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Peeling the Onion: Inpatient Hospital Care In New Hampshire

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Inpatient Hospital Care in New Hampshire

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About this Paper

This paper is one of a series of reports to be published by the NH Center for Public Policy Studies on the broad topic of health-care finance and insuring the New Hampshire workforce. The Concord-based Endowment for Health has sponsored this research.

The Bureau of Health Care Research at the NH Department of Health and Human Services provided the Center with the database files upon which the Center based this analysis. The Center appreciates the bureau’s assistance. Any conclusions herein are those of the Center and do not reflect in any way positions held by the Bureau of Health Care Research or the Department of Health and Human Services generally.

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Executive Summary

New Hampshire's hospitals keep records on each of the thousands of people they admit and discharge every year. This paper uses these records on hospital discharges to provide a snapshot of 2003 and any trend information of note to policy makers grappling with the rising cost of health care. Hospitals accounted for 33 percent of total health care expenditures in New Hampshire in 2005¹ and understanding trends in the inpatient system is an important piece of the health care puzzle. It is important to note, however, that it is only one piece of a very complicated puzzle. This analysis does not include information on the majority of the puzzle's pieces – private clinics, independent practitioners, chiropractors, drug costs and the like.

One of the most critical, if not surprising, findings from this analysis is the degree to which hospital charges are concentrated in a small share of patients using hospital services. In 2003, the most expensive 10 percent of the hospital discharges in New Hampshire accounted for 43 percent of the total charges. With an average charge of \$63,832 per hospital stay, these cases were 40 times as expensive as the least expensive 10 percent of cases.

This has large implications for efforts to control health care costs. A cost containment strategy that would have kept the *least expensive* 10% of cases out of the hospital entirely would have reduced total hospital charges by \$16.2 million. On the other hand, a strategy that reduced the cost of the *most expensive* 10% of the cases **by an average of just 10 percent** would have resulted in \$77.2 million in lower charges. Successful efforts at controlling the level of, and growth in, costs are likely those that focus on those high cost cases.

The discharge data from 2001 through 2003 reveal other nuances of the New Hampshire's inpatient hospital system:

- Hospital charges are increasing quickly.
 - After controlling for inflation, hospital charges for inpatient discharges have almost doubled since 1996.
 - Hospitals charged 23.8 percent more per day, on average, in 2003 than in 2001;
- The public system is the primary payer within the hospital sector.
 - An estimated three-fifths to two-thirds of all hospital cases in New Hampshire were billed to publicly-financed insurance plans: Medicare, Medicaid, and the “private” insurance offered to public employees of state and local governments and school districts.
 - Medicare is the principal payer for 40 percent of all hospital cases and 55 percent of the most expensive hospital cases
 - Private insurance is the principal payer for 44 percent of all hospital cases and only about 33 percent of the most expensive cases;
- Approximately 5 percent of all hospital cases were billed to individuals—self-payers—rather than to insurance companies, Medicaid, or Medicare. Some of the individuals are among New Hampshire's uninsured, but others had insurance that didn't cover the illness for which they were hospitalized. Seven of the 10 Diagnostic Related Groups (DRG) medical conditions most likely to be associated with self-payers are related to alcohol and other drugs; 2 of the top 10 concerned depressive neuroses.

¹ New Hampshire Center for Public Policy Studies. “Health Care Dollars and Health Insurance in New Hampshire, 2004.” Concord, NH. September 2005.

Introduction

New Hampshire's hospitals keep records on each of the thousands of people they admit and discharge every year. The hospitals report to the NH Bureau of Health Care Research in the Department of Health and Human Services records on every discharge from NH hospitals, including the clinical reasons for being in the hospital, care each person receives, and the total amount the hospital charges each person when he or she leaves the hospital. This "hospital inpatient discharge data" is a window into New Hampshire's hospital based system of care.

The information in this report is derived from the 26 community-based acute-care hospitals. The analysis is based on individuals who are formally admitted to the hospital as inpatients. Everyone who is admitted to a hospital for inpatient services is eventually discharged from the hospital, and whatever happened to that patient during that visit becomes part of a single discharge file. An individual might be admitted to and discharged from a hospital two or three times in a single year. Each admission becomes a separate discharge in the database examined in this paper.

The data includes information on any individual who was discharged from a New Hampshire hospital between 1996 through 2003. Thus the data includes residents of Massachusetts, Vermont, Maine and elsewhere who were admitted to hospitals within the state. The data do not include New Hampshire residents who were admitted to hospitals outside New Hampshire. Thus this data provides an accurate picture of the hospital system in New Hampshire but does not necessarily provide complete information on New Hampshire residents.

Major Findings

The Concentration of High Cost Care Among the Elderly: In 2003, the most expensive 10 percent of the hospital inpatient discharges in New Hampshire accounted for 43 percent of the total charges. With an average charge of \$63,832 per hospital stay, these cases were 40 times as expensive as the least expensive 10 percent of cases. The people with the most expensive health problems are often admitted to the hospital several times each year, compounding the relative cost of their care.

The most expensive cases tend to be people in their 60s and 70s and most of their hospital bills go to Medicare for payment. Because the congressionally set Medicare reimbursement rates are too low to cover the costs of that care, however, hospitals shift the remaining financial burden onto younger patients with private insurance coverage. In total, the 2004 Medicare shortfall for hospitals in New Hampshire was \$126 million which is ultimately shifted onto the private sector.²

Thus, a cost-containment strategy focused on finding less expensive care for the most expensive cases could have a significant impact on the charges passed on to the other 90 percent of hospital patients. A theoretical strategy that would have kept the 12,100 *least expensive* cases out of the

² New Hampshire Center for Public Policy Studies. "Cost Shifting in New Hampshire Hospitals, 2004." Concord, NH. To be published in February 2006.

hospital entirely would have reduced total hospital charges by \$16.2 million. On the other hand, a strategy that reduced the cost of the *most expensive* 12,100 cases **by an average of just 10 percent** would have resulted in \$77.2 million in lower charges.

The Role of the Public Sector: In 2003, as much as two-thirds of all hospital cases in New Hampshire were billed to publicly-financed insurance plans: Medicare, Medicaid and the “private” insurance offered to public employees of state and local governments and school districts.³ The role of the public sector is only going to increase as the baby-boomers age and become eligible for Medicare. Businesses and policy makers interested in controlling costs would do well to work with congressional delegations, local state legislators, and the Centers for Medicare and Medicaid Services (CMS) to ensure appropriate funding so that costs are not shifted onto private health insurance premiums, onto businesses and possibly employees themselves.

The public sector, including Medicaid and Medicare – the two largest organized purchasers of health insurance in the country – is also likely to be the primary player in any efforts to systematically control costs associated with utilization of inpatient hospital care. As is evidenced by the implementation of payment reform in the Medicare program, changes in Medicare are likely to spread quickly to other sectors.

Changes in Inpatient Services: Between 1996 and 2003, the number of inpatient discharges increased by 4 percent and the rate of service use as defined by discharges per 1,000 NH residents dropped by 5 percent. Average charges however increased by approximately 21 percent per year. While per capita use rates declined, length of stay has begun to increase for the first time in a number of years. The population bubble of baby boomers, continuing changes in medical technology, and changes in health status will all have a big, if as of yet uncertain, impact on the use of services over the next ten years and should be watched carefully.

Despite relatively modest changes in volume, there were significant increases in hospitals’ charges. Possible explanations for this change in charge amounts include hospitals’ attempts to cover increased labor costs, their need to ‘save’ for future development efforts, changes in case mix such as increases in patient acuity and/or they may simply reflect a change in management’s decisions regarding list prices. Unfortunately, this report can say nothing with regard to the costs of services, as charges are the only information available in the hospital discharge dataset. Regardless, more work needs to be done assessing these changes in New Hampshire as the answers to these questions will help provide insight into how the health care system is evolving.

The Under-insured and Uninsured: Approximately 5 percent of all inpatient hospital cases were billed to individuals—self-payers—rather than to insurance companies, Medicaid, or Medicare. Some of the individuals represented here are among New Hampshire’s uninsured, but others had insurance that didn’t cover the particular illness for which they were hospitalized. One finding will be of particular interest to policy makers. Seven of the 10 DRG medical conditions most likely to be associated with self-payers are related to alcohol and other drugs; 2 of the top 10 concern depressive neuroses, thus raising the question of the availability of

³ The share of the inpatient discharges funded by the public sector should be calculated as the sum of Medicaid, Medicare, Champus, and other public payers such as state and local governments. An exact estimate of this total is not possible as the data do not explicitly break out public expenditures by federal, state and local governments on private insurance.

prevention services which could potentially avoid these costs of care for the uninsured.

Future Work: The hospital discharge data set is rich in detail and significance, but it does not include information of key relevance to policy makers, employers, and health-care consumers: costs. The database reveals all about what hospitals charge insurance carriers, Medicare, and self-payers, but what it actually costs each hospital for services to a patient and how much they are actually paid by insurers and others for the services is unknown. Also lost in the data gap is information about how hospitals allocate their costs among different clients and carriers and how discounts and cost-shifting affect the price of care and insurance.

The legislature moved to fill that gap when it adopted RSA 420-G:11-a which provides authority for a comprehensive health-care information system, including a “uniform claims data base.” Insurance carriers conducting business in New Hampshire will have to report to the state on payments made for services provided. The NH Department of Health and Human Services and the Department of Insurance have been working with a variety of stakeholders to draft rules governing access to that new database.

1. Trends in Inpatient Hospital Services (1996 – 2003)

Between 1996 and 2003, annual hospital inpatient discharges increased by slightly less than 4 percent. However, as Figure 1 demonstrates, hospital discharge rates per thousand – which simply control for the growth in population in New Hampshire – actually declined by almost 5 percent. In fact, in 2003, inpatient utilization rates were low in New Hampshire relative to regional and national benchmarks. In 2003, the discharge rate nationally was 120 discharges per 1,000 residents and for the North East it was 134 per 1,000 compared to 94 per 1,000 in New Hampshire for the same time period.⁴

Charges, however, grew quickly over the time period.⁵ Slow growth in the late nineties has been replaced with significant increases in average charges since 2000.⁶ After controlling for inflation, charges have almost doubled since 1996 and have increased by 23 percent between 2001 and 2003. Part of the change in average charge may be attributable to changes in increasing acuity of patients that are admitted to the hospital. In addition, for the first time in a decade, length of stay is on the increase. Table 1, which provides data for the most recent 3 year period, documents slight increases in length of stay. A large portion of increases in charges may be attributable to nothing more than management decisions to raise ‘list prices.’ Regardless, understanding the magnitude of these various factors and how they contribute to utilization trends requires more analysis.

⁴ Defrances, Carol, Hall, Margaret, et. Al. 2003 National Hospital Discharge Survey. US Department of Health and Human Services. July 8, 2005.

⁵ Conversion factors for years between 1996 and 2006 use the CPI-U as the base, from the US Bureau of Labor Statistics. Monthly and annual CPI data are available at the BLS web site: <http://stats.bls.gov/cpi/home.htm#data>

⁶ Table A1 in the Appendix includes the raw data associated with Figure 1.

Figure 1

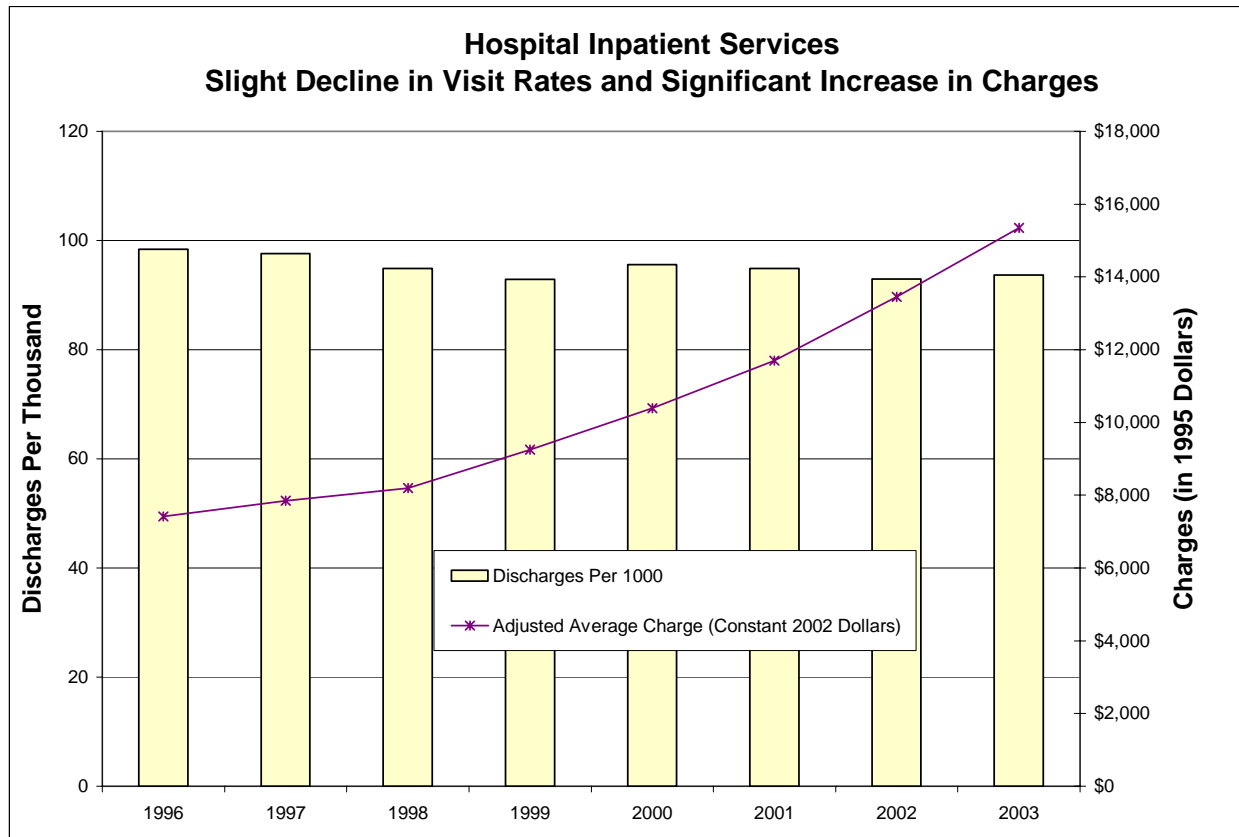


Table 1
Changes in discharge days and costs, 2001 -2003

Measure	2001	2002	2003	Two year change
Discharges	119,019	118,396	120,974	1.6%
Total days of stay	532,822	537,500	552,585	3.7%
Total charges	\$1,414,565,170	\$1,592,533,499	\$1,815,784,642	28.4%
Average length of stay (days)	4.48	4.54	4.57	2.0%
Average charge per day	\$2,655	\$2,963	\$3,286	23.8%
Average charge per discharge	\$11,885	\$13,451	\$15,010	26.3%

Neither the cost of services provided nor the amount that a hospital is actually paid for services are contained in the data set and thus available for analysis. The Center’s prior research has shown that New Hampshire hospitals, on average, set gross charges approximately 62 percent above cost in 2001.⁷ Based on the audited financial reports of the hospitals for 2003, gross charges were set at 94 percent above costs. This report uses differences in charges as a proxy for differences in cost, although it is an imperfect proxy. Payment amounts for services are set by government (Medicare and Medicaid) and by negotiated contractual discounts (commercial insurers).

⁷ NH Center for Public Policy Studies, *Cost-Shifting in New Hampshire Hospitals*. Concord, New Hampshire. October 2003.

2. Variation Across the Hospitals

New Hampshire’s hospitals differ considerably in size and the types of care they provide. Figure 2 illustrates that point by showing each hospital’s share of the total inpatient discharges in 2003. (The location and type of ownership of each of the hospitals is shown in Table A-3 in the Appendix.)

