COMPARISON OF STATISTICS FROM A CROSS-SECTIONAL AND A PANEL SURVEY

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Introduction

This report will focus on the comparison of estimates of selected health status measures from two national probability surveys conducted during 1980 by the National Center for Health Statistics. These surveys are the National Medical Care Utilization and Expenditure Survey (NMCUES) and the National Health Interview Survey (NHIS). Both surveys were designed to measure health characteristics of the civilian non institutionalized population of the United States. Though the major data requirements and survey methodology used for the two surveys are different, many of the concepts measured by these surveys are the same or similar. Therefore, it is possible that a number of similar statistics can be generated. Statistics about physician visits and hospitalizations are compared with respect to survey definitions, design, recall periods, and methods of data collection.

Survey Methodology

The NHIS uses a multi-stage, clustered probability design, which begins with a geographic stratification of the 50 states. Within strata, successive probability samples are selected of primary sampling units (PSU's), segments, and housing units. The PSU's are selected at the first stage sampling level and consist of a county or group of contiguous counties. Segments identify specific localities within PSU's; each segment contains four housing units. The design consists of weekly samples totaling nearly 51,000 households yielding responses for approximately 110,000 persons annually. Weekly samples representative of the target population are drawn such that data can be summed over time and national estimates can be derived. The NHIS consists of a one time personal interview to collect health data on all family members in sample housing units.

The procedures for selecting the NMCUES sample households were quite similar to those for the NHIS. The survey used a stratified multi-stage design from two independently drawn national samples of households. Households were selected with known and approximately equal probability. The household component of the survey consists of 6,000 households. Responses were obtained for approximately 17,600 persons. The NMCUES was conducted as a panel survey designed such that persons in sample households were interviewed five times, at three month intervals. Three of the interviews were personal interviews, with interviews conducted by telephone in the third and fourth panels, whenever possible.

Most estimates of health characteristics and health care utilization in the NHIS are based on a two week recall period, there are however some measures which are based on as much as one year's recall. The reference period for the NMCUES is approximately three months and uses the date of the interview immediately preceding as the reference point. Thus, with the exception of the first reference period, each reference period is bounded by the previous interview. After the first interview the respondent is reminded of what had been reported in the previous interview and then asked for additional information.

Specific focus will be given the estimate of physician visits based on a two-week recall period using the NHIS design compared to the estimate of visits resulting from a three month recall used with the NMCUES design. Similar comparisons will also be made for the estimate of hospital discharges. The reference frame for the discharges in the NMCUES remains three months, the NHIS reference is thirteen months, although a six month reference period is used for the NHIS estimation.

Quantitive measures for both the NHIS and the NMCUES are based on weighted results. Weighting is achieved by using the inverse probability of selection, adjusted for non-response and post stratified by age, sex, and race. For a detailed description of the NMCUES design, adjustment and estimation procedures, see Casady, 1983 [1]. Similar details are also provided for the NHIS design, [2,3,4].

DEFINITIONS AND PROCEDURES

Analysis of estimates of physician visits and hospital discharges, derived in the two surveys first requires an understanding of the procedures used in both defining and collecting the information for these variables.

> A physician visit is defined as consultation with a physician, in person, for examination, diagnosis, treatment, or advice. The visit is included if service is provided directly by the physician or by someone acting under the physician's supervision.
>
> A hospital discharge is the completion of any continous period of stay of one or more nights in a hospital as an inpatient except the period of stay for a well newborn.

With regard to the methods used for deriving estimates of physician visits: both surveys used screener questions to determine whether or not any family members had medical contacts. If a medical contact was reported, at a later point during the interview, a physician visit section of the questionnaire was completed for each visit. The most noteworthy differences between the survey procedures include:

- The NMCUES used nine screener questions, while the NHIS used three.
- The set of screeners used by the NMCUES included the three used by the NHIS and also included specific questions about visits to emergency rooms, hospital outpatient departments, mental health care providers and visits to medical care providers who were not supposed to be reported in the NHIS as a doctor (i.e., Chiropractors, Podiatrists, Mental Health Counselors, etc.).
- The NMCUES maintains, as a part of the files, all reported visits to medical providers before making exclusions as a part of data tabulations. The NHIS attempts to

eliminate certain medical care providers (i.e., non-medical doctor types) at the interviewer and coding level.

