to expand their inpatient charges. Despite the declining number of discharges and the shrinking average length of hospital stay, total inpatient charges rose by 28%. However, the annual growth in charges slowed significantly with the establishment of a more competitive health care market in the mid-1990s. Although hospitals gained the authority to set their own prices in 1994, they faced strong pressures to control the growth of their charges due to increased competition and the expansion of managed care. Yet, hospitals also needed to increase inpatient charges, in part to offset the growth in their net operating expenses, which averaged 3% annually for the latter 1990s. The increased cost of technology and labor, as well as capital projects contributed to the expansion of hospital expenses. The aging patient population and the increased acuity of inpatient discharges also contributed to increased hospital charges.

In spite of rising charges during this period, net revenue for all acute care hospitals grew only by an annual average rate of 1%. By FY 1999, both net operating expenses and net revenues for all of Connecticut's acute care hospitals were $3.9 billion. The next report in this series identifies the primary payers of inpatient charges and examines the changing patterns of hospital reimbursements.