Figure 2

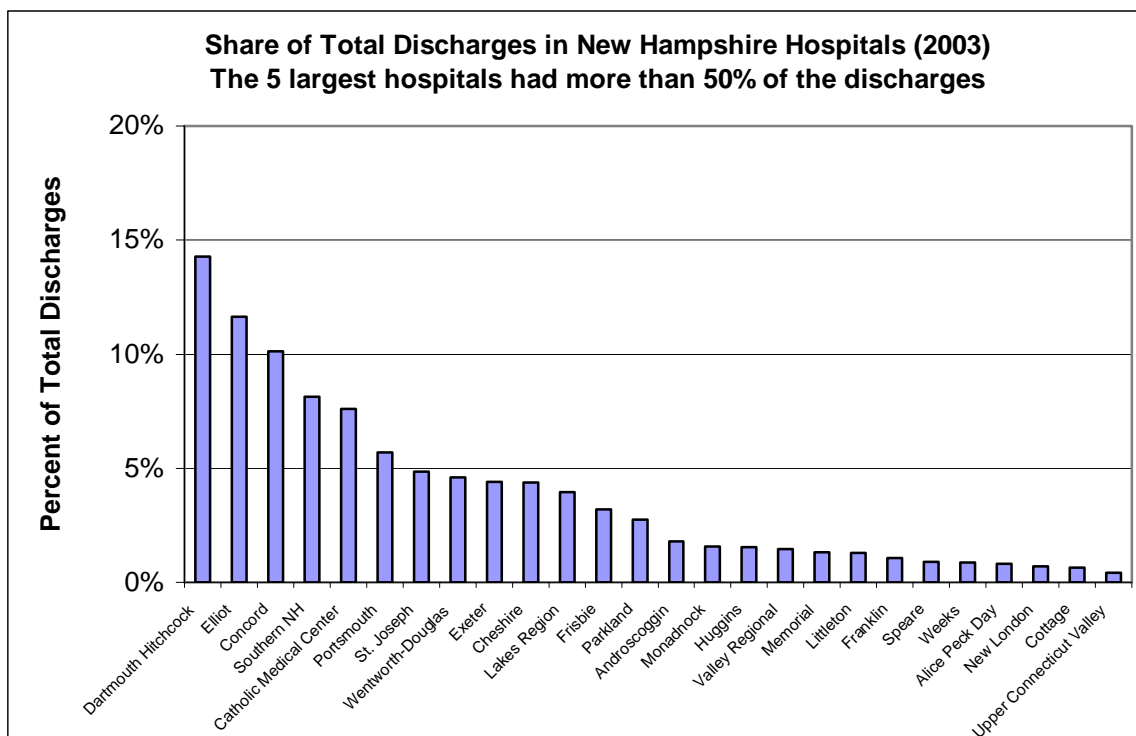


Table 2 provides more detail, displaying the aggregate number of discharges and aggregate charges of each of the 27 hospitals in 2003 (comparable tables for 2001 and 2002 are included in the appendix in Table A4 and Table A5). Table 3 below shows the magnitude of the changes in each hospital’s business between 2001 and 2003. Dartmouth-Hitchcock Medical Center in Lebanon discharged 17,281 inpatients in 2003, the greatest number of all hospitals located in New Hampshire, and is more than the 13 smallest hospitals combined.

While the average charge per discharge in 2003 was \$15,010, the average charge at Dartmouth-Hitchcock was \$21,434 and the highest average charge was \$25,069 at Catholic Medical Center (Table 2). The differences in average charge may reflect differences in the age of the hospital’s patients and the type and severity of the medical conditions they present. Alternatively, charges may vary for the simple reason of differences in list prices set by management. From the data available it is not possible to draw conclusions about *cost* differences or business practices among hospitals because the data do not reflect actual costs and have not been adjusted for comparable conditions and patients. In other words, *it would be unsound* for readers to conclude that a hospital with a high average cost per discharge is charging too much or that a hospital with a low average charge per discharge is charging too little. Nevertheless, the range noted points to the need for further explanation.

Table 2
Inpatient Discharges by Hospital, 2003

Hospital	Total Discharges	Total Charges	Average Charge	Total Days	Average Length of Stay	Average Charge per Day
Alice Peck Day	991	\$7,293,598	\$7,360	2,619	2.64	\$2,785
Androscoggin	2,172	\$21,991,751	\$10,125	10,437	4.81	\$2,107
Catholic Medical Center	9,197	\$230,555,309	\$25,069	49,153	5.34	\$4,691
Cheshire	5,295	\$59,991,407	\$11,330	27,772	5.24	\$2,160
Concord	12,263	\$187,430,045	\$15,284	56,620	4.62	\$3,310
Cottage	795	\$7,013,701	\$8,822	2,592	3.26	\$2,706
Dartmouth Hitchcock	17,281	\$370,400,891	\$21,434	97,164	5.62	\$3,812
Elliot	14,087	\$177,393,757	\$12,593	63,563	4.51	\$2,791
Exeter	5,313	\$85,672,940	\$16,125	21,806	4.10	\$3,929
Franklin	1,296	\$11,775,027	\$9,086	4,699	3.63	\$2,506
Frisbie	3,877	\$44,920,301	\$11,586	15,864	4.09	\$2,832
Huggins	1,859	\$16,361,944	\$8,801	6,363	3.42	\$2,571
Lakes Region	4,768	\$63,656,959	\$13,351	18,633	3.91	\$3,416
Littleton	1,569	\$15,345,510	\$9,780	4,572	2.91	\$3,356
Memorial	1,598	\$13,571,834	\$8,493	5,176	3.24	\$2,622
Monadnock	1,888	\$16,488,643	\$8,733	7,631	4.04	\$2,161
New London	835	\$7,902,574	\$9,464	2,966	3.55	\$2,664
Parkland	3,319	\$46,656,306	\$14,057	13,641	4.11	\$3,420
Portsmouth	6,893	\$143,039,196	\$20,751	32,486	4.71	\$4,403
Southern NH	9,842	\$84,151,740	\$8,550	39,885	4.05	\$2,110
Speare	1,074	\$6,944,077	\$6,466	3,510	3.27	\$1,978
St. Joseph	5,871	\$90,645,613	\$15,440	32,136	5.47	\$2,821
Upper Connecticut Valley	513	\$3,897,169	\$7,597	1,482	2.89	\$2,630
Valley Regional	1,772	\$14,520,597	\$8,194	6,150	3.47	\$2,361
Weeks	1,049	\$9,590,796	\$9,143	2,969	2.83	\$3,230
Wentworth-Douglas	5,557	\$78,572,957	\$14,139	23,696	4.26	\$3,316
Total or Average	120,974	\$1,815,784,642	\$15,010	553,585	4.58	\$3,280

Comparing these data from 2001 and 2003 shows how volatile the business of hospitals is. Table 3 shows that some of the hospitals saw significant shifts between 2001 and 2003 in their number of discharges and the average length of stay as well as in their charges.

Table 3
Percent change in inpatient discharges by hospital, 2001 to 2003

Hospital	Change in Discharges	Change in Charges	Change in Average Length of Stay	Change in Average Charge	Change in Average Charge per Day
Alice Peck Day	10.5%	22.0%	-8.7%	10.4%	20.9%
Androscoggin	-3.2%	31.2%	12.4%	35.5%	20.7%
Catholic Medical Center	10.9%	30.7%	-4.5%	17.8%	23.2%
Cheshire	-1.9%	27.3%	3.4%	29.8%	25.4%
Concord	-0.3%	30.4%	4.5%	30.8%	25.3%
Cottage	-4.8%	6.8%	-0.9%	12.2%	13.1%
Dartmouth Hitchcock	4.6%	33.9%	-1.7%	28.1%	30.3%
Elliot	1.9%	21.8%	-0.7%	19.6%	20.2%
Exeter	-1.6%	29.7%	10.8%	31.8%	18.7%
Franklin	2.0%	32.1%	6.5%	29.6%	22.0%
Frisbie	5.1%	21.0%	-5.1%	15.1%	21.3%
Huggins	10.5%	21.8%	-5.8%	10.3%	17.0%
Lakes Region	-2.9%	17.7%	-2.7%	21.1%	24.5%
Littleton	1.7%	19.2%	-1.7%	17.3%	19.1%
Memorial	0.6%	12.8%	-2.1%	12.1%	14.5%
Monadnock	-5.6%	15.9%	-0.7%	22.9%	23.8%
New London	-22.4%	-14.9%	-0.6%	9.6%	10.0%
Parkland	-10.2%	16.5%	8.7%	29.7%	19.4%
Portsmouth	5.7%	45.8%	10.8%	38.0%	24.5%
Southern NH	3.3%	15.8%	3.6%	12.0%	8.2%
Speare	2.8%	28.0%	13.5%	24.5%	9.9%
St. Joseph	-4.4%	27.1%	11.6%	33.0%	19.1%
Upper Connecticut Valley	-7.9%	19.6%	2.5%	29.8%	26.7%
Valley Regional	-1.2%	6.1%	-1.4%	7.4%	8.9%
Weeks	8.6%	36.5%	-8.1%	25.7%	36.8%
Wentworth-Douglas	5.1%	39.6%	3.6%	32.8%	28.1%
Total or Average	1.6%	28.4%	2.2%	26.3%	23.5%

3. Payers

The discharge database includes information about who is principally responsible for the bill for each discharge. The database does not reveal whether the bill got paid or the amount actually paid or if other payers were also billed. Table 4 provides information by type of payer for 2003 (data for 2001 and 2002 is included in appendix in Table A6).⁸

Figure 3 shows that while private insurance covered the largest number of discharges, Medicare

⁸ In these tables and graphs, the self-pay category includes all the patients whom the hospitals bill directly for their care. Many of those individuals pay the bills in full, but others do not. In those cases where an individual does not pay the entire bill, the hospitals designate some of the charges as charity care or write off some of the charges as bad debt. In this analysis, the self-pay group includes charity care and bad debt. The Medicare group includes Medicare managed care; Medicaid includes Medicaid managed care. The health-insurance group includes HMO, Blue Cross, and other commercial insurance. The "other" category includes workers' compensation, other government programs, and other minor payer types.

and Medicaid together covered half of all discharges in 2003. Figure 4 shows that in the same year Medicare was billed for the greatest share of charges. Total charges were over \$1.7 billion. Of this amount, slightly more than half was for Medicare patients. Medicare patients had a higher average charge per discharge than other patients. As shown in Table 4, while the Medicare patients had an average charge per day that was only slightly above average, their longer average lengths of stay resulted in a higher average charge per discharge compared to other payers.

Of total charges, 59 percent were to publicly funded programs (Medicaid, Medicare, and other government). In addition, the health-insurance category includes discharges of federal, state and local government employees, the insurance premiums for whom are also primarily funded by public taxation. Unfortunately, the data does not support identifying what share of the health-insurance category is related to government employees making it impossible to precisely identify what share of the discharges are funded by public taxation.

Table 4
Discharges by Principal Payer, 2003

Principal Payer	Discharges	Total Charges	Average Charge	Total Days Stay	Average Length of Stay	Average Charge per Day
Self-pay	6,500	\$78,756,144	\$12,116	25,772	3.96	\$3,056
Medicare	47,905	\$923,255,519	\$19,273	275,655	5.75	\$3,349
Medicaid	12,582	\$127,055,841	\$10,098	51,592	4.10	\$2,463
Health insurance	51,896	\$647,378,870	\$12,475	191,650	3.69	\$3,378
Other	2,091	\$39,338,268	\$18,813	8,916	4.26	\$4,412
Total	120,974	\$1,815,784,642	\$15,010	553,585	4.58	\$3,280

Figure 3

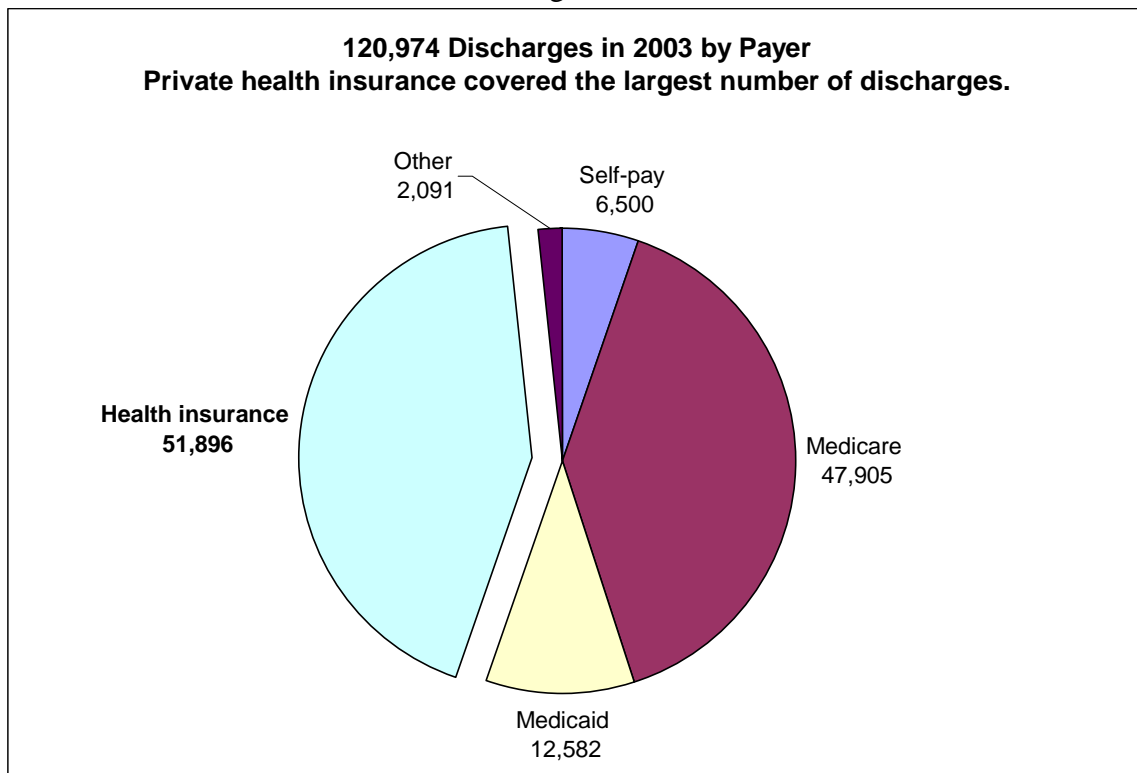


Figure 4

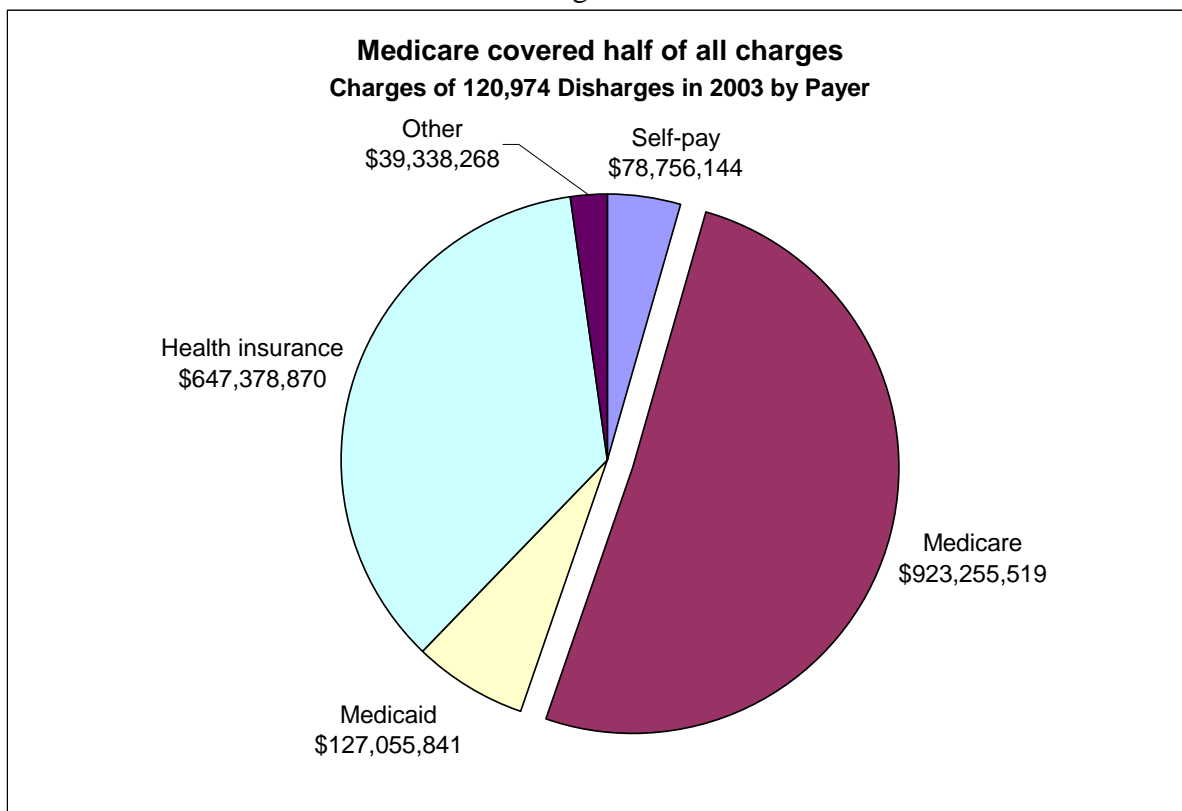


Table 5 shows the relatively large percentage increase in self-paid and Medicaid discharges along with a small decrease in the percentage of discharges covered by insurance between 2001 and 2003. The number of Medicaid discharges and self-pay discharges increased by 2,700 during the period while the number of discharges with health insurance as a principal payer declined by 900.