- Both surveys collected information about telephone calls to medical providers, however, unlike the NHIS the NMCUES did not ask a separate questionnaire section about telephone calls, therefore the additional details such as date of call, etc., were not obtained in the NMCUES.
- The NMCUES estimate of physician visits includes hospital emergency room visits that terminated in hospitalization. The NHIS does not count visits of this type.

The procedures used for estimating short-stay hospital discharges in the two surveys are considerably more alike than those for doctor visits. Both use a screener procedure followed by completion of a hospital visit questionnaire section. Three of major difference exist: 1) The NHIS does not include discharges of persons who died during the year prior to the NHIS interview. The NHIS ask about the hospital experience of persons living at the time of the NHIS interview; 2) The NHIS uses a thirteen month recall period. Estimates of hospital discharges in the NHIS are based on those discharges which occurred within the six months preceding the interview. The NMCUES used a recall period of approximately three months, i.e., each of the five interviews for an individual may not have occurred at three month intervals; and 3) NHIS sample persons are interviewed once a year in contrast to the five interviews the NMCUES respondents receive during the survey period.

Analytical Methods

The comparison of statistics from the NMCUES and the NHIS was divided into two parts. The first part of the analysis concentrated on definitional and procedural differences between the two surveys, while the second part of the analysis focused on methodological differences. Three main sources of error that were investigated were recall bias, telescoping of events from outside of the reference period to inside the reference period, and the panel bias associated with the NMCUES. In this section we describe the hypotheses that were formulated for the analysis and the methods that were used to test these hypotheses.

The definitions used for physician visits and hospital discharges were carefully evaluated for both surveys in order to understand what each survey was measuring and to adjust the statistics for comparability. For physician visits, several significant differences were found between the two surveys in the enumeration of physician visits. The NHIS counts telephone calls to the physician, while the NMCUES does not. In NMCUES ambulatory visits are counted, which not only includes physician visits but visits to other types of health practitioners. The NMCUES asked about all outpatient clinics visited during a single visit to a hospital outpatient department, whereas it is not clear whether visits to all such clinics would be counted in the NHIS. Another difference occurs in the counting of visits to the hospital emergency room when the patient is later admitted to the hospital. The NMCUES counts these emergency room visits as physician visits while the NHIS does not.

The major reporting difference of hospital discharges for the two surveys is the hospital visits of persons who died in the hospital. In the NHIS, information about household members that have died during the year is not collected. In the NMCUES hospital discharges of persons who die during the hospitalization are counted. For a calendar year estimate of hospital discharges the NMCUES estimate will, therefore, be higher than the NHIS estimate, especially for the older age groups.

In analyzing and adjusting the two survey estimates, two approaches were used. When specific definitional differences were countable in one of the surveys, the visits were subtracted from the survey estimates of total visits. The survey estimates were analyzed by place of visit to determine whether certain types of visits were more likely to be reported in one survey than in the other.

The first type of error investigated related to the two different survey methodologies was recall bias. Recall bias refers to the events that are not reported by survey respondents due to their inability to recall events that did occur in the reference period. For example, in the NHIS, respondents are asked to report all physician visits that occurred in a two week reference period. Those physician visits that a respondent fail to report for that two week period result in an underestimate or recall bias. A number of research studies show (see Massey and Gonzalez [5] or Sudman and Bradburn [6]) that in household surveys the magnitude of the recall bias is related to the length of the reference period. Previous NCHS studies have shown that physician visits are subject to a serious recall bias for long reference periods. This bias is the main rationale for a two week reference period in NHIS. Whether a similar recall bias exists for a panel survey such as NMCUES is the subject of this study.

We hypothesize that the NMCUES estimate of physician visits will be lower than the NHIS estimate due to a larger recall bias for the three month reference period. A time trend analysis described later in this section was used to test this hypothesis.

