

A METHODOLOGICAL STUDY OF ACCURACY
IN REPORTING MEDICAL COSTS

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Report No. 80 June, 1961

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A METHODOLOGICAL STUDY OF ACCURACY
IN REPORTING MEDICAL COSTS

Responsible for this study

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Preface

In recent years there has been increasing concern about rising levels of personal expenses for health services. To provide a factual basis for public and private planning, the United States Public Health Service is contemplating a systematic collection of data on expenditures for health services as part of its on-going National Health Survey. In preparation for this data collection, the National Opinion Research Center has been asked to help develop and test a brief series of interview questions which could be used to classify families and individuals into broad classes of medical expenditures.

Since the U.S. Bureau of the Census is the official collection agency for the National Health Survey and would be expected to administer any regular program of data collection, the closest collaboration was maintained with the Census in all phases of this methodological study. Harold Nisselson and Catherine Capt of the Census Bureau participated in all phases of planning and evaluation of the NORC study.

Many members of the U.S. Public Health Service staff were also closely associated with the technical and policy phases of the study. Special mention must be made of the contribution of Theodore D. Woolsey, Chief of the U.S. National Health Survey, Philip S. Lawrence, Chief of the Health Interview Survey, and Elijah White and Augustine Gentile of the Health Interview Survey staff.

It is not possible to mention and thank all of the NORC staff who helped complete this research, but special note must be made of the invaluable efforts of Galen Gockel who supervised all field work, of J. Robert Banacki who was in charge of data processing, and of Harold Levy who prepared the many IBM tabulations. After recognizing the assistance and advice of all those who helped make this study a success, we still must assume full responsibility for all aspects of this research report.

Paul N. Borsky
Jacob J. Feldman

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I. STUDY DESIGN

A. Introduction

In contemplating the regular collection of reports of medical outlays, the Public Health Service would like to secure the necessary information by adding a number of supplementary questions to its continuing National Health Survey questionnaire. The problem arises as to how many and what kinds of questions are required to achieve a reasonable level of validity. Presumably, the more detailed and precise the probing, the greater the accuracy of the expenditure estimates. For administrative reasons, however, to avoid an overly lengthy and costly interview, it is necessary to try to minimize the number of different questions and still maintain an acceptable level of overall validity. The object of this study is to experiment with different approaches in order to test the feasibility of alternative methods.

B. Review of Previous Research on Medical Care Costs

The first phase in planning this study was to review prior relevant research. The National Opinion Research Center has conducted two national studies of medical care costs and in collaboration with Columbia University has conducted a special area study of medical costs. Other universities have conducted special studies and their experiences and reports were also evaluated.

Special tabulations were prepared from the NORC 1958 national study. As part of the sampling procedure, a screening questionnaire consisting of eight overall summary questions was asked prior to the very detailed and lengthy personal interview. It is possible, therefore, to compare reports of total family medical care costs as revealed by the short screening questionnaire with the totals reported in the detailed interview. Such a comparison might suggest the efficacy of using a relatively small number of questions in securing medical costs data.

As Table 1 indicates, when only three class intervals are used, over 84% of all family reports of total medical expenses are the same for short and long interviews. About 10% of the short-form reports of total family expenses were understatements, about 6% were overstatements.

Even when as many as seven class intervals were used, about two-thirds of all short and long reports are in agreement. The short form resulted in understatement for 22.9% of the families and in overstatement for less than half that percent.

TABLE 1

COMPARISON OF SHORT AND LONG REPORTS
OF TOTAL FAMILY MEDICAL EXPENSES
1958

A. Three Class Intervals

Short Report	Long Report							
	\$0-199		\$200-499		\$500+		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
\$0-199	1138	51.4%	143	6.5%	8	.4%	1289	58.3%
\$200-499 . . .	61	2.8	432	19.6	69	3.1	562	25.5
\$500+	15	.8	47	2.1	294	13.3	356	16.2
Total	1214	55.0	622	28.2	371	16.8	2207	100.0

	<u>Numbers</u>	<u>Percent</u>
Both same . .	1864	84.4%
Short less . .	220	10.0
Short more . .	<u>123</u>	<u>5.6</u>
Total	2207	100.0%