Table 5
 Change in discharges by payer 2001-2003

Payer	2001 Discharges	2002 Discharges	2003 Discharges	% Change 2001-2003
Self-pay	5,734	6,086	6,500	13.4%
Medicare	47,777	47,187	47,905	0.3%
Medicaid	10,639	11,096	12,582	18.3%
Health insurance	52,803	51,985	51,896	-1.7%
Other	2,066	2,042	2,091	1.2%
Total	119,019	118,396	120,974	1.6%

4. The Impact of Age

The discharge data show interesting relationships between age, length of stay, charges, and insurance coverage. As shown in Figure 5 younger patients had shorter average lengths of stay than older patients. Figure 5 also demonstrates that this relationship remains relatively stable

over the period between 2001 and 2003 (Data for 2000-2003 is included in the appendix in Table A7). While in 2003 the overall average length of stay was about 4.5 days, the average for each age group under 40 was fewer than 3.5 days and the average for each age group over 60 was more than 5 days. Because nearly all births take place in hospitals and each birth results in the discharge of a patient of age 0, the number of discharges of infants is among the highest of all age groups (see Figure 6).

Figure 5

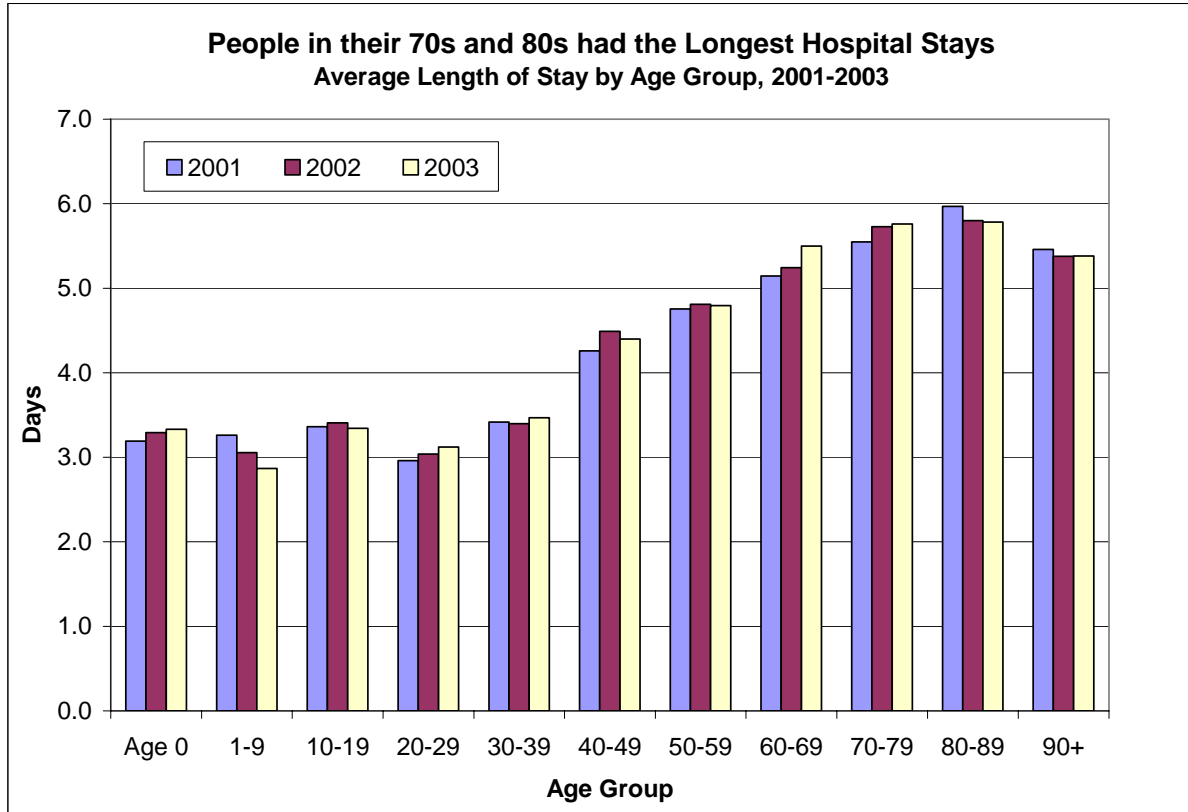


Figure 6

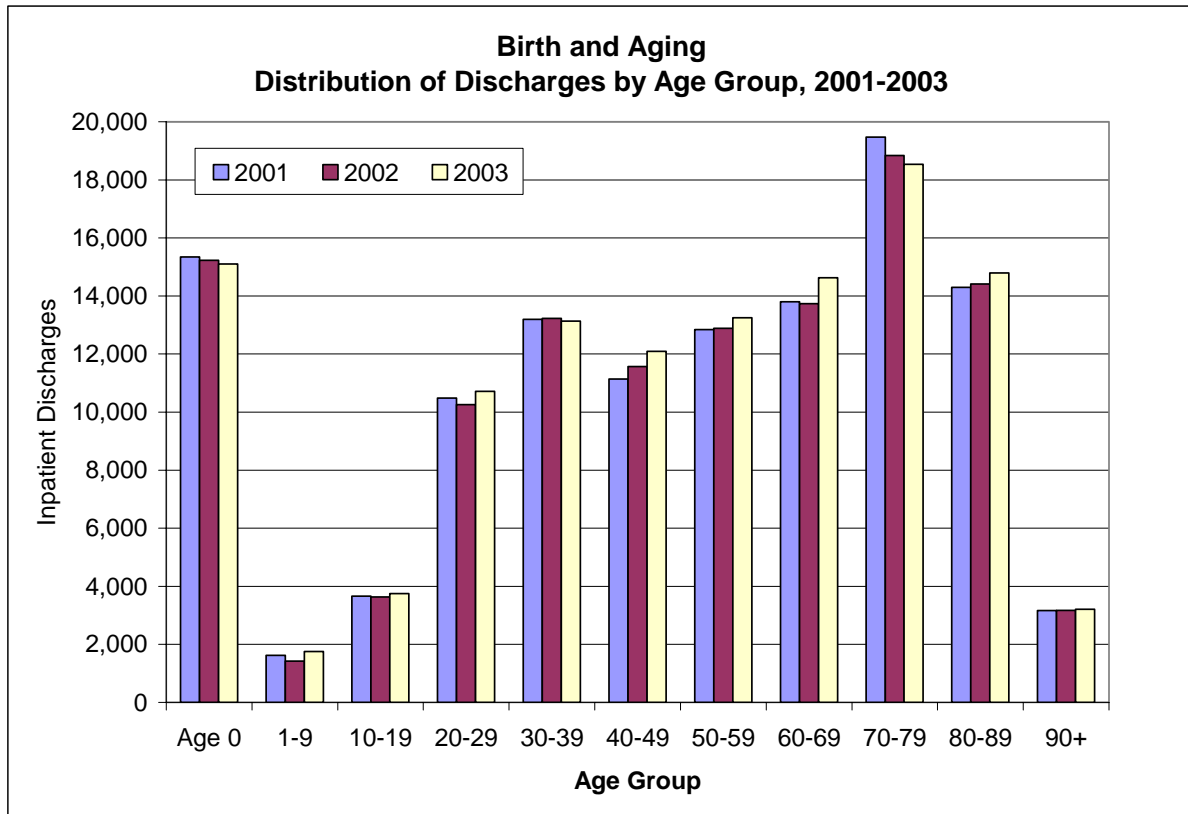
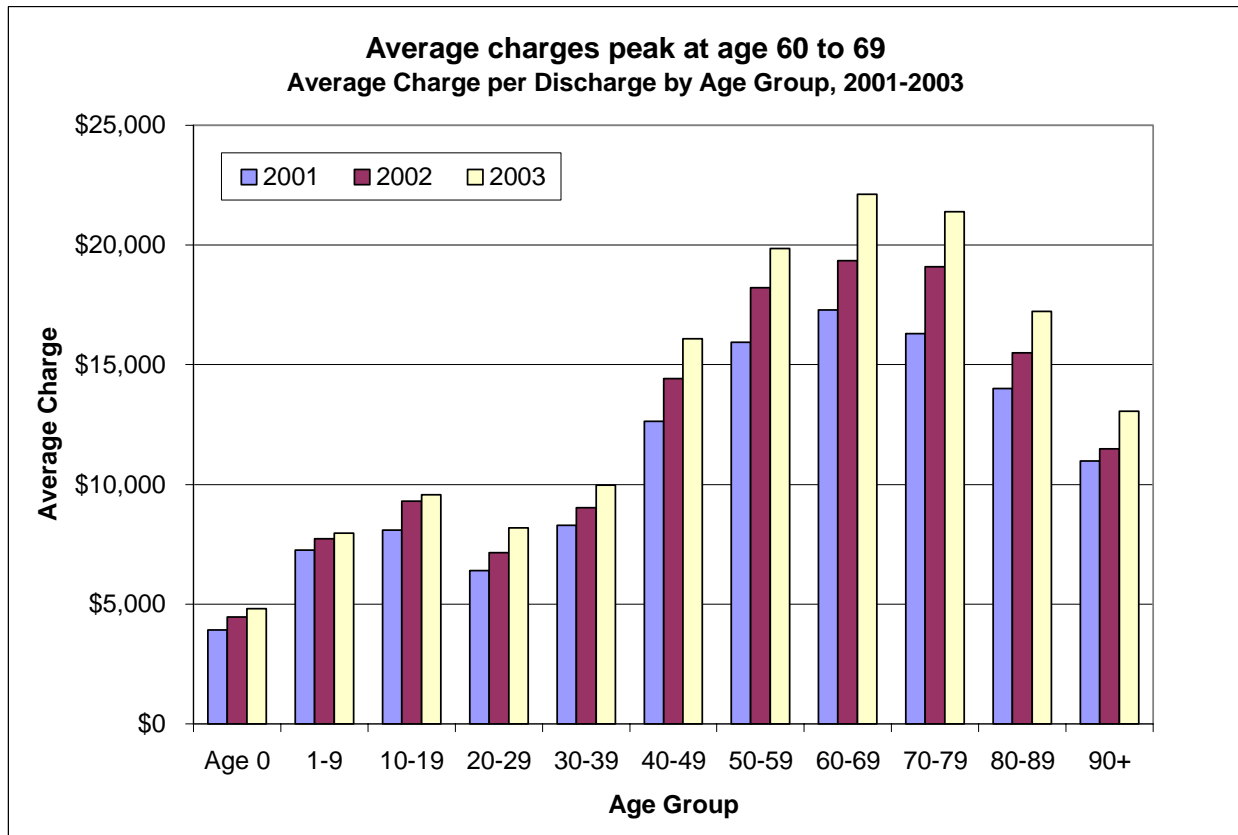


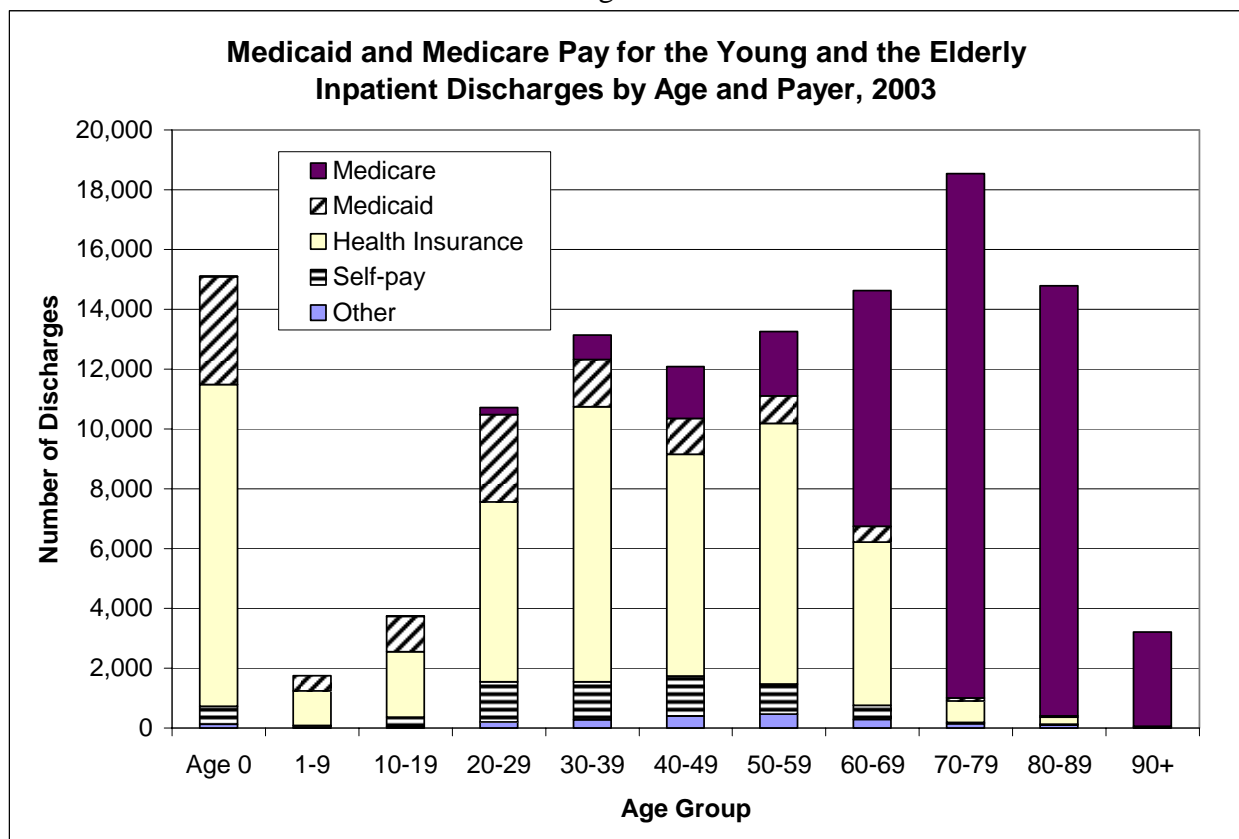
Figure 7



As shown in Figure 7 the average charge per discharge is considerably higher for older patients. The average charge for 60-to-69 year olds is more than double that of patients under age 39. Contrary to what one might expect the average charge per hospital stay peaks among 60-to-69 year olds and then declines progressively for those in older age groups. Both in absolute terms and in percentage terms, the increase in average charges from 2001 to 2003 has been most pronounced in the older age groups.