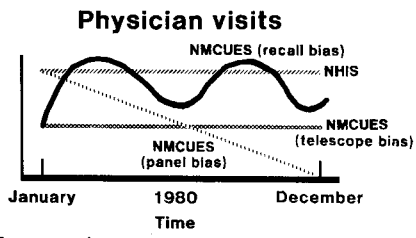
For hospital discharges, it is hypothesized that significantly more discharges will be reported in the NMCUES due to the NHIS exclusion of persons who die during the year and the shorter reference period used in the NMCUES. Simmons and Bryant [7] found that the time interval between date of discharge and date of interview had a definite influence on the reporting of episodes. Only about half the episodes with discharges from ten to eleven months prior to interview were reported. Almost 97 percent of the hospital episodes were reported using a six month reference period. Since the NHIS does use a six month reference period for estimation, only a very small gain in reporting is expected for the NMCUES.

The second type of survey error investigated was the telescoping of physician visits and hospital discharges. Telescoping refers to the survey phenomenon of respondents reporting events which actually occurred prior to the reference period as having occurred inside the reference period. A number of research studies have shown

that survey respondents tend to report the occurrence of most events forward in time. A NCHS study by Moss (Series 2, No. 50) shows that there is very little telescoping of motor vehicle accidents in the NHIS. It has been suggested by a number of survey research studies that one of the most effective methods of minimizing the effect of telescoping is the use of a bounded recall period (see Waksberg and Neter [8]). Since all but the first NMCUES reference period is bounded by a previous interview, telescoping in the NMCUES should be minimal. If telescoping does occur in the NHIS, the NHIS estimates should be larger than the NMCUES estimates. A time trend analysis described later was used in an attempt to determine whether a telescope effect was present in the NHIS estimate of physician visits.

The final type of survey error investigated was panel bias. Panel bias refers to reporting errors in the survey associated with respondents being interviewed multiple times over the survey period. That is, the effect on reporting from being previously exposed to the survey. Studies by Kemsley [9] and Mooney [10] suggest that there is a decline in the level of reporting household expenditures and illnesses, respectively, over time in a panel survey. If a panel bias does exist for the NMCUES, we hypothesize that the levels of reporting physician visits and hospital discharges will decline over the survey period. Again, a time trend analysis was used to examine this hypothesis.

The primary analytical approach used in this report is a time trend analysis of the interviews conducted over the survey period and on the number of physician visits or hospital discharges reported over the survey period. By examining the relationship of the interview and health event curves for the two surveys, we were able to examine the error profiles for the two surveys. For example, in the NHIS approximately the same number of interviews is conducted every week. Thus, the physician visit curve over the calendar year should accurately reflect the seasonality of physician visits. For the NMCUES the interviews are temporally clumped around the different waves of interviews. Now assume that the NHIS two week reference period has a negligible recall bias for physician visits. If the NMCUES physician visit curve follows the same shape as the NHIS curve, we conclude that there is no apparent recall bias for NMCUES. If, on the other hand, the NMCUES physician visit curve is positively correlated with the NMCUES interview curve, we would conclude that there is a possible recall bias. The two NMCUES curves would both show clumping if more physician visits were reported closer to date of interview. If the shape of the NHIS and NMCUES curves for physician visits are the same, but the levels are different, we would conclude there is a possible telescoping of physician visits for the NHIS. This hypothesis assumes that there is no telescoping for the NMCUES. A panel bias would be reflected in a larger or smaller difference between the two physician visit curves over time. These analyses are illustrated below assuming no seasonality for physician visits (seasonality could also be adjusted out of the analysis).



This illustration represents an oversimplification. It is obvious that the biases could be occurring simultaneously or could possibly even be confounded. Additional research needs to be done to develop methods of measuring the biases.