Table 1 Continued

B. Seven Class Intervals

TABLE 1. CONTINUED

Short Report	Long Report															
	0-99	100-199	200-299	300-399	400-499	500-999	1000+	Total								
	No. cent	No. cent	No. cent	No. cent	No. cent	No. cent	No. cent	No. cent	No. cent	No. cent	No. cent	No. cent	No. cent	No. cent	No. cent	
\$0-99	683	144	15	12	2	5	-	861	30.9	6.5	.7	.6	.1	.2	-	39.0
100-199	45	266	82	25	7	3	-	428	2.1	12.1	3.7	1.1	.3	.1	-	19.4
200-299	8	37	157	54	13	12	2	283	.4	1.7	7.1	2.4	.6	.5	.1	12.8
300-399	6	7	28	84	42	20	-	187	.3	.3	1.3	3.8	1.9	.9	-	8.5
400-499	1	2	6	12	36	35	-	92	-	.1	.3	.6	1.6	1.6	-	4.2
500-999	5	5	10	9	24	171	33	257	.2	.2	.4	.4	1.1	7.8	1.5	11.6
1000+	2	3	2	1	1	22	68	99	.1	.1	.1	-	.1	1.0	3.1	4.5
Total	750	464	300	197	125	268	103	2207	34.0	21.0	13.6	8.9	5.7	12.1	4.7	100.0

	Number	Percent
Both same	1465	66.4%
Short less	506	22.9
Short more	236	10.7
Total	2207	100.0%

A detailed evaluation of discrepant cases revealed the following major problems in the short form:

1. Inclusion of charges incurred prior to period covered by survey.
2. Inclusion of free medical care.
3. Omission of second or third hospitalization.
4. Omission of pregnancy hospitalizations.
5. Omission of anesthetists' and surgeons' fees.
6. Omission of medical insurance payments.
7. Omission of non-prescription drugs.
8. Omission of routine medical examinations.
9. Omission of non-doctor treatments and tests.
10. Duplication of reported charges.

Using the experiences from the above analysis and other information secured from other studies, a short interview form was developed and pretested in several versions. After consultation with U.S. Census and Public Health Service staffs, final forms were developed for the study.

C. Specifications for the Study

After detailed discussions with government staff the following administrative specifications were established for the survey:

1. The period covered will be one year prior to the short interview.
2. The short interview should require about 10-15 minutes on the average.
3. The basic unit for recording medical charges will be the individual member of the household.
4. Every member regularly residing at the household at the time of the short interview will be enumerated.
5. Any member of an immediate family may respond for other members of the family.
6. In cases of sub-families or non-family members residing at a household, separate interviews will be secured on the long interviews.
7. Information on total medical care charges (not payments) incurred during the past year will be secured from totalling major components of expense.
8. Information on medical care charges will be grouped into four or five class intervals.
9. Persons covered by complete pre-payment medical plans such as Permanente and HIP will be excluded from the study.
10. To simulate eventual field conditions when the medical care cost questions will be incorporated in the National Health Survey, the regular health survey questions will be asked of all respondents participating in this special methodological study.
11. To reduce costs and facilitate field work, a national sample of urban areas only will be selected from regular Census segments which overlap NORC's national probability sample of areas.

D. Interviewing Design

Since the Census is expected eventually to administer the medical care costs supplement, it was decided to have regular Census interviewers conduct their regular health survey interview and ask the short form questions. This would provide a realistic field test of the short questionnaire. NORC interviewers would then conduct the longer detailed interview which would be used as the criterion of validity in comparisons with responses to the short interview. Census interviewers would not be informed of the follow-up NORC interview so that no special efforts would be expected from the Census staff.

Since self-enumeration has been found useful in other Census work, it was decided to split experimentally the sample of short interviews, with half being directly interviewed by the Census staff, and half being given a self-enumeration form. The actual field procedures were as follows:

1. A total of 442 households were selected from the regular Census sample of primary sampling areas which overlapped with NORC areas. These Census interviews were conducted during October 1960.
2. Half of these households were randomly given the self-enumeration forms, a copy of which is included in the appendix. The form, in a letter to the respondent, briefly describes the purposes of the medical care cost study and asks that the questionnaire be completed within five days and mailed in a self-addressed envelope, requiring no postage, to the Census Bureau. Prior to filling out the form, the respondent is urged to consult other members of the family and available records in order to make the report as accurate as possible. At the end of the regular health survey interview the respondent is asked for his telephone number and is told that a callback may be necessary if it is found that the information is incomplete.
3. The other half of the households were asked the six summary questions on medical care costs as part of the regular health survey interview. These respondents were not asked to check records or consult with others in the family and very few actually did. About a week following the Census interview, each directly enumerated respondent was sent a letter from the Public Health Service thanking him for his cooperation, stressing the importance of more detailed information and asking him to check records and family members on a suggested list of medical cost items prior to a second interview.
4. About 3-4 weeks following the initial Census interview, NORC's interviewer contacted the same respondent and arranged for a follow-up criterion interview. The initial contact was with the identical respondent who was interviewed by the Census, but if told another member of the household was more knowledgeable, the NORC interview was arranged with the better informed person. In many instances, several members of the household contributed information to the NORC interview.
5. If the self-enumeration form was not returned within a week, or if the form was incomplete and failed to pass a review in the regional Census office, a follow-up letter, telephone call or personal contact was made.

Of the 442 assigned families, 402 were actually interviewed by NORC. In four cases, however, interviewer reports strongly questioned the validity of the NORC interviews. The respondents were reported as hostile and uncooperative and a careful review of the answers revealed such discrepancies and conflicts in answers that it was decided to discard these cases from the analysis.

Overall, 91% of all assigned cases were interviewed by NORC and in 90% usable and complete reports were obtained. In only 4% of the assignments were interviews refused or terminated before completion. In the remaining 5%, follow-up contacts were cancelled because of the time and cost involved.

Approximately ten percent of the families who were members of the self-enumeration sub-sample and with whom NORC successfully conducted an interview had not, even after follow-up, returned their forms by mail. Instead, short-form data pertaining to their medical expenses had been collected by phone or personal interview. But, since recourse to such non-response procedures would remain necessary in the event that self-enumeration were adopted by the National Health Survey for the collection of medical expense information, in all the tabulations presented in this report the individuals in these anomalous families are treated as if their expenses had actually been reported to the Census through self-enumeration.

In a number of subsequent tables [Tables 3-10,13], a category labelled "Census Self-Enumeration; Failed Edit" appears. This category is composed of individuals from families whose mail-returned self-enumeration forms originally failed edit but were passed after follow-up, families for whom the editorial follow-up was unsuccessful, families who failed to return the self-enumeration form and which were thus interviewed by phone or personal visit, and others. Thus, the "Failed Edit" rubric is somewhat of a misnomer--about two-fifths of the families in the category were not even subject to the normal editing procedure since the information was collected from them by interview rather than self-enumeration. The category in question might well be viewed as "Self-Enumeration; Problem Cases," as can be seen from the detailed breakdown in Table 2.

TABLE 2
DISPOSITION OF ORIGINALLY ASSIGNED CASES

	<u>Number</u>	<u>Percent</u>
<u>Total Assigned</u>	<u>442</u>	<u>100%</u>
<u>Total Not Completed</u>	<u>44</u>	<u>10</u>
Refusals and Breakoffs	16	4
Too costly to follow-up	24	5
NORC data questionable	4	1
<u>Total Completed</u>	<u>398</u>	<u>90%</u>
Census Direct Interviews	193	43
Census Self-Enumeration		
Returned Self-Enumeration form by mail		
Passed edit without follow-up	146	33
Passed edit after follow-up	29	6
Failed edit--no successful follow-up	7	2
Did not return Self-Enumeration form by mail		
Information obtained by phone	16	4
Information obtained by personal interview	4	1
Other		
Miscellaneous extraordinary circumstances	3	1

In all, detailed reports were assured by NORC for 1203 persons, of which short self-enumeration forms were assigned to 617 and direct Census interviews were held with 586.

E. Brief Description of Interviews

Six questions were asked in both the short form questionnaires with the actual language modified to fit self-enumeration and direct interviewing.

A general definition of medical costs is given on the self-enumeration form, with emphasis on exclusions of free care. The exact dates for the year covered in the report are given at the top of the form. One question deals with overnight hospitalizations, a second with non-overnight hospitalizations, a third with doctor's charges, a fourth with costs of medicine, prescriptions and tonics, a fifth with dental costs and the last with all other medical expenses. Both short forms are included in the appendix.