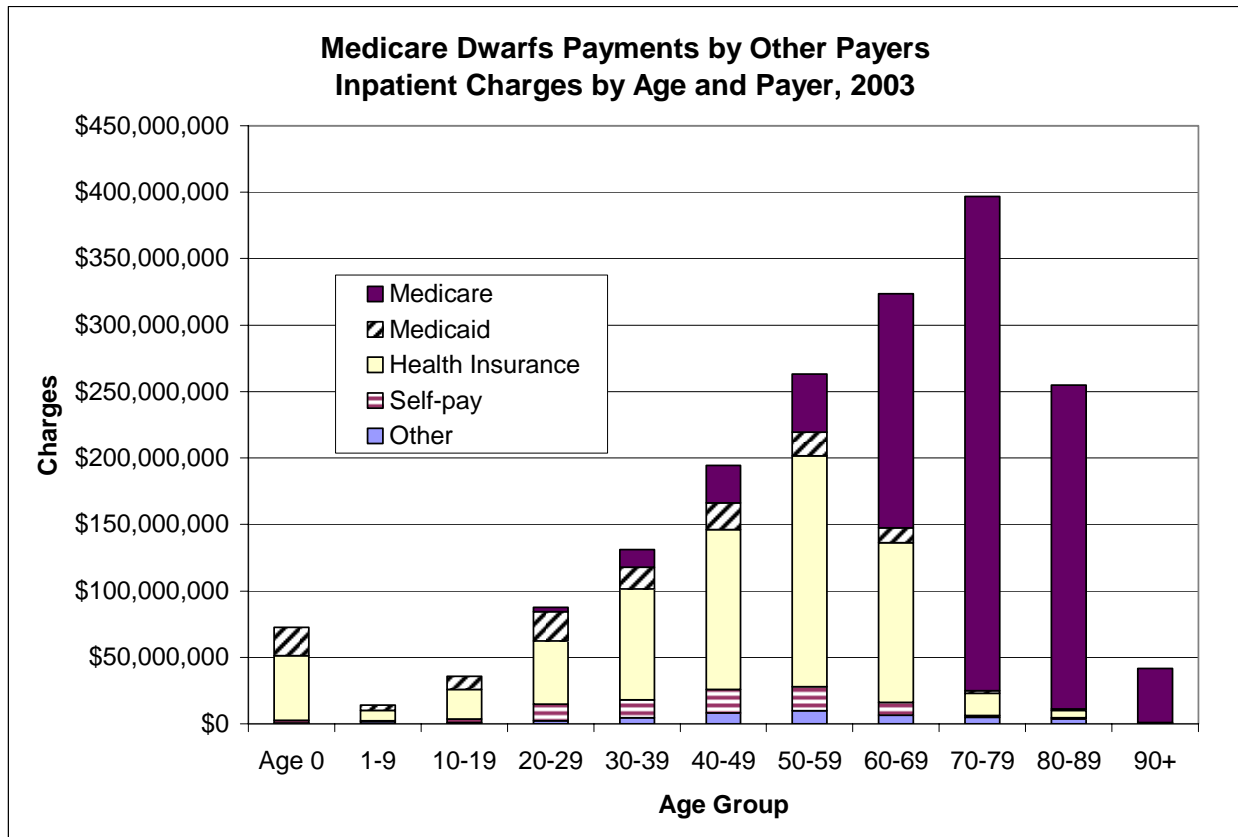
Figure 8 illustrates the dynamic relationship between age and payer status in 2003. For each age group, the number of discharges with different principal payers is displayed. Not surprisingly, given the Healthy Kids Gold program and the state’s coverage of pregnant women up to 185 percent of the federal poverty level, a significant share of the births are covered by Medicaid.⁹ Nearly 25 percent of all child-birth discharges are paid for by Medicaid, as indicated in the first bar in Figure 8. Medicaid covers an even higher percentage of all age groups through age 30. Through age 19, this high rate of coverage is probably attributable to the Healthy Kids program. For ages 20-29 the high rate of Medicaid coverage is primarily attributable to young, low-income mothers giving birth without health insurance.

Figure 8



⁹ The Healthy Kids Program is comprised of two separate components. The first, Healthy Kids Gold covers almost 60,000 children within the state’s Medicaid program. The second, the Healthy Kids Silver program covers approximately 7,000 children through the Department of Health and Human Services contract with the Healthy Kids Corporation. Only Health Kids Gold pays for deliveries and births.

Figure 9



The explanation for the preponderance of Medicare patients in the older age groups is clear. However, even in age groups 40-59, Medicare is a larger public program than Medicaid due to the fact that the disabled are eligible for Medicare coverage. A small portion of the hospital stays of those age 70 and over is paid by commercial health insurance, probably employment based for those who continue to work.

Figure 9 displays the actual dollar amount of charges in a similar manner. The bar representing charges for 70-79 year olds is the largest and represents fully 28 times the charges for 1-9 year olds.

5. What Follows the Hospital Stay

The hospital discharge database includes information about where the patient went upon being discharged from the hospital. The ‘disposition’ of each discharge provides information that can be used to understand the underlying system of care, particularly for the elderly. The discharge data accomplishes this by identifying whether patients were sent home to take care of themselves, home to be cared for with some home care service or assistance, to a nursing facility, to another hospital, or to a special residential program of some type.

Not surprisingly, Figure 10 shows that more than three-quarters of the people leaving the hospital go home. However, there is a marked difference in the type of disposition by age group. Figure 11 presents the number of dispositions in 2003 by age group. Patients are more likely to be referred to another facility as they get older. Nearly all 0-to-39 year olds are discharged to their home, with only a small proportion of those receiving follow-up home health care. Among

those 50 and older, however, greater numbers and percentages are discharged to other facilities such as nursing homes, assisted living homes, rehabilitation facilities, and other hospitals. Fewer than half of those over age 80 are discharged to their homes.

Figure 10

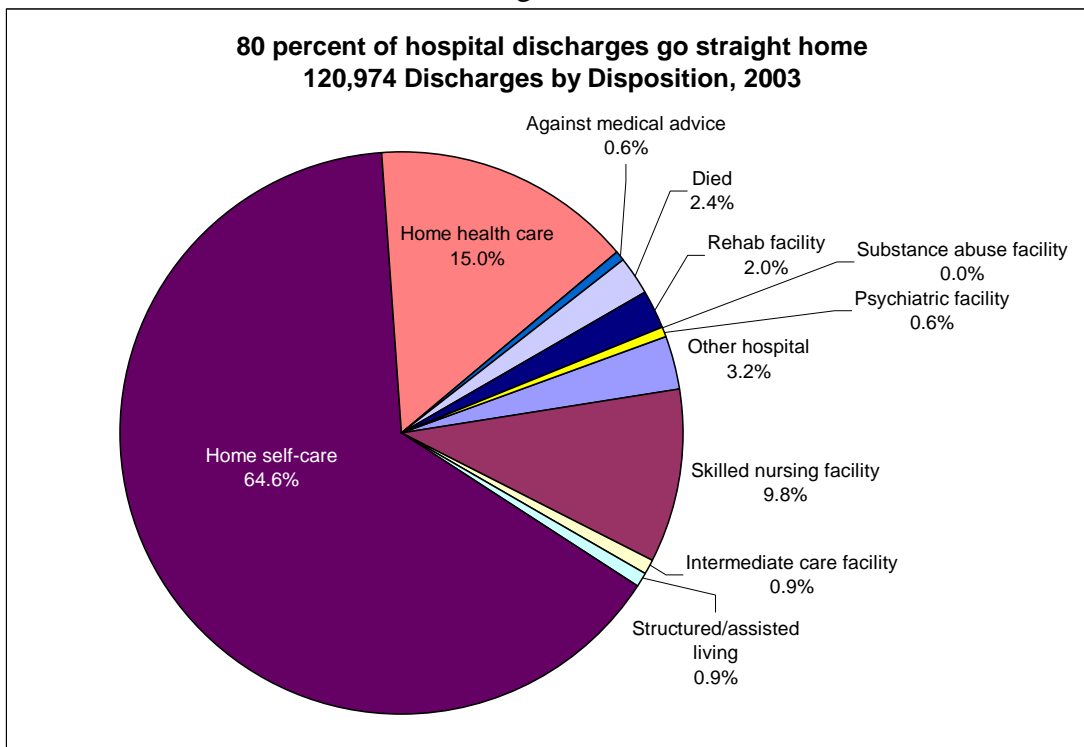
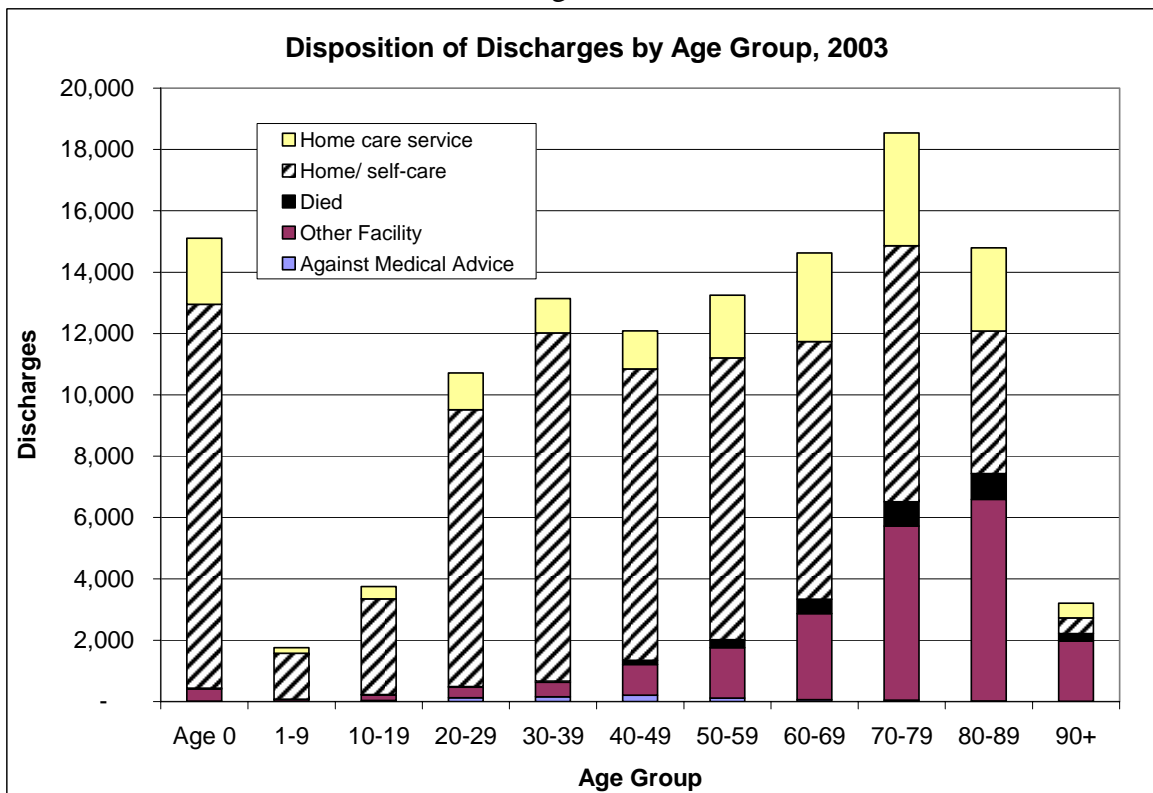


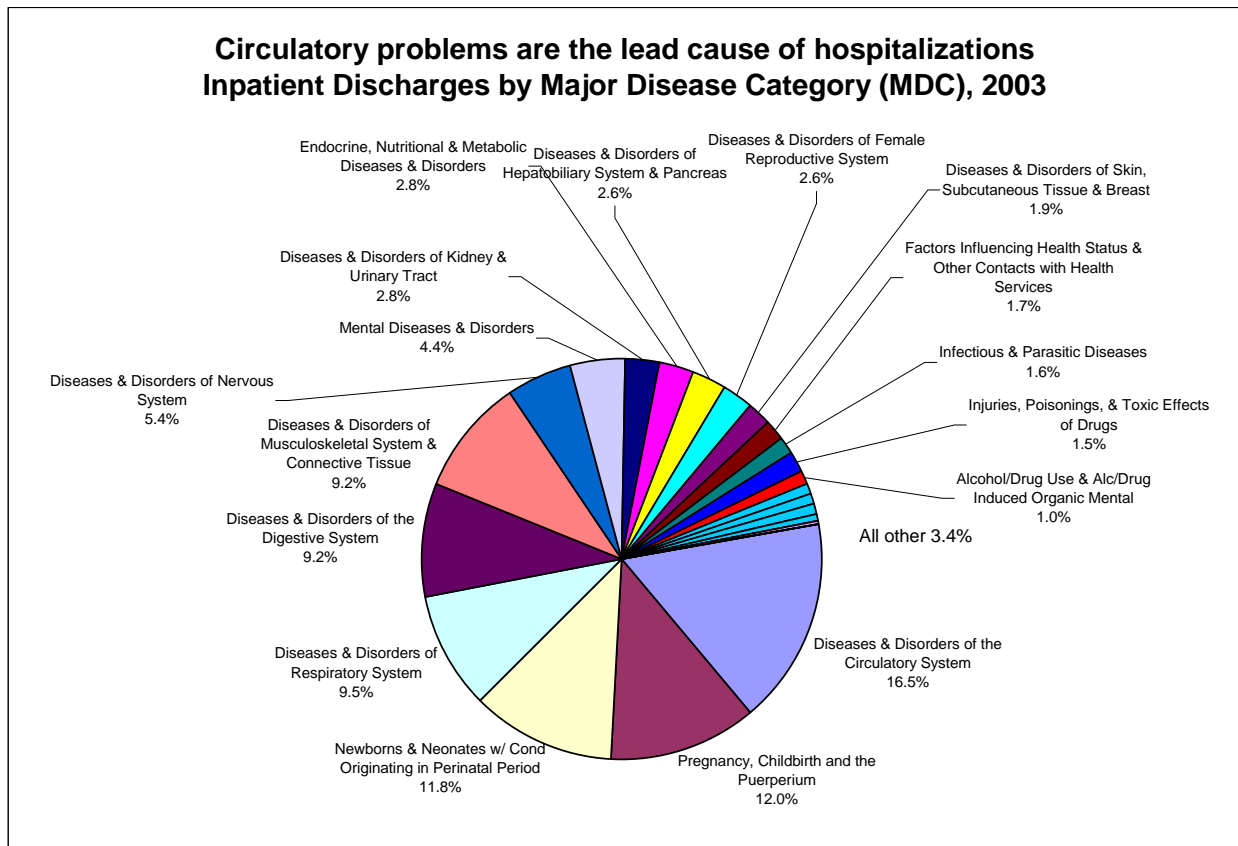
Figure 11



6. Understanding Primary Diseases

The hospital discharge database contains information about the illnesses or conditions underlying a patient’s visit to the hospital, categorized by major disease categories (MDC). The database also includes information on the procedures that are provided to individuals. The number of discharges, charges, and other summary data for major disease categories in 2003 are displayed in Table 6 (data for 2001 and 2002 is included in the appendix in Table A8 and Table A9). Figure 12 illustrates the relative proportion of all discharges by disease category.

Figure 12



In each year (2001-2003) the category with the most discharges was “diseases and disorders of the circulatory system,” which constituted 16.5 percent of all inpatient discharges in 2003 but was responsible for 27.3 percent of all inpatient charges (\$494,893,035). The next two largest categories relate to pregnancy, birthing, and newborns. Taken together they constituted 23.8 percent of the discharges in 2003 (including the discharges of the newborns themselves), but were considerably less costly. Together they were responsible for only 8.2 percent of all charges (\$148,029,041) in 2003.

The category with the greatest average charge per discharge was “multiple significant trauma.” There were only 255 such discharges statewide, fewer than one per day, but they had an average charge of \$47,856 and an average length of hospital stay of 10.0 days in 2003. Further analysis of different data sets might show how many of these were highway accident-related traumas that might have been prevented with seat belts or helmets.

Aside from giving birth, the primary reasons for individuals entering the hospital are diseases and disorders of the circulatory system and the respiratory system, both of which have been shown to be associated with lifestyle choices such as alcohol and tobacco use. As noted, diseases and disorders of the circulatory and respiratory system accounted for 26 percent of the inpatient discharges in 2003 but were responsible for 37 percent of the charges.