Results

An overview of the relative differences between the estimates of the two surveys is provided by congruency ratios (CRs) of the NMCUES estimates to the estimates from the NHIS. CRs of less than 1.00 indicate a lower level of reporting in the NMCUES than in the NHIS; CRs greater than 1.00 indicates the opposite; and CRs of approximately 1.00 indicate that the two estimates are comparable. Table 1 presents the estimates for ambulatory visits by place of visit, before adjustments have been made to exclude those visits which are not common to both surveys. The NMCUES consistently estimates a higher volume of visits than does the NHIS, this relationship exists in all categories except the category labelled "other place". Footnote 2 indicates that this reversal in the relationship is due to the NHIS estimate including telephone calls to the doctor.

Estimates shown in Table 1 are a reflection of the nature of two independent surveys. For purposes of this report the comparison of estimates which are comparable, are shown in Table 2. To the extent possible the estimates in Table 2 have been adjusted to exclude visits that were not counted by both surveys. The NHIS estimate has been adjusted to exclude telephone calls, most of which were in the "other place" category. The NMCUES estimates exclude visits to medical places not covered by the NHIS and those visits to the emergency room which resulted in immediate hospitalization.

The CRs shown in Table 2 demonstrate procedural differences between the two surveys. That is, the NHIS questionnaire and procedures tend to emphasize visits to the doctor's office more so than visits in the other listed categories. NHIS also does not include as many categories as the NMCUES causing respondents to fit their visits into either the "office" or "other place" category. The NMCUES use of additional questions results in more visits being reported in specific categories. Notice that the overall CR of NMCUES to NHIS visits is 0.99 indicating that the two surveys do provide comparable estimates of total physician visits. The distribution of visits by place is different and reflective of the way the surveys measure physician visits. The impact of the NMCUES expanding the number of response categories produced lower estimates for the "Dr's office" and "other" categories. This is shown by the CRs of 0.88 and 0.53 respectively, for the two categories.

Figure 1 is a graphic comparison of the number of interviews conducted by the two surveys. The

graph is scaled by two-week intervals and shows a consistency in the number of weekly interviews conducted by the NHIS except around holidays (pair 7 - Easter and pair 14 - Independence Day) and during the fourth quarter when there were four weeks during which no interviews were conducted. The curve depicting the NMCUES interviews is far more sporadic than the NHIS and peaks at four points during the year, once in each of the four 1980 panels.

Figure 2 shows the distribution of physician visits for the surveys after the estimates were adjusted to meet a comparable definition. This distribution shows a pattern opposite the one in Figure 1, inasmuch as the NMCUES curve appears to be the more stable over time. The stability of the NMCUES estimates suggests that there is little association between the number of interviews and reporting volume, since the NMCUES peak physician visit periods shown in Figure 2 are not related to the peak interview periods shown in Figure 1. The tailing off of the NMCUES curve over time does appear to indicate a panel bias. There is no telescoping in the NHIS, assuming there is none in the NMCUES. This is reflected in the same level of reporting for the two surveys.

Previous research indicates an underreporting of hospital discharges in the NHIS for long reference periods. The procedures used in NMCUES were designed to minimize and control the under reporting problem. There are, however, two other exclusions which affect the discharge data from the NHIS, and makes estimates of hospital use from the NHIS lower than from other sources. First, people who died while hospitalized are not covered. For the 65 and older age group this is an important exclusion. According to 1977 Medicare data, in 6.6 percent of all hospital stays of the aged the patient died while still in the hospital. Second, persons in institutions are excluded. This is another important exclusion for persons in the 65 and older group, because about 5 percent of the aged are in institutions, the great majority of these (96 percent) in nursing homes [11]. The NMCUES design, likewise does not provide for hospitalizations of the institutional population. Estimates for the NMCUES were adjusted to exclude discharges of newborn, since the NHIS does not include discharges of the well newborn as a part of its estimate.

To measure potential panel effects in the NMCUES discharge estimates, the NMCUES estimates were compared to those of the National Hospital Discharge Survey (NHDS). This also provides a measure of the underreporting problem in the NHIS due to excluding discharges of the deceased. The National Hospital Discharge Survey is a continuous survey which provides estimates on the utilization of non-federal short-stay hospitals in the United States. The estimates are based on data obtained from the face sheet of a sample of the medical care records of inpatients discharged from a national sample of short-stay hospitals. Since these estimates are derived from data gathered from written records they are not subject to recall error. The design of this survey makes it an obvious reference point rather than the NHIS (whose primary goal is the collection of data related to the health of individuals) or the NMCUES - whose main focus is on the collection of health care cost data.