The NORC criterion interview is different from most attitude or opinion studies. On most ordinary interviews directed toward understanding personal attitudes and opinions, care is taken to insure absolute privacy for individual interviews, sequences of questions are strictly maintained, questions are standardized and conflicts in answers are never challenged. In this study, when the goal is to obtain as complete and accurate a record of costs as possible, presence and consultation with other family members are encouraged, conflicts in answers are questioned and eliminated, changes in order and language of questions are permitted and probing is directed to clarifying any ambiguities and inaccuracies in response.

The NORC criterion interview starts with questions about hospitalizations. If a person had been hospitalized during the past year, a special detailed supplement is filled out on hospital costs for each hospitalization. Costs of room and board and other hospital charges are separated from doctors' charges, before, during and after hospitalization for a given condition. Costs of medicine, tests, X-rays and special equipment are some of the other items separately probed. Then, a series of questions is asked about major illnesses, chronic conditions and expensive illnesses and a special supplement is completed for each reported major condition. The detail of this supplement parallels the hospital forms and separates free care from costs levied on the respondent. Care paid by the respondent's health insurance or billed to the respondent or his family is covered by the study. Free care is defined as paid by Workmen's Compensation, non-profit organizations, charitable or welfare groups, government welfare, military or veteran's agencies.

Minor illnesses involving home and office visits are third in the items probed, followed by an enumeration of costs of medicine. A special question dealing with costs of eye glasses is followed by detailed inquiries on costs of special appliances and equipment. Dental costs are covered by a series of six questions on types of possible treatment. A final question includes costs of non-doctor personnel, such as chiropodists, chiropractors, nurses, etc.

II. FINDINGS

A. Mean Values of Medical Expenses

Overall, the total average medical expense reported to NORC was \$102.14 per person. The comparable total reported on the short Census forms was \$105.13, or only 3% more than the amount recorded on the detailed interview. The six separate components of medical costs, however, were not as accurately reported on the Census short questionnaires. Hospital expenses not involving overnight stays, as will be discussed later, was a frequently misunderstood category, and was generally overstated in the Census reports. Doctors' and Dentists' expenses were also generally overreported in the Census forms, offsetting somewhat understatements of overnight hospital stays, medicine and all other medical expenses. In evaluating percentage differences, care must be taken to consider the average amounts of each medical cost. For example, since the average out-patient hospital not over night expense reported to NORC is under \$2, an average difference of a small dollar amount such as \$3 will be computed as a sizeable percentage difference.

Direct interviewing by Census produced most accurate overall reporting of medical costs. Offsetting differences in average component costs result in a chance reporting of identical average total costs on the Census and NORC interviews. The pattern of overstatements and understatements on component costs, however, persists, with doctors, dentists and hospital not overnight expenses being overreported to Census and other medical costs being underreported.

In general, Census self-enumeration reports were almost 6% greater in average total medical expenses. A closer inspection of the data however, reveals that self-enumeration reports which passed field edit for completeness of reporting were almost 4% less than NORC reports, while Census reports which failed field edit were greatly overstated by 23% on the average. Of the 617 persons included on self-enumeration reports, 437 passed field edit and 180 did not. Table 3 presents these findings on mean average expenditures.