Table 6
Inpatient Discharges by Major Disease Category, 2003

Major Disease Category (MDC)	Number of Discharges	Charges	Average Charge	Total Stay in Days	Average Length of Stay	Average Charge per Day	Percent of Discharges	Percent of Charges
Diseases & Disorders of the Circulatory System	20,018	\$494,893,085	\$24,722	89,039	4.4	\$5,558	16.5%	27.3%
Pregnancy, Childbirth and the Puerperium	14,495	\$82,959,040	\$5,723	37,593	2.6	\$2,207	12.0%	4.6%
Newborns & Neonates w/ Cond Originating in Perinatal Period	14,258	\$65,070,001	\$4,564	47,242	3.3	\$1,377	11.8%	3.6%
Diseases & Disorders of Respiratory System	11,476	\$176,108,028	\$15,346	61,287	5.3	\$2,873	9.5%	9.7%
Diseases & Disorders of the Digestive System	11,143	\$186,656,984	\$16,751	58,180	5.2	\$3,208	9.2%	10.3%
Diseases & Disorders of Musculoskeletal System & Connective Tissue	11,140	\$241,587,176	\$21,686	47,485	4.3	\$5,088	9.2%	13.3%
Diseases & Disorders of Nervous System	6,572	\$114,923,934	\$17,487	37,874	5.8	\$3,034	5.4%	6.3%
Mental Diseases & Disorders	5,366	\$51,668,238	\$9,629	38,700	7.2	\$1,335	4.4%	2.8%
Diseases & Disorders of Kidney & Urinary Tract	3,378	\$50,587,070	\$14,975	16,611	4.9	\$3,045	2.8%	2.8%
Endocrine, Nutritional & Metabolic Diseases & Disorders	3,364	\$41,741,760	\$12,408	14,354	4.3	\$2,908	2.8%	2.3%
Diseases & Disorders of Hepatobiliary System & Pancreas	3,150	\$57,798,598	\$18,349	17,461	5.5	\$3,310	2.6%	3.2%
Diseases & Disorders of Female Reproductive System	3,123	\$36,568,002	\$11,709	8,165	2.6	\$4,479	2.6%	2.0%
Diseases & Disorders of Skin, Subcutaneous Tissue & Breast	2,306	\$25,925,869	\$11,243	10,827	4.7	\$2,395	1.9%	1.4%
Factors Influencing Health Status & Other Contacts with Health Services	2,005	\$31,948,968	\$15,935	21,937	10.9	\$1,456	1.7%	1.8%
Infectious & Parasitic Diseases	1,938	\$42,480,636	\$21,920	13,355	6.9	\$3,181	1.6%	2.3%
Injuries, Poisonings, & Toxic Effects of Drugs	1,821	\$25,747,385	\$14,139	7,364	4.0	\$3,496	1.5%	1.4%
Alcohol/Drug Use & Alc/Drug Induced Organic Mental	1,236	\$8,240,433	\$6,667	4,914	4.0	\$1,677	1.0%	0.5%
Diseases & Disorders of Ear, Nose, Mouth, Throat	1,104	\$12,587,029	\$11,401	3,980	3.6	\$3,163	0.9%	0.7%
Myeloproliferative Diseases & Poorly Differentiated Neoplasm	1,097	\$29,073,087	\$26,502	7,632	7.0	\$3,809	0.9%	1.6%
Blood & Blood Forming Organs & Immunological Disorders	900	\$14,269,939	\$15,855	3,947	4.4	\$3,615	0.7%	0.8%
Diseases & Disorders of Male Reproductive System	617	\$8,734,244	\$14,156	1,844	3.0	\$4,737	0.5%	0.5%
Multiple Significant Trauma	255	\$12,203,228	\$47,856	2,557	10.0	\$4,772	0.2%	0.7%
Diseases & Disorders of the Eye	108	\$897,859	\$8,314	297	2.8	\$3,023	0.1%	0.0%
Human Immunodeficiency Virus Infections	69	\$2,572,520	\$37,283	732	10.6	\$3,514	0.1%	0.1%
Burns	35	\$541,529	\$15,472	208	5.9	\$2,604	0.0%	0.0%
<i>Unknown</i>	2							
Total/Average	120,976	\$1,815,784,642	\$15,009	553,585	4.6	\$3,280	100.0%	100.0%

8. Where the Costs Are

Somewhat obscured by all the numbers in the disease-category tables is the simple fact that some conditions cost much more to treat than others and that hospital charges are not evenly distributed among all discharges.

To learn more about the distribution of charges, a standard analytical technique called “Pareto analysis” was applied to the data.¹⁰ The first step of the analysis is to sort all of the inpatient discharges in a given year from the most expensive to the least expensive (as measured by charges). The second step is to group the sorted discharges in ways that illuminate their distribution. In this analysis, the 120,974 discharges in 2003 are divided into “deciles”—10 groups of equal size. The smallest group—with the highest charges—is further subdivided to highlight what happens at the extreme end of the scale.

Table 7 shows that in 2003 the 1,209 most expensive discharges were 1 percent of the total number of discharges that year but constituted 12.7 percent of all charges.

Table 7
The most expensive 10 percent of discharges account for 43 percent of charges

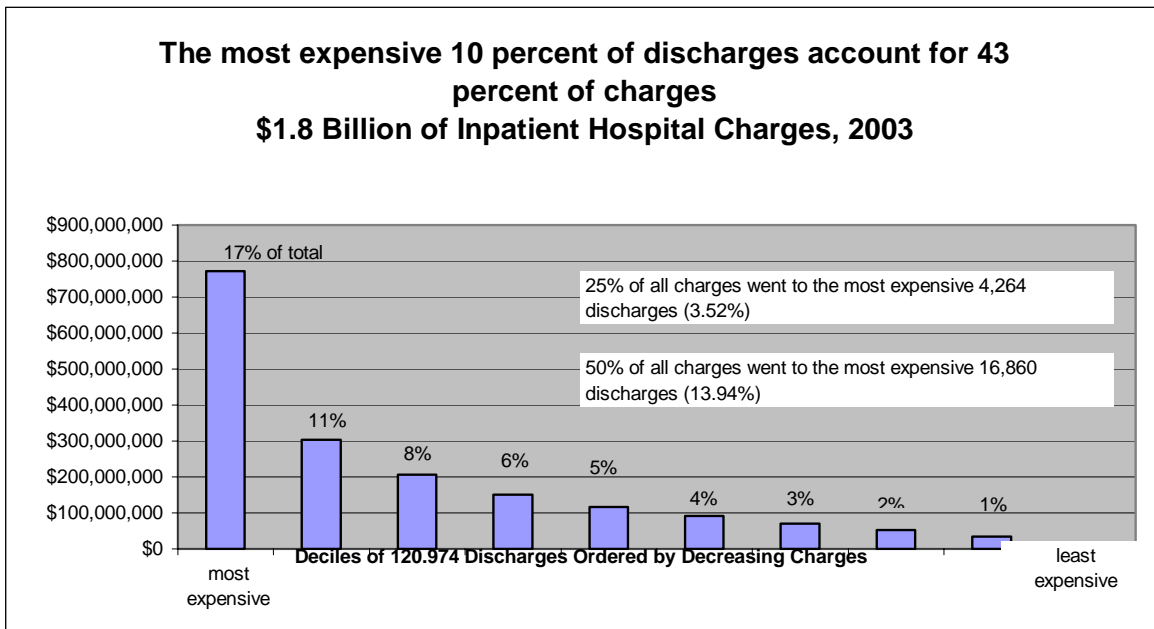
Cumulative Discharges	% of Discharges	Avg. Charge per Discharge	Cumulative Dollars of Charges	% of Charges
26	0.02%	\$680,160	\$18,157,846	1.0%
251	0.21%	\$324,845	\$90,789,232	5.0%
789	0.65%	\$168,764	\$181,578,464	10.0%
1,209	1.00%	\$115,736	\$230,178,436	12.7%
4,264	3.52%	\$73,241	\$453,946,161	25.0%
6,048	5.00%	\$50,914	\$544,764,320	30.0%
12,097	10.00%	\$37,594	\$772,179,687	42.5%
16,860	13.94%	\$28,488	\$907,892,321	50.0%
24,195	20%	\$22,821	\$1,075,258,308	59.2%
36,295	30%	\$17,068	\$1,281,777,761	70.6%
48,393	40%	\$12,483	\$1,432,801,609	78.9%
60,490	50%	\$9,614	\$1,549,102,341	85.3%
72,588	60%	\$7,567	\$1,640,643,636	90.4%
84,689	70%	\$5,882	\$1,711,821,944	94.3%
96,786	80%	\$4,390	\$1,764,927,159	97.2%
108,881	90%	\$2,868	\$1,799,618,387	99.1%
120,974	100%	\$1,337	\$1,815,784,642	100.0%

Figure 13 displays the percentage of all charges by decile. Figure 14 displays a Pareto curve of

¹⁰ Vilfredo Pareto was a 19th century economist who observed that 80 percent of Italy's wealth was owned by 20 percent of the population.

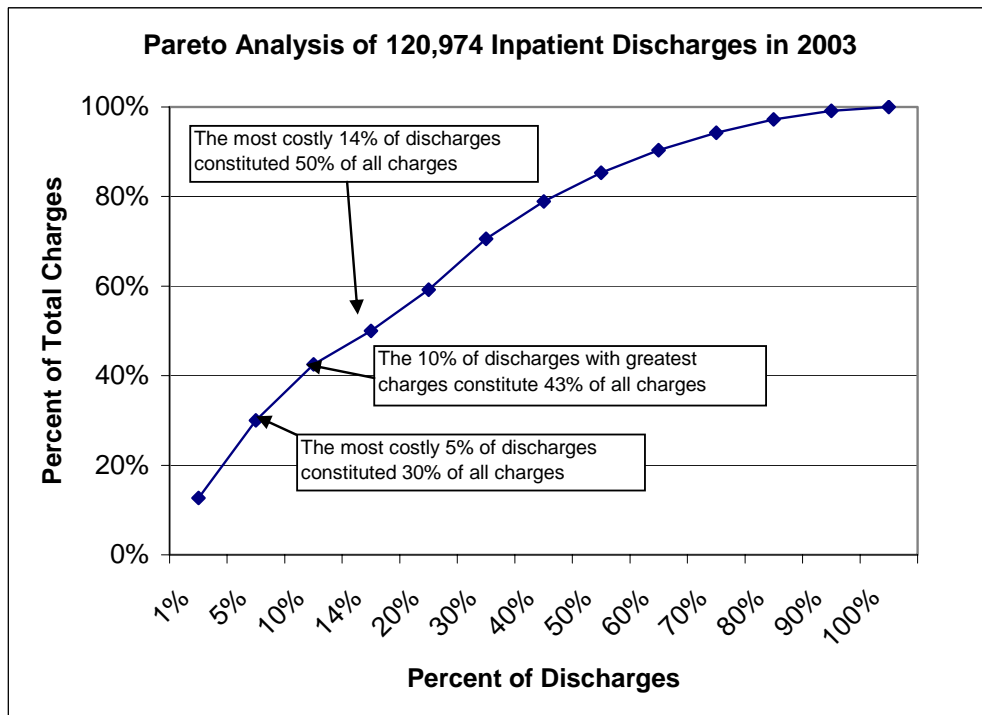
the same information.

Figure 13



The most expensive 10 percent of all inpatient discharges constituted 43 percent of the total charges for the year. The least expensive 10 percent constituted less than 1 percent of total charges. The top 10 percent were nearly 50 times as expensive as the least expensive 10 percent.

Figure 14



The Pareto analysis gives some sense of where health professionals or policy makers might best target a medical cost-control strategy.¹¹ From the data above it can be seen that a theoretical strategy that would have kept the 12,100 *least expensive* cases out of the hospital entirely would have reduced total hospital charges by \$16.2 million. On the other hand, a strategy that reduced the cost of the *most expensive* 12,100 cases **by an average of just 10 percent** would have resulted in \$77.2 million in lower charges.

Simply slowing the rate of increase in the higher charge cases could have an impact on cost as well. Table 8 shows that hospitals raised their charges most for the services that account for their highest charge services between 2001 and 2003. The average charge for the most expensive cases (the 10 percent most expensive) rose 25.1 percent compared to 20.6 percent for the least expensive cases (the 10 percent least expensive cases). For the most expensive 1 percent of cases, the average charge rose 30.9 percent.

Table 8
Charges rose faster at the high end of the scale, 2001 to 2003

Decile	Average charge in 2001	Average charge in 2003	Percent increase
.02% most expensive cases	\$512,134	\$680,160	32.8%
1% most expensive cases	\$88,404	\$115,736	30.9%
10% most expensive cases	\$30,046	\$37,594	25.1%
Next 10% less expensive	\$17,987	\$22,821	26.9%
Next 10%	\$13,433	\$17,068	27.1%
Next 10%	\$9,932	\$12,483	25.7%
Next 10%	\$7,713	\$9,614	24.6%
Next 10%	\$6,111	\$7,567	23.8%
Next 10%	\$4,736	\$5,882	24.2%
Next 10%	\$3,558	\$4,390	23.4%
10% next to least expensive	\$2,322	\$2,868	23.5%
10% least expensive cases	\$1,108	\$1,337	20.6%
All discharges during year	\$11,885	\$15,010	26.3%

Because this is an analysis of discharges, not individuals, it understates the degree to which charges are actually concentrated in a few individuals. Some individuals were admitted and discharged several times during the year, but this analysis considers each discharge as if it were a separate person. The significance of these multiple discharges is discussed in Section 9 of this paper.

¹¹ Actual expenses are not identified on the discharge data so for the purposes of discussion we use ‘Charges’ as a proxy for costs and expense.

9. Patients with Several Discharges

Approximately 22 percent of the people discharged from New Hampshire's hospitals in 2001 and 2002 were admitted and discharged more than once each year.¹² A few dozen people were in and out of the hospital at least 10 times each year. These "multiply discharged patients" make it difficult to interpret some of the discharge data without first taking their repeat hospitalizations into account. This is particularly true of the charge data, where that 22 percent of the hospitalized population who had more than 1 inpatient discharge accounted for approximately 48 percent of the total charges.

¹² To determine how many patients in the data set had more than one discharge, the Center turned to the Bureau of Health Care Research, NH Department of Health and Human Services for additional help. The Bureau had provided the Center with part of its discharge data base after first removing any information that could directly or indirectly identify individual patients—birthdates, medical record numbers, encrypted social security numbers, zip codes, etc. The data collected by the department does not contain names. Without those fields, the Center could not determine how many individuals had more than one discharge. The Bureau helped by conducting its own analysis of the discharges and providing the Center with some information about multiply discharged patients. The Bureau again removed all potentially identifying information from the dataset before allowing the Center to see it. What remained were four data fields for each multiply discharged individual: the total number of discharges for that person, the total number of days of stay for that person, the total of all charges for that person, and the total of charges less practitioners' charges. The data set does not include any information about the medical conditions for which the individuals were being treated, although that would be a potentially useful analysis.

Table 9 presents the numbers relating to multiple discharges and charges. Note that the data here are incomplete: the Bureau of Health Care Research lacked identifying information on about 15 percent of all discharges, so it is impossible to determine how many of those discharges were “multiples.” Many of these discharges were newborns who did not yet have a social security number and therefore could not be matched to any subsequent admission if one occurred. It is possible that some of the discharges lacking the necessary identifying information were, in fact, to persons who were discharged multiple times. The 85 percent of discharges for which the necessary matching *was* completed represented 89 percent of all days of stay and 94 percent of all charges.

Table 9
22 percent of the discharges account for 48 percent of the charges

	2001		2002	
	Count	Charges	Count	Charges
All discharges during year	119,019	\$1,414,565,170	118,396	\$1,592,533,499
Discharges matched	100,767	\$1,331,548,110	100,498	\$1,503,188,764
% successfully matched	85%	94%	85%	94%
Persons with only 1 discharge	57,514	\$692,837,845	57,252	\$780,817,258
with 2 discharges	10,836	\$321,409,980	10,948	\$370,920,764
with 3 discharges	3,261	\$145,862,253	3,278	\$164,833,494
with 4 discharges	1,262	\$76,934,209	1,287	\$87,729,430
with 5 discharges	567	\$40,435,227	553	\$45,949,730
with 6 discharges	257	\$20,976,620	278	\$24,611,288
with 7 discharges	127	\$13,223,283	114	\$12,099,889
with 8 discharges	65	\$7,871,326	52	\$5,749,877
with 9 discharges	42	\$5,342,435	30	\$4,811,806
with 10 discharges	24	\$2,223,434	18	\$2,333,378
with 11 discharges	10	\$1,922,045	14	\$1,770,758
with 12 or more discharges	18	\$2,509,453	8	\$1,561,092
Persons matched	73,983	\$1,331,548,110	73,832	\$1,503,188,764
% with 2 or more discharges	22%	48%	22%	48%

As an example of how to read this table: the 100,498 discharges in 2002 that were able to be matched were to 73,832 unduplicated individuals. Of these persons, 57,252 had only one discharge during the year. However, 16,580—22.5 percent of the 73,832 unduplicated individuals—had multiple discharges: 10,948 had two discharges and eight had 12 or more hospital stays that year.

It is important to note that 48 percent of all these identified charges were to the 22 percent of patients that had more than one hospital stay during each year. While the Pareto analysis, described in Section 8 of this paper, makes it clear that costs are highly concentrated in a relatively small number of discharges, in fact, the costs are even more concentrated in a small number of patients.

The age distribution of those patients who had multiple discharges is provided in Table 10. In 2002, for example, 3,996 patients age 75 to 84 had more than one hospital inpatient discharge. These patients had a total of 10,452 discharges with a total charge of \$187,347,061.

The average charge per person identified as having more than one discharge during the year was \$38,783 in 2001 and \$43,569 in 2002. Note, however, that the average charge *per person* in these groups peaks in the 55-to-74 age groups and declines thereafter. This trend is consistent with the analysis graphed in Figure 7, which showed the average charge *per discharge* peaking at age 65-74, although the more precise measure of average charge per person tends to lower the age at which the highest charges appear.

The majority of discharges in all age groups over 65 were of individuals who had multiple discharges during the year. Further, of all discharges of those who had multiple hospital stays in 2002, 56 percent were of patients age 65 and older. The percent of all discharges of persons in each age group that were identified as those of individuals with more than one hospital stay during 2002 is shown in Table 11 and Figure 15.