Estimates of discharges shown for the Health Interview Survey are not the number of discharges during 1980 but rather are the number of discharges that occurred during the twelve months preceding the 1980 interview. Using annual data from 1967-1979, Lubitz [11] found that for persons aged 65 and over, the NHIS under estimates the discharges of the NHDS by approximately 25-30 percent. The CR of NHIS to NHDS discharges shown below agrees with this result. The CR of 0.91 for the household surveys is reflective of their comparable design features and definitions. The ratios for the household surveys compared to NHDS imply that the NMCUES provides a better measure of discharge than does NHIS. Further, the improved agreement shown for NMCUES vs. NHIS is very likely due entirely to the two NHIS exclusions and to the shorter recall period and repeated interviews in NMCUES. The higher level of reported discharges in the NHDS is due primarily to discharges of persons who were admitted to hospitals from other institutions, such as nursing homes.

Survey	Estimate	Ratio	
NHDS	37,831,559	NHIS to NHDS	= 0.80
NHIS	30,341,242	NHIS to NMCUES	= 0.91
NMCUES	33,380,473	NMCUES to NHDS	= 0.88

The lack of a constant decline in the ratios shown in Table 3 suggest that a panel effect may not exist for the NMCUES reporting of hospital discharges. The number of first quarter discharges, however, is higher than the number of discharges reported for any other quarter. This could result from telescoping into the first unbounded interview period or from a panel effect associated with all interviews after the first interview.

Table 4 shows the number of discharges reported in NHIS, NMCUES and NHDS for 1980 by age. The NHIS and NMCUES estimates are nearly identical except for persons over 65 years of age. The NMCUES estimates are consistent with the NHDS estimates for all age groups. The ommission of discharges of persons who die during the year from the NHIS is a serious limitation.

Table 5 examines the differences in reporting of hospital discharges for the NHIS and NMCUES by age and length of hospital stay. There is some indication that the NHIS has a lower level of reporting of short stay hospital visits for younger persons and a higher level of reporting of longer stay hospitalizations for that same age group. This finding might be due to a recall bias for shorter stay hospitalizations and telescoping of longer stay hospitalizations. Further confirmation from other studies is needed. The table also shows the severe underreporting of longer stay hospitalizations for older persons in the NHIS. Many of these persons possibly died in the hospital.

We next looked at the NHIS estimate of discharges using three different reference periods. Having the date of each discharge for a thirteen month reference period allowed us to perform this analysis. The NHIS estimate increases with a decreasing reference period. This could be due to a larger recall bias for the longer reference periods, but is most likely due to less underre-

porting of discharges for persons who die during the year.

Reference Period	Estimated Discharges
3 months	32,889,000
6 months	30,946,000
12 months	28,898,000

This will be studied later by excluding these latter discharges from the NMCUES.

Conclusions

This study compares estimates of physician visits and hospital discharge from two national household surveys, a general purpose cross sectional health survey and a general purpose health expenditure panel survey. The study uses a comparative analysis of the data systems estimates to validate and detect measurement problems. The two data systems provide complimentary data (physician visits and hospitalizations) essential for health care research and policy development.

These preliminary findings indicate that the impact of the panel design with bounded interviews used in the NMCUES, result in a possible decrease in reporting for selected variables in the later panels. Results also show that there appears to be little telescoping of physician visits in the NHIS. The major findings from our analysis is the similarity in estimates of physician visits and the higher level of reporting hospital discharges in the NMCUES.

The time trend analysis conducted for this study needs to be extended by doing more rigorous statistical testing. The posibility of estimating recall bias, telescope bias, and panel bias by comparing the two surveys studied in this report is very encouraging.

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Figure 1
Number of interviews 1980,
NMCUES and NHIS

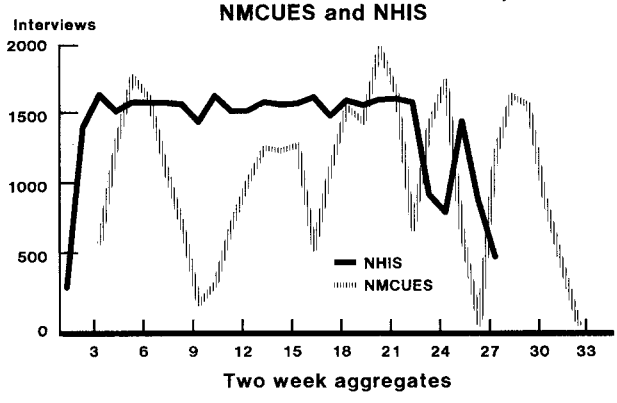

Figure 2
Number of physician vists 1980,
NMCUES and NHIS

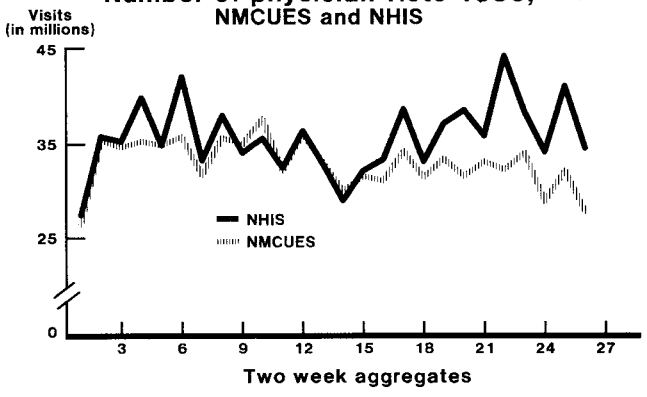

Table 1: Comparison of NMCUES and NHIS Estimates of Ambulatory Visits by Place of Visit and sex, 1980.

All Visits	Total	Male	Female
NHIS	1,036,091,643	425,624,252	610,467,391
NMCUES	1,150,642,494	469,503,386	681,139,108
CR (NMCUES/NHIS)	1.11	1.10	1.12
Dr's Office			
NHIS	703,415,553	281,932,436	421,483,117
NMCUES	756,452,710	296,761,127	459,691,583
CR (NMCUES/NHIS)	1.08	1.05	1.09
Clinics			
NHIS	93,108,594	45,271,193	47,837,401
NMCUES	221,749,791	103,955,068	117,794,723
CR (NMCUES/NHIS)	2.38	2.30	2.46
Home			
NHIS	6,659,150	2,790,442	3,868,708
NMCUES	43,476,383	8,873,508	34,602,875
CR (NMCUES/NHIS)	6.53	3.18	8.94
Emergency Room[1]			
NHIS	47,702,147	24,137,234	23,564,913
NMCUES	61,640,338	31,870,057	29,770,281
CR (NMCUES/NHIS)	1.29	1.32	1.26
Other Place[2]			
NHIS	180,686,209	69,619,215	111,066,994
NMCUES	67,323,272	28,043,626	39,279,646
CR (NMCUES/NHIS)	0.37	0.40	0.35

1 Estimate includes 8,948,824 visits that resulted in admission to the hospital, NHIS classifies these as hospitalizations.

2 The NHIS estimate includes 126,009,743 telephone visits which the NMCUES does not.

CR - Congruency Ratio

Table 2: Comparison of NMCUES and NHIS Estimates of Physician Visits by Place of Visit, 1980. Estimates have been adjusted to comparable measurements.