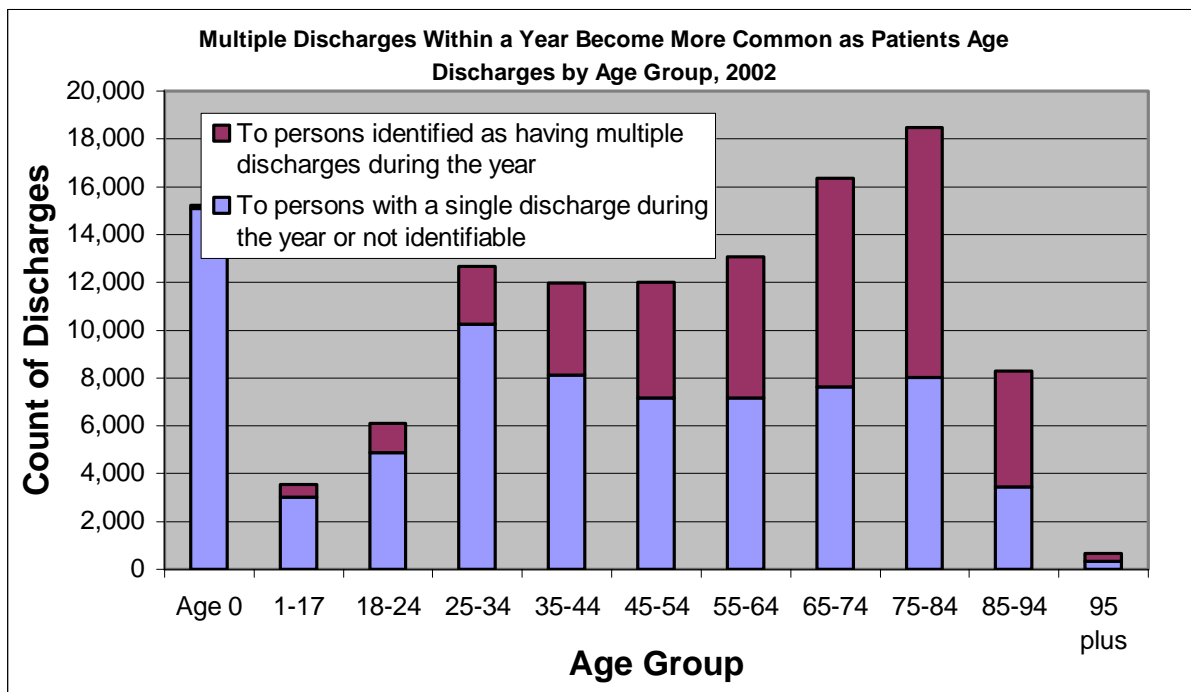
Table 10
Older Patients Account for Most of the Multiple Discharges (2001-2002)

2001				
	Discharges	Unduplicated Persons	Average Charge/ Person	Total Charges
Age 0	126	55	\$32,306	\$1,776,816
1-7	518	180	\$35,282	\$6,350,786
18-24	1,232	499	\$18,896	\$9,429,144
25-34	2,424	943	\$21,689	\$20,453,032
35-44	3,842	1,428	\$33,037	\$47,176,969
45-54	4,837	1,815	\$41,088	\$74,575,303
55-64	5,890	2,228	\$45,672	\$101,757,892
65-74	8,742	3,313	\$45,452	\$150,581,342
75-84	10,454	3,970	\$41,084	\$163,101,630
85-94	4,836	1,898	\$31,723	\$60,210,558
95 plus	352	140	\$23,549	\$3,296,793
Total	43,253	16,469	\$38,783	\$638,710,265
2002				
	Discharges	Unduplicated Persons	Avg Charge/Person	Total Charges
Age 0	132	57	\$44,053	\$2,510,994
1-7	503	185	\$32,341	\$5,983,138
18-24	1,228	487	\$25,644	\$12,488,575
25-34	2,421	935	\$26,884	\$25,136,962
35-44	4,007	1,488	\$35,326	\$52,564,504
45-54	4,971	1,906	\$45,732	\$87,165,504
55-64	6,234	2,331	\$51,065	\$119,033,556
65-74	8,073	3,106	\$51,575	\$160,192,295
75-84	10,452	3,996	\$46,884	\$187,347,061
85-94	4,853	1,932	\$34,319	\$66,304,330
95 plus	372	157	\$23,214	\$3,644,587
Total	43,246	16,580	\$43,569	\$722,371,506

Table 11
 More Than Half of Discharges of People Over Age 65 are Multiples

2002 Inpatient Discharges by Age Group			
Age Group	Total Discharges	Discharge of patients identified as having multiple discharges during the year	%
Age 0	15,224	126	- ¹³
1-17	3,545	518	14.6%
18-24	6,096	1,232	20.2%
25-34	12,679	2,424	19.1%
35-44	11,980	3,842	32.1%
45-54	11,999	4,837	40.3%
55-64	13,068	5,890	45.1%
65-74	16,358	8,742	53.4%
75-84	18,486	10,454	56.6%
85-94	8,291	4,836	58.3%
95 plus	670	352	52.5%
Total	118,396	43,253	36.5%

Figure 15



¹³ The Age 0 group is primarily newborns at birth. Most of these do not have unique identifiers that could be matched to determine whether a given infant had multiple hospitalizations. The percentage, therefore, is not a useful number.

10. Self-Pay Discharges

Because public policy makers have focused a great deal of attention on the problems faced by those without health insurance, the self-pay cases in the discharge database are particularly important. In the jargon of hospital finance, those patients without public or private health insurance or whose health insurance doesn't cover particular conditions or types of care are called "self-pay" discharges. These were 4.8 percent of all discharges in 2001 and 5.4 percent in 2003. Although the overall number of hospital discharges increased 1.6 percent in 2003 from 2001, the number of self-pay discharges increased by 13.4 percent (from 5,734 to 6,500).

Young adults are most likely to be self-pay patients, as shown in Figure 16. The average age of self-pay discharge was 39.1 years whereas the average age of all discharges was 56 years.¹⁴ Fully 56.9 percent of self-pay discharges were between the ages of 25 and 54 whereas these ages made up only 30.9 percent of all discharges.

Figure 16

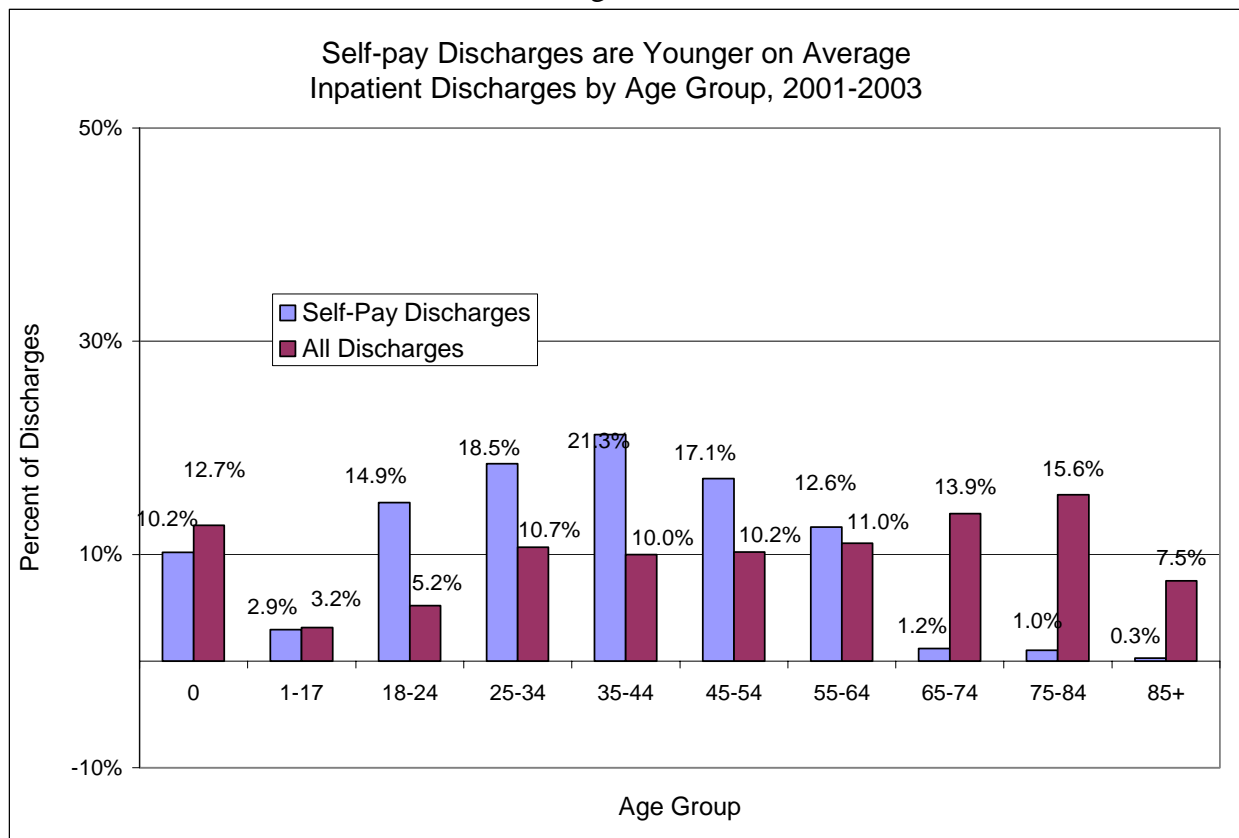
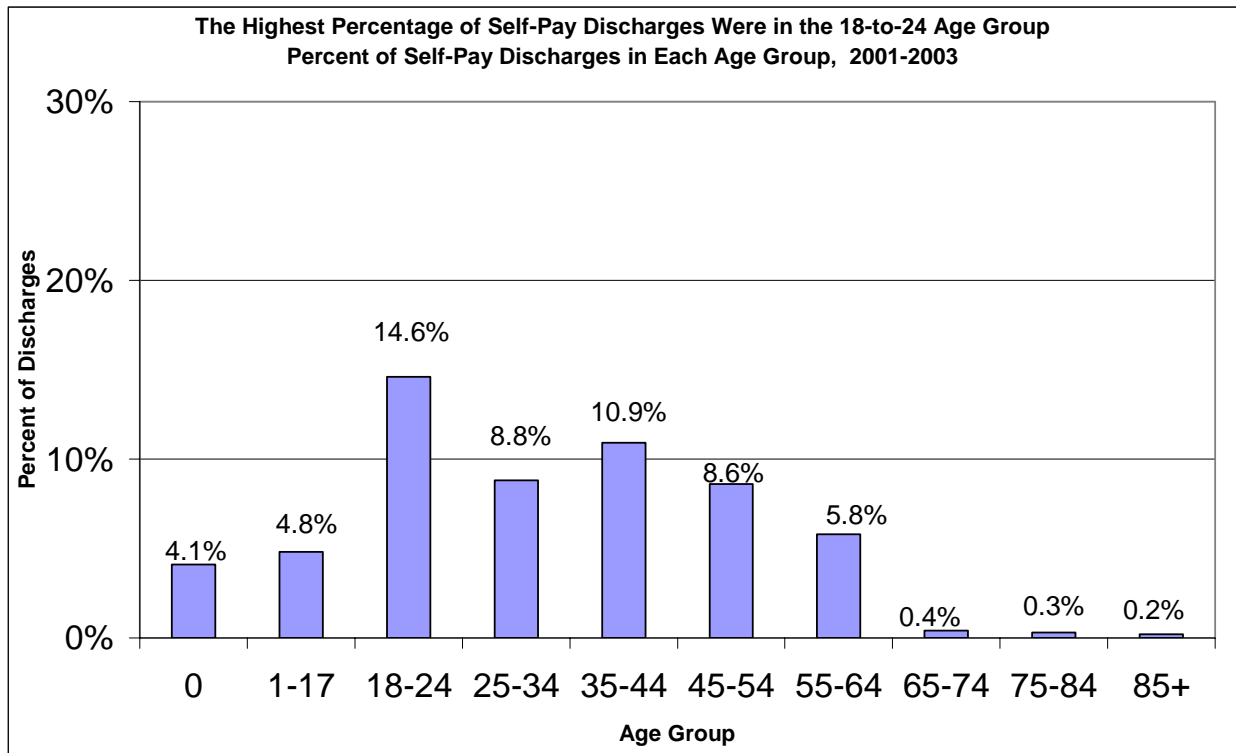


Figure 17 graphs the same data in a different way to show what percent of each age cohort is identified as self-pay. The 18-to-24 year old group has the highest rate of self-pay, a finding

¹⁴ This average excludes newborns and other discharges under age 1.

consistent with survey results documenting the characteristics of the uninsured.¹⁵

Figure 17

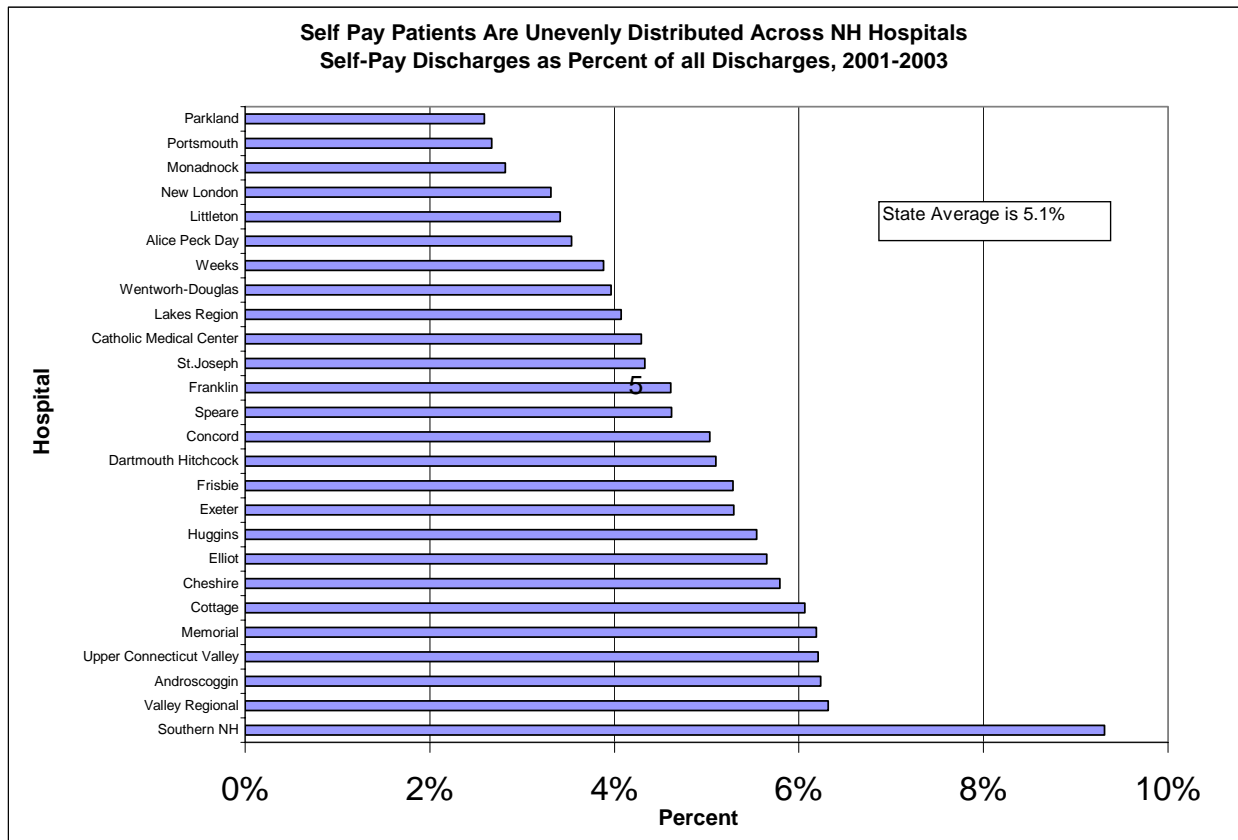


The low percentage of self-pay among those 65 and older is due primarily to Medicare, the federal program for seniors. The low percentage among children is due to Medicaid and the state’s “SCHIP” program operated through New Hampshire Healthy Kids Corp. Without these two sources of coverage, the number of uninsured in New Hampshire would be considerably higher.

Self-pay patients are unevenly distributed among the state’s hospitals. Figure 18 displays the proportion for each of the 27 hospitals in the discharge data. The two for-profit hospitals in the state accounted for the least amount of care to self-pay individuals. Southern New Hampshire Regional Medical Center accounted for the single largest share.

¹⁵ Smith, Andrew. “2003 New Hampshire Health Insurance Survey.” The Survey Center. The University of New Hampshire. April, 2004.

Figure 18



The average charge for a self-pay discharge (\$11,149 over the three years) was slightly lower than for all discharges (\$13,457 over the three years). The lower charges for the uninsured are a result of shorter hospital stays, less costly procedures, and fundamentally less costly diseases than those experienced by the population as a whole. This in turn is likely a function of the fact that self-pay discharges are younger than the general population of discharges.

Aside from the distribution of age, the most striking differences between the self-pay and general population stem from the primary role of substance abuse or mental illness as a reason for entering the hospital. Self-pay inpatients are disproportionately likely to be hospitalized for drug- and alcohol-related disease, trauma, and mental illness. Table 12 contains the number of discharges by disease category for all discharges and for self-pay discharges for the combined years 2001 through 2003. The percentage of discharges for each category that are self-pay is noted in the rightmost column; if the self-pay population had the same problems and received the same care as all patients, every entry in that column would be about 5 percent.

Table 12
Self-pay Discharges in 2001-2003

MDC	Self-Pay Discharges	All Discharges	Percent Self-Pay
Alcohol/Drug Use & Alc/Drug Induced Organic Mental	1,245	3,431	36.3%
Multiple Significant Trauma	128	764	16.8%
Injuries, Poisonings, & Toxic Effects of Drugs	774	5,349	14.5%
Mental Diseases & Disorders	2,206	15,741	14.0%
Burns	12	120	10.0%
Human Immunodeficiency Virus Infections	20	209	9.6%
Diseases & Disorders of Hepatobiliary System & Pancreas	850	9,015	9.4%
Diseases & Disorders of the Eye	30	345	8.7%
Diseases & Disorders of Ear, Nose, Mouth, Throat	286	3,318	8.6%
Diseases & Disorders of Skin, Subcutaneous Tissue & Breast	501	6,780	7.4%
Endocrine, Nutritional & Metabolic Diseases & Disorders	525	9,779	5.4%
Diseases & Disorders of the Digestive System	1,616	32,030	5.0%
Diseases & Disorders of Nervous System	927	19,540	4.7%
Blood & Blood Forming Organs & Immunological Disorders	123	2,764	4.5%
Infectious & Parasitic Diseases	239	5,630	4.2%
Diseases & Disorders of Female Reproductive System	399	9,606	4.2%
Diseases & Disorders of Kidney & Urinary Tract	401	9,727	4.1%
Myeloproliferative Diseases & Poorly Differentiated Neoplasm	118	2,901	4.1%
Newborns & Neonates w/ Cond Originating in Perinatal Period	1,717	43,005	4.0%
Diseases & Disorders of Respiratory System	1,300	32,955	3.9%
Diseases & Disorders of Musculoskeletal System & Connective Tissue	1,152	31,951	3.6%
Pregnancy, Childbirth and the Puerperium	1,512	43,732	3.5%
Diseases & Disorders of the Circulatory System	2,035	61,563	3.3%
Factors Influencing Health Status & Other Contacts with Health Services	154	6,093	2.5%
Diseases & Disorders of Male Reproductive System	50	2,041	2.4%

While self-pay discharges were only 5 percent of the total in 2001-2003, more than one-third of all discharges related to the alcohol/drug disease category were self-pay (see Table 13). This is almost certainly related to the types and limits of insurance coverage for this category. Other categories where 10 percent or more of discharges were self-pay were multiple significant trauma, injuries, mental diseases, and burns.

Table 13
Drug and alcohol problems are disproportionately frequent among self-pay patients, 2001-2003

DRG	DRG Description	Self-Pay Discharges	Total Discharges	Percent Self-Pay
433	ALCOHOL/DRUG ABUSE OR DEPENDENCE LEFT AMA	191	368	51.9%
523	ALC/DRUG ABUSE OR DEPEND W/O REHABILITATION THERAPY W/O CC	543	1310	41.5%
435	ALC/DRUG ABUSE OR DEPEND	133	356	37.4%
426	DEPRESSIVE NEUROSES	366	1322	27.7%
434	ALC/DRUG ABUSE OR DEPEND	83	302	27.5%
521	ALCOHOL/DRUG ABUSE OR DEPENDENCE W CC	281	1057	26.6%
449	POISONING & TOXIC EFFECTS OF DRUGS AGE >17 W CC	387	1705	22.7%
450	POISONING & TOXIC EFFECTS OF DRUGS AGE >17 W/O CC	185	828	22.3%
63	OTHER EAR	44	211	20.9%
427	NEUROSES EXCEPT DEPRESSIVE	160	811	19.7%
487	OTHER MULTIPLE SIGNIFICANT TRAUMA	66	342	19.3%
467	OTHER FACTORS INFLUENCING HEALTH STATUS	35	208	16.8%
202	CIRRHOSIS & ALCOHOLIC HEPATITIS	125	789	15.8%
95	PNEUMOTHORAX W/O CC	39	247	15.8%
295	DIABETES AGE 0-35	141	893	15.8%
204	DISORDERS OF PANCREAS EXCEPT MALIGNANCY	348	2286	15.2%
486	OTHER O.R. PROCEDURES FOR MULTIPLE SIGNIFICANT TRAUMA	33	217	15.2%
428	DISORDERS OF PERSONALITY & IMPULSE CONTROL	43	304	14.1%
430	PSYCHOSES	1548	11649	13.3%
21	VIRAL MENINGITIS	42	317	13.2%
97	BRONCHITIS & ASTHMA AGE >17 W/O CC	136	1038	13.1%
369	MENSTRUAL & OTHER FEMALE REPRODUCTIVE SYSTEM DISORDERS	25	207	12.1%
219	LOWER EXTREM & HUMER PROC EXCEPT HIPFOOTFEMUR AGE >17 W/O CC	190	1579	12.0%
218	LOWER EXTREM & HUMER PROC EXCEPT HIPFOOTFEMUR AGE >17 W CC	86	726	11.8%
269	OTHER SKIN	24	204	11.8%
324	URINARY STONES W/O CC	48	415	11.6%
280	TRAUMA TO THE SKIN	35	311	11.3%
164	APPENDECTOMY W COMPLICATED PRINCIPAL DIAG W CC	33	296	11.1%
167	APPENDECTOMY W/O COMPLICATED PRINCIPAL DIAG W/O CC	193	1757	11.0%
28	TRAUMATIC STUPOR & COMA COMA <1 HR AGE >17 W CC	39	357	10.9%
29	TRAUMATIC STUPOR & COMA	22	202	10.9%
254	FX	31	292	10.6%
145	OTHER CIRCULATORY SYSTEM DIAGNOSES W/O CC	25	236	10.6%
165	APPENDECTOMY W COMPLICATED PRINCIPAL DIAG W/O CC	56	538	10.4%
494	LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E. W/O CC	119	1160	10.3%
225	FOOT PROCEDURES	26	260	10.0%

12. Conclusions

This analysis provided a snapshot of the hospital inpatient system in 2003 and information on trends which may help policy makers as they grapple with the rising cost of health care. In addition, this paper demonstrates the different ways that the discharge data can be used to support analyses of health care costs in the hospital sector. While this analysis may tell us what we already know, it is sometimes important to reassess old lessons, particularly as a new round of health care reform efforts get underway.

The utilization of hospital inpatient services has remained relatively flat, while the charges associated with those services have risen considerably. Between 1996 and 2003 inpatient utilization per 1,000 NH residents actually dropped. Average charges, however, increased by approximately 21 percent **per year**. The population bubble of baby boomers, continuing changes in medical technology, and changes in health status will all have a big, if as of yet uncertain, impact on the use of services over the next ten years and should be watched carefully.

In large part, the data tell us what we already know: people get sick or injured at every age, but particularly as they age. The diseases of age—cancer, heart disease, lung disease—linger familiarly behind most of the tables and graphs in the text. Other illnesses jump out more unexpectedly: drug and alcohol problems, psychoses, and trauma. For policy makers and those who would try to improve the health of New Hampshire's residents while controlling the cost of health care, the analysis here helps focus on several important issues. These critical issues are:

The Concentration of High Cost Care Among the Elderly: In 2003, the most expensive 10 percent of the hospital discharges in New Hampshire accounted for 43 percent of the total charges. With an average charge of \$63,832 per hospital stay, these cases were 40 times as expensive as the least expensive 10 percent of cases. The people with the most expensive health problems are often admitted to the hospital several times each year, compounding the relative cost of their care.

The most expensive cases tend to be people in their 60s and 70s and most of their hospital bills go to Medicare for payment. Because the congressionally set Medicare reimbursement rates are too low to cover the costs of that care, however, hospitals shift the remaining uncompensated burden onto younger patients with private insurance coverage. In total, the 2004 Medicare shortfall for hospitals in New Hampshire was \$126 million which is ultimately shifted onto the private sector.¹⁶

Thus, a cost-containment strategy focused on finding less expensive care for the most expensive cases could have a significant impact on the charges passed on to the other 90 percent of hospital patients. The Pareto analysis conducted suggests that a theoretical strategy that would have kept the 12,100 *least expensive* cases out of the hospital entirely would have reduced total hospital charges by \$16.2 million. On the other hand, a strategy that reduced the cost of the *most*

¹⁶ New Hampshire Center for Public Policy Studies. *Cost Shifting in New Hampshire Hospitals, 2004*. Concord, New Hampshire. February 2006.

expensive 12,100 cases **by an average of just 10 percent** would have resulted in \$77.2 million in lower charges.

The Role of the Public Sector: In 2003, at least half of all hospital cases in New Hampshire were billed to publicly-financed insurance plans: Medicare, Medicaid and the “private” insurance offered to public employees of state and local governments and school districts. The role of the public sector is only going to increase as the baby-boomers age. Businesses and policy makers interested in controlling costs would do well to work with congressional delegations, local state legislators, and the Centers for Medicare and Medicaid Services (CMS) to ensure appropriate funding so that costs are not shifted onto private health insurance premiums and ultimately onto businesses themselves.

The public sector, including Medicaid and Medicare – the two largest organized purchasers of health insurance in the country – is also likely to be the primary player in any efforts to systematically control costs associated with utilization of inpatient hospital care. As is evidenced by the implementation of payment reform in the Medicare program, changes in Medicare are likely to spread quickly to other sectors.

Future Work: While this analysis has provided a good starting place for policy makers, more in depth analysis is necessary. For example, more analysis of the most expensive cases would provide important insights into how policy makers might control costs. For example, what DRGs and principal diagnoses make up this group? How do they differ in major disease categories and the patient’s disposition? Are any of these expensive cases amenable to different forms of treatment that might reduce their cost and the degree to which those costs are shifted onto private insurance premiums?

More analysis of multiple discharges should also be done as this is a costly aspect of the health care system. What types of diseases and chronic conditions required several hospitalizations? Are there non-institutional health services that could be provided that would reduce the number of re-hospitalizations? Because the patients most likely to be hospitalized several times in a year are eligible for Medicare, their charges are among those that create financial difficulties for hospitals. To the extent that Medicare does not pay the full cost for elderly patients, the remaining costs to cover the care for these individuals are shifted to the private sector through higher payments by commercial health insurance for care in the same hospitals.

The hospital discharge data could be used to closely monitor the supply of hospital services. Further analysis of discharges could be done of each disease category by age group, gender, and other factors. Over a number of years the trend in numbers of discharges and charges of each type could be monitored to determine the degree to which each type may be growing or declining in occurrence and whether new procedures and/or techniques of care are increasing or decreasing average charges more or less rapidly.

And finally, there is the issue of cost. Virtually all of the information contained in this paper has focused on charges— the ‘list price’ for services. In 2004, charges were 108% over actual cost.¹⁷ None of the information has shed much light on costs and how they might vary among

¹⁷ New Hampshire Center for Public Policy Studies. *Cost Shifting in New Hampshire Hospitals, 2004*. Concord,

hospitals, the type of care being provided, or the status of the patient receiving that care. New Hampshire will begin building a database that will include cost data, thanks to legislation passed in 2003. State agencies are currently drafting the rules that will govern access to that data. It is not at all clear whether the public or policy makers will have access to enough of the data to make better decisions about where to buy their health care or insurance. Given the size of the market, and the huge sums that New Hampshire spends every year on hospitalization alone, every consumer in New Hampshire deserves to know what he or she is paying for.

Appendix

Table A-1
Discharges, Charges, Discharges Per Thousand (1996-
2003)

	Total Discharges	Discharges Per 1000	Adjusted Average Charge (Constant 2002 Dollars)
1996	116,616.00	98.40	\$7,420.57
1997	116,897.00	97.59	\$7,851.05
1998	114,820.00	94.85	\$8,201.39
1999	113,602.00	92.88	\$9,248.78
2000	118,187.00	95.64	\$10,393.89
2001	119,019.00	94.87	\$11,698.03
2002	118,396.00	92.99	\$13,450.91
2003	120,974.00	93.71	\$15,347.35

Table A3: New Hampshire's hospitals by location, size, and ownership

Hospital	Location	% of NH discharges, 2003	Ownership
Dartmouth Hitchcock	Lebanon	14%	Community
Elliot	Manchester	12%	Community
Concord	Concord	10%	Community
Southern NH	Nashua	8%	Community
Catholic Medical Center	Manchester	8%	Community
Portsmouth	Portsmouth	6%	For Profit
St. Joseph	Nashua	5%	Community
Wentworth-Douglas	Keene	5%	Community
Exeter	Exeter	4%	Community
Cheshire	Dover	4%	Community
Lakes Region	Laconia	4%	Community
Frisbee	Derry	3%	For Profit
Parkland	Rochester	3%	Community
Androscoggin	Berlin	2%	Community
Monadnock	Peterborough	2%	Community
Huggins	Claremont	2%	Community
Valley Regional	Wolfeboro	1%	Community
Memorial	North Conway	1%	Community
Littleton	Littleton	1%	Community
Franklin	Franklin	1%	Community
Speare	New London	1%	Community
Weeks	Plymouth	1%	Community
Alice Peck Day	Lancaster	1%	Community
New London	Concord	1%	State
Cottage	Woodsville	1%	Community

Table A4: Inpatient discharges by hospital, 2001

Hospital	Total Discharges	Total Charges	Average Charge	Total Days	Average Length of Stay	Average Charge per Day
Alice Peck Day	897	\$5,977,377	\$6,664	2,596	2.89	\$2,303
Androscoggin	2,243	\$16,765,358	\$7,475	9,606	4.28	\$1,745
Catholic Medical Center	8,291	\$176,410,595	\$21,277	46,340	5.59	\$3,807
Cheshire	5,399	\$47,111,261	\$8,726	27,357	5.07	\$1,722
Concord	12,306	\$143,787,210	\$11,684	54,425	4.42	\$2,642
Cottage	835	\$6,565,739	\$7,863	2,745	3.29	\$2,392
Dartmouth Hitchcock	16,528	\$276,522,460	\$16,731	94,484	5.72	\$2,927
Elliot	13,830	\$145,600,839	\$10,528	62,730	4.54	\$2,321
Exeter	5,397	\$66,034,104	\$12,235	19,945	3.70	\$3,311
Franklin	1,271	\$8,911,002	\$7,011	4,338	3.41	\$2,054
Frisbie	3,688	\$37,113,305	\$10,063	15,899	4.31	\$2,334
Huggins	1,683	\$13,431,138	\$7,980	6,112	3.63	\$2,198
Lakes Region	4,908	\$54,101,881	\$11,023	19,719	4.02	\$2,744
Littleton	1,543	\$12,870,508	\$8,341	4,566	2.96	\$2,819
Memorial	1,588	\$12,029,964	\$7,576	5,255	3.31	\$2,289
Monadnock	2,001	\$14,221,528	\$7,107	8,150	4.07	\$1,745
New London	1,076	\$9,289,882	\$8,634	3,836	3.57	\$2,422
Parkland	3,696	\$40,045,327	\$10,835	13,982	3.78	\$2,864
Portsmouth	6,522	\$98,087,169	\$15,039	27,730	4.25	\$3,537
Southern NH	9,526	\$72,699,553	\$7,632	37,271	3.91	\$1,951
Speare	1,045	\$5,425,110	\$5,191	3,014	2.88	\$1,800
St. Joseph	6,143	\$71,307,953	\$11,608	30,113	4.90	\$2,368
Upper Connecticut Valley	557	\$3,259,722	\$5,852	1,570	2.82	\$2,076
Valley Regional	1,793	\$13,680,037	\$7,630	6,311	3.52	\$2,168
Weeks	966	\$7,026,730	\$7,274	2,976	3.08	\$2,361
Wentworth-Douglas	5,287	\$56,289,418	\$10,647	21,752	4.11	\$2,588
Total or Average	119,019	\$1,414,565,170	\$11,885	532,822	4.48	\$2,655