All Visits	Total	Male	Female
NHIS	910,081,900	378,772,395	531,309,505
NMCUES	904,800,331	375,226,345	529,573,986
CR (SE)[1]	0.99 (0.038)	0.99 (0.047)	1.00 (0.038)
Dr's Office			
NHIS	703,415,553	281,932,436	421,483,117
NMCUES	621,177,304	245,625,709	375,557,595
CR (SE)	0.88 (0.034)	0.87 (0.042)	0.89 (0.034)
Clinics			
NHIS	93,108,594	45,271,193	47,837,401
NMCUES	180,756,237	82,657,443	98,098,794
CR (SE)	1.94 (0.152)	1.83 (0.181)	2.05 (0.179)
Home			
NHIS	6,659,150	2,790,442	3,868,708
NMCUES	18,713,057	4,478,658	14,234,399
CR (SE)	2.81 (0.708)	1.60 (0.543)	3.68 (0.986)
Emergency Room			
NHIS	47,702,147	24,137,234	23,564,913
NMCUES	52,691,514	27,739,554	24,951,960
CR (SE)	1.10 (0.071)	1.15 (0.543)	1.06 (0.986)
Other Place			
NHIS	59,196,456	24,641,090	34,555,366
NMCUES	31,462,219	14,724,981	16,737,238
CR (SE)	0.53 (0.049)	0.60 (0.088)	0.48 (0.047)

1 Standard errors for Congruency ratios (CR) - NMCUES to NHIS.

Table 3: Comparison of NMCUES and NHDS Estimates of Hospital Discharges by month of Discharge, 1980.

Discharge Month	NMCUES(1)	NHDS (2)	Ratio (1/2)	
Total	33,380,473	37,831,559	0.88	
January	2,964,090	3,161,163	0.94	
February	2,979,672	3,112,975	0.96	0.92
March	2,839,231	3,269,983	0.87	
April	2,519,380	3,155,994	0.80	
May	2,999,141	3,220,340	0.93	0.84
June	2,601,820	3,118,226	0.83	
July	2,863,053	3,255,994	0.88	
August	2,622,581	3,245,518	0.81	0.86
September	2,710,396	3,015,416	0.90	
October	2,740,892	3,206,231	0.85	
November	2,666,285	3,026,752	0.88	0.89
December	2,873,932	3,042,967	0.94	

Table 4: Estimates of Hospital Discharges for Three National Surveys, 1980.

	NHDS (1)	NHIS (2)	NMCUES (3)
Total	37,831,559	30,341,242	33,380,473
<15	3,672,493	3,171,850	3,191,963
15 - 44	15,635,443	13,337,505	13,685,675
45 - 64	8,659,807	7,218,942	7,752,988
65+	9,863,816	6,527,483	8,749,847

Ratio

	(2/3)	(2/1)	(3/1)
Total	0.91	0.80	0.88
<15	0.99	0.86	0.87
15 - 44	0.97	0.85	0.88
45 - 64	0.93	0.83	0.90
65+	0.75	0.66	0.89

Standard Error of the Estimate

	NHDS (1)	NHIS (2)	NMCUES (3)
Total	1,437,599	625,319	1,315,705
<15	275,437	143,687	270,106
15 - 44	938,126	424,089	730,401
45 - 64	562,887	146,672	463,437
65+	601,693	255,807	655,265

Standard Error of the Ratio

	(2/3)	(1/2)	(1/3)
Total	0.040	0.035	0.048
<15	0.095	0.076	0.098
15 - 44	0.060	0.058	0.070
45 - 64	0.059	0.057	0.079
65+	0.063	0.048	0.086

Table 5: Ratio for Length of Hospital Stays by Age, NHIS to NMCUES, 1980 Discharges.

	Total	1 Day	2 Days	3-4 Days	5+ Days
Total	0.91	0.97	1.00	0.90	0.88
<15	0.99	0.91	0.82	1.07	1.17
15 - 44	0.97	0.91	1.18	0.91	0.97
45 - 64	0.93	1.10	1.07	0.93	0.90
65+	0.76	1.32	0.65	0.74	0.75

Standard Error of the Ratio

Total	0.040	0.117	0.068	0.059	0.046
<15	0.095	0.189	0.141	0.142	0.184
15 - 44	0.061	0.141	0.123	0.076	0.080
45 - 64	0.059	0.226	0.179	0.129	0.070
65+	0.064	0.430	0.112	0.096	0.070