Table A5: Inpatient discharges by hospital, 2002

Hospital	Total Discharges	Total Charges	Average Charge	Total Days	Average Length of Stay	Average Charge per Day
Alice Peck Day	940	\$6,557,436	\$6,976	2,591	2.76	\$2,531
Androscoggin	2,304	\$20,479,570	\$8,889	10,427	4.53	\$1,964
Catholic Medical Center	8,801	\$212,433,992	\$24,137	47,945	5.45	\$4,431
Cheshire	5,346	\$53,085,996	\$9,930	27,915	5.22	\$1,902
Concord	12,339	\$161,651,463	\$13,101	53,487	4.33	\$3,022
Cottage	778	\$6,553,968	\$8,424	2,713	3.49	\$2,416
Dartmouth Hitchcock	16,110	\$315,922,974	\$19,610	94,508	5.87	\$3,343
Elliot	13,419	\$157,250,658	\$11,719	61,968	4.62	\$2,538
Exeter	5,142	\$71,470,294	\$13,899	19,861	3.86	\$3,599
Franklin	1,382	\$11,700,232	\$8,466	4,937	3.57	\$2,370
Frisbie	3,900	\$42,632,807	\$10,931	16,368	4.20	\$2,605
Huggins	1,743	\$14,290,212	\$8,199	5,840	3.35	\$2,447
Lakes Region	4,497	\$56,297,820	\$12,519	18,053	4.01	\$3,118
Littleton	1,488	\$13,950,817	\$9,376	4,138	2.78	\$3,371
Memorial	1,726	\$13,683,556	\$7,928	5,561	3.22	\$2,461
Monadnock	1,966	\$15,515,494	\$7,892	7,865	4.00	\$1,973
New London	927	\$8,678,431	\$9,362	3,484	3.76	\$2,491
Parkland	3,557	\$43,147,510	\$12,130	13,945	3.92	\$3,094
Portsmouth	6,675	\$119,338,796	\$17,878	30,360	4.55	\$3,931
Southern NH	9,780	\$76,405,282	\$7,812	38,335	3.92	\$1,993
Speare	1,062	\$6,534,397	\$6,153	3,356	3.16	\$1,947
St. Joseph	5,996	\$76,069,316	\$12,687	31,002	5.17	\$2,454
Upper Connecticut Valley	477	\$3,158,783	\$6,622	1,289	2.70	\$2,451
Valley Regional	1,770	\$14,008,479	\$7,914	6,195	3.50	\$2,261
Weeks	947	\$7,281,598	\$7,689	2,600	2.75	\$2,801
Wentworth-Douglas	5,324	\$64,433,618	\$12,102	22,757	4.27	\$2,831
Total or Average	118,396	\$1,592,533,499	\$13,451	537,500	4.54	\$2,963

Table A6: Discharges by principal payer, 2001, 2002, and 2003

Principal Payer	Discharges	Total Charges	Average Charge	Total Days Stay	Average Length of Stay	Average Charge per Day
2001						
Self-pay	5,734	\$58,965,374	\$10,283	23,081	4.03	\$2,555
Medicare	47,777	\$719,438,678	\$15,058	269,907	5.65	\$2,666
Medicaid	10,639	\$86,517,388	\$8,132	42,722	4.02	\$2,025
Health insurance	52,803	\$518,547,726	\$9,820	188,638	3.57	\$2,749
Other	2,066	\$31,096,004	\$15,051	8,474	4.10	\$3,670
Total	119,019	\$1,414,565,170	\$11,885	532,822	4.48	\$2,655
2002						
Self-pay	6,086	\$66,531,855	\$10,932	24,786	4.07	\$2,684
Medicare	47,187	\$808,375,508	\$17,131	268,634	5.69	\$3,009
Medicaid	11,096	\$106,543,897	\$9,602	45,252	4.08	\$2,354
Health insurance	51,985	\$576,397,631	\$11,088	190,394	3.66	\$3,027
Other	2,042	\$34,684,608	\$16,986	8,434	4.13	\$4,112
Total	118,396	\$1,592,533,499	\$13,451	537,500	4.54	\$2,963
2003						
Self-pay	6,500	\$78,756,144	\$12,116	25,772	3.96	\$3,056
Medicare	47,905	\$923,255,519	\$19,273	275,655	5.75	\$3,349
Medicaid	12,582	\$127,055,841	\$10,098	51,592	4.10	\$2,463
Health insurance	51,896	\$647,378,870	\$12,475	191,650	3.69	\$3,378
Other	2,091	\$39,338,268	\$18,813	8,916	4.26	\$4,412
Total	120,974	\$1,815,784,642	\$15,010	553,585	4.58	\$3,280

Table A7: Discharges by age group

Age Group	Discharges	Charges	Total Days	Average Charge	Average Length of Stay	Average Charge per Day
2,001						
Age 0	15,341	\$60,066,473	48,967	\$3,915	3.19	\$1,227
1-9	1,623	\$11,768,134	5,295	\$7,251	3.26	\$2,222
10-19	3,662	\$29,648,690	12,308	\$8,096	3.36	\$2,409
20-29	10,482	\$67,175,647	31,039	\$6,409	2.96	\$2,164
30-39	13,196	\$109,453,283	45,100	\$8,294	3.42	\$2,427
40-49	11,137	\$140,819,693	47,413	\$12,644	4.26	\$2,970
50-59	12,840	\$204,587,442	61,049	\$15,934	4.75	\$3,351
60-69	13,803	\$238,618,673	71,000	\$17,287	5.14	\$3,361
70-79	19,473	\$317,495,471	108,064	\$16,304	5.55	\$2,938
80-89	14,298	\$200,217,984	85,314	\$14,003	5.97	\$2,347
90+	3,164	\$34,713,680	17,273	\$10,971	5.46	\$2,010
Total	119,019	\$1,414,565,170	532,822	\$11,885	4.48	\$2,655
2002						
Age 0	15,224	\$68,044,829	50,126	\$4,470	3.29	\$1,357
1-9	1,429	\$11,039,629	4,365	\$7,725	3.05	\$2,529
10-19	3,635	\$33,804,958	12,384	\$9,300	3.41	\$2,730
20-29	10,257	\$73,264,160	31,164	\$7,143	3.04	\$2,351
30-39	13,233	\$119,360,643	44,961	\$9,020	3.40	\$2,655
40-49	11,569	\$166,774,690	51,943	\$14,416	4.49	\$3,211
50-59	12,889	\$234,706,848	62,004	\$18,210	4.81	\$3,785
60-69	13,733	\$265,763,359	71,994	\$19,352	5.24	\$3,691
70-79	18,836	\$359,775,532	107,873	\$19,100	5.73	\$3,335
80-89	14,417	\$223,549,331	83,619	\$15,506	5.80	\$2,673
90+	3,174	\$36,449,520	17,067	\$11,484	5.38	\$2,136
Total	118,396	\$1,592,533,499	537,500	\$13,451	4.54	\$2,963
2003						
Age 0	15,104	\$72,658,305	50,337	\$4,811	3.33	\$1,443
1-9	1,754	\$13,981,104	5,028	\$7,971	2.87	\$2,781
10-19	3,749	\$35,898,772	12,529	\$9,576	3.34	\$2,865
20-29	10,719	\$87,718,184	33,447	\$8,183	3.12	\$2,623
30-39	13,138	\$131,143,764	45,538	\$9,982	3.47	\$2,880
40-49	12,089	\$194,387,018	53,163	\$16,080	4.40	\$3,656
50-59	13,251	\$263,019,189	63,542	\$19,849	4.80	\$4,139
60-69	14,627	\$323,430,818	80,425	\$22,112	5.50	\$4,022
70-79	18,541	\$396,710,840	106,772	\$21,396	5.76	\$3,715
80-89	14,794	\$254,981,601	85,544	\$17,235	5.78	\$2,981
90+	3,208	\$41,855,047	17,260	\$13,047	5.38	\$2,425
Total	120,974	\$1,815,784,642	553,585	\$15,010	4.58	\$3,280

Table A8: Inpatient Discharges by Major Disease Category, 2001

Major Disease Category (MDC)	Number of Discharges	Charges	Average Charge	Total Stay in Days	Average Length of Stay	Average Charge per Day	Percent of Discharges	Percent of Charges
Diseases & Disorders of the Circulatory System	21,267	\$399,638,353	\$18,791	91,764	4.3	\$4,355	17.9%	28.3%
Pregnancy, Childbirth and the Puerperium	14,720	\$70,015,626	\$4,756	37,057	2.5	\$1,889	12.4%	4.9%
Newborns & Neonates w/ Cond Originating in Perinatal Period	14,427	\$52,411,457	\$3,633	45,215	3.1	\$1,159	12.1%	3.7%
Diseases & Disorders of Respiratory System	10,528	\$136,208,404	\$12,938	57,817	5.5	\$2,356	8.8%	9.6%
Diseases & Disorders of Musculoskeletal System & Connective Tissue	10,476	\$180,201,798	\$17,201	44,562	4.3	\$4,044	8.8%	12.7%
Diseases & Disorders of the Digestive System	10,415	\$143,384,679	\$13,767	53,764	5.2	\$2,667	8.8%	10.1%
Diseases & Disorders of Nervous System	6,459	\$92,322,490	\$14,294	38,040	5.9	\$2,427	5.4%	6.5%
Mental Diseases & Disorders	5,115	\$45,403,885	\$8,877	38,724	7.6	\$1,172	4.3%	3.2%
Diseases & Disorders of Female Reproductive System	3,308	\$32,021,365	\$9,680	8,735	2.6	\$3,666	2.8%	2.3%
Endocrine, Nutritional & Metabolic Diseases & Disorders	3,204	\$30,046,644	\$9,378	14,131	4.4	\$2,126	2.7%	2.1%
Diseases & Disorders of Kidney & Urinary Tract	3,150	\$36,337,425	\$11,536	14,780	4.7	\$2,459	2.6%	2.6%
Diseases & Disorders of Hepatobiliary System & Pancreas	2,817	\$38,462,474	\$13,654	13,680	4.9	\$2,812	2.4%	2.7%
Diseases & Disorders of Skin, Subcutaneous Tissue & Breast	2,314	\$21,975,826	\$9,497	10,846	4.7	\$2,026	1.9%	1.6%
Factors Influencing Health Status & Other Contacts with Health Services	2,012	\$25,970,534	\$12,908	22,641	11.3	\$1,147	1.7%	1.8%
Infectious & Parasitic Diseases	1,770	\$26,654,999	\$15,059	10,925	6.2	\$2,440	1.5%	1.9%
Injuries, Poisonings, & Toxic Effects of Drugs	1,716	\$17,146,801	\$9,992	5,803	3.4	\$2,955	1.4%	1.2%
Diseases & Disorders of Ear, Nose, Mouth, Throat	1,142	\$10,633,928	\$9,312	4,024	3.5	\$2,643	1.0%	0.8%
Alcohol/Drug Use & Alc/Drug Induced Organic Mental	1,033	\$5,970,161	\$5,779	4,027	3.9	\$1,483	0.9%	0.4%
Blood & Blood Forming Organs & Immunological Disorders	949	\$10,105,983	\$10,649	4,025	4.2	\$2,511	0.8%	0.7%
Myeloproliferative Diseases & Poorly Differentiated Neoplasm	899	\$17,415,002	\$19,372	6,008	6.7	\$2,899	0.8%	1.2%
Diseases & Disorders of Male Reproductive System	805	\$9,266,946	\$11,512	2,287	2.8	\$4,052	0.7%	0.7%
Multiple Significant Trauma	261	\$10,130,605	\$38,815	2,761	10.6	\$3,669	0.2%	0.7%
Diseases & Disorders of the Eye	120	\$851,066	\$7,092	341	2.8	\$2,496	0.1%	0.1%
Human Immunodeficiency Virus Infections	66	\$1,634,839	\$24,770	658	10.0	\$2,485	0.1%	0.1%
Burns	46	\$353,880	\$7,693	207	4.5	\$1,710	0.0%	0.0%
Total/Average	119,019	\$1,414,565,170	\$11,885	532,822	4.5	\$2,655	100.0%	100.0%

Table A9: Inpatient Discharges by Major Disease Category, 2002

Major Disease Category (MDC)	Number of Discharges	Charges	Average Charge	Total Stay in Days	Average Length of Stay	Average Charge per Day	Percent of Discharges	Percent of Charges
Diseases & Disorders of the Circulatory System	20,278	\$447,933,217	\$22,090	89,075	4.4	\$5,029	17.1%	28.1%
Pregnancy, Childbirth and the Puerperium	14,517	\$75,123,756	\$5,175	36,748	2.5	\$2,044	12.3%	4.7%
Newborns & Neonates w/ Cond Originating in Perinatal Period	14,320	\$60,431,525	\$4,220	46,591	3.3	\$1,297	12.1%	3.8%
Diseases & Disorders of Respiratory System	10,951	\$156,527,114	\$14,293	59,491	5.4	\$2,631	9.2%	9.8%
Diseases & Disorders of the Digestive System	10,472	\$158,096,980	\$15,097	54,612	5.2	\$2,895	8.8%	9.9%
Diseases & Disorders of Musculoskeletal System & Connective Tissue	10,335	\$204,590,694	\$19,796	44,714	4.3	\$4,576	8.7%	12.8%
Diseases & Disorders of Nervous System	6,509	\$101,372,764	\$15,574	37,232	5.7	\$2,723	5.5%	6.4%
Mental Diseases & Disorders	5,260	\$47,419,913	\$9,015	38,122	7.2	\$1,244	4.4%	3.0%
Endocrine, Nutritional & Metabolic Diseases & Disorders	3,211	\$32,657,876	\$10,171	14,056	4.4	\$2,323	2.7%	2.1%
Diseases & Disorders of Kidney & Urinary Tract	3,199	\$42,073,619	\$13,152	14,669	4.6	\$2,868	2.7%	2.6%
Diseases & Disorders of Female Reproductive System	3,175	\$33,741,597	\$10,627	8,423	2.7	\$4,006	2.7%	2.1%
Diseases & Disorders of Hepatobiliary System & Pancreas	3,048	\$49,168,020	\$16,131	15,986	5.2	\$3,076	2.6%	3.1%
Diseases & Disorders of Skin, Subcutaneous Tissue & Breast	2,160	\$22,448,314	\$10,393	10,010	4.6	\$2,243	1.8%	1.4%
Factors Influencing Health Status & Other Contacts with Health Services	2,076	\$29,755,771	\$14,333	23,083	11.1	\$1,289	1.8%	1.9%
Infectious & Parasitic Diseases	1,922	\$33,833,573	\$17,603	12,359	6.4	\$2,738	1.6%	2.1%
Injuries, Poisonings, & Toxic Effects of Drugs	1,812	\$20,925,632	\$11,548	6,850	3.8	\$3,055	1.5%	1.3%
Alcohol/Drug Use & Alc/Drug Induced Organic Mental	1,162	\$6,967,618	\$5,996	4,445	3.8	\$1,568	1.0%	0.4%
Diseases & Disorders of Ear, Nose, Mouth, Throat	1,072	\$11,852,461	\$11,056	3,938	3.7	\$3,010	0.9%	0.7%
Blood & Blood Forming Organs & Immunological Disorders	915	\$12,948,355	\$14,151	4,309	4.7	\$3,005	0.8%	0.8%
Myeloproliferative Diseases & Poorly Differentiated Neoplasm	905	\$22,909,646	\$25,315	6,997	7.7	\$3,274	0.8%	1.4%
Diseases & Disorders of Male Reproductive System	619	\$7,136,400	\$11,529	1,784	2.9	\$4,000	0.5%	0.4%
Multiple Significant Trauma	248	\$11,483,053	\$46,303	2,749	11.1	\$4,177	0.2%	0.7%
Diseases & Disorders of the Eye	117	\$1,087,240	\$9,293	452	3.9	\$2,405	0.1%	0.1%
Human Immunodeficiency Virus Infections	74	\$1,644,700	\$22,226	598	8.1	\$2,750	0.1%	0.1%
Burns	39	\$403,661	\$10,350	207	5.3	\$1,950	0.0%	0.0%
Total/Average	118,396	\$1,592,533,499	\$13,451	537,500	4.5	\$2,963	100.0%	100.0%

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