TABLE 3

REPORTED MEAN VALUES OF MEDICAL EXPENSES

	Hospital Overnight		Hospital Not Overnight		Doctors	Medicine	Dentists	All	
	Total	Overnight	Not Overnight	Other					
1. All Respondents									
NORC	\$102.14	\$22.53	\$ 1.69	\$28.89	\$23.85	\$16.95	\$ 8.23		
Census	105.13	20.46	4.74	33.41	20.66	18.30	7.56		
Difference	+\$ 2.99	-\$ 2.07	+\$ 3.05	+\$ 4.52	-\$ 3.19	+\$ 1.35	-\$.67		
Percent differ.	2.9%	9.2%	180.5%	15.6%	13.4%	8.0%	8.1%		
2. Census Direct									
Interview									
NORC	\$100.49	\$21.28	\$.95	\$30.95	\$23.04	\$14.67	\$ 9.60		
Census Direct	100.49	19.10	2.91	32.36	20.58	17.65	7.90		
Difference . . . . .	.00	-\$ 2.18	+\$ 1.96	+\$ 1.41	-\$ 2.46	+\$ 2.98	-\$ 1.70		
Percent differ.	0%	10.2%	206.3%	4.6%	10.7%	20.3%	17.7%		
3. Census Self-Enumeration									
Totals									
NORC	\$103.71	\$23.73	\$ 2.39	\$26.94	\$24.62	\$19.11	\$ 6.92		
Census Self	109.53	21.75	6.47	34.41	20.74	18.93	7.23		
Difference	+\$ 5.82	-\$ 1.98	+\$ 4.08	+\$ 7.47	-\$ 3.88	-\$.18	+\$.31		
Percent differ.	5.6%	8.3%	170.7%	27.7%	15.8%	1.0%	4.5%		
4. Census Self-Enumeration									
Passed Edit									
NORC	\$95.37	\$17.72	\$ 2.28	\$24.21	\$21.50	\$21.91	\$ 7.75		
Census	92.00	13.70	4.33	27.50	18.98	21.47	6.02		
Difference	-\$ 3.37	-\$ 4.02	+\$ 2.05	+\$ 3.29	-\$ 2.52	-\$.44	-\$ 1.73		
Percent Differ.	3.5%	22.7%	90.0%	13.6%	11.7%	2.0%	22.3%		

TABLE 3 CONTINUED

	<u>Total</u>	<u>Hospital Overnight</u>	<u>Hospital Not Overnight</u>	<u>Doctors</u>	<u>Medicine</u>	<u>Dentists</u>	<u>Other</u>
5. Census Self- Enumeration Failed Edit							
NORC	\$123.94	\$38.31	\$ 2.66	\$33.57	\$32.19	\$12.31	\$4.91
Census	152.09	41.29	11.67	51.18	25.02	12.76	10.17
Difference	+\$ 28.15	+\$ 2.98	+\$ 9.01	+\$17.61	-\$ 7.17	+\$.45	+\$5.26
Percent differ.	22.7%	7.8%	338.7%	52.5%	22.3%	3.7%	107.1%

B. Net Frequency Distributions of Medical Expenses

1. Total Medical Expenses

The offsetting of individual overstatements by other understatements produces a remarkable similarity of net frequency distributions in medical care expenses reported on both the short forms used by Census and the long interviews of NORC. On the average, as Table 4 indicates, the Census cost intervals are less than 1% different from the NORC reports.

Direct enumeration by Census again reflects the greatest accuracy, but the average differences reported by self-enumeration are only 1% greater than direct interviewing. As expected, the self-enumeration reports that passed edit are almost as accurate as direct interviewing, with the fail edit reports accounting for most of the Census discrepancies.

TABLE 4

NET FREQUENCY DISTRIBUTIONS OF TOTAL MEDICAL EXPENSES

<u>Amount</u>	<u>NORC</u>	<u>Census</u>	<u>Difference</u>
<u>A. All Persons</u>			
(Number Respondents)	(1203)	(1203)	
\$0-24.	41.1%	41.8%	+ .7%
\$25-49	18.0	16.2	-1.8%
\$50-99	16.0	15.6	- .4%
\$100-299	16.5	17.3	+ .8%
\$300+	8.4	9.1	+ .7%
Total.	100.0%	100.0%	.83*
<u>B. Census Direct Interview</u>			
(Number respondents)	(586)	(586)	
\$0-24.	41.1%	40.0%	- 1.1%
\$25-49	18.3	17.0	- 1.3%
\$50-99	16.0	17.6	+ 1.6%
\$100-299	16.2	16.9	+ .7%
\$300+	8.4	8.5	+ .1%
Total.	100.0%	100.0%	.96*
<u>C. Census Self-Enumeration</u>			
(Number Respondents)	(617)	(617)	
\$0-24.	41.0%	43.4%	+ 2.4%
\$25-49	17.7	15.4	- 2.3%
\$50-99	16.1	13.8	- 2.3%
\$100-299	16.8	17.7	+ .9%
\$300+	8.4	9.7	+ 1.3%
Total.	100.0%	100.0%	1.84*

TABLE 4 CONTINUED

	<u>NORC</u>	<u>Census</u>	<u>Difference</u>
<u>D. Census Self-Enumeration</u>			
<u>Passed Edit</u>			
(Number Respondents)	(437)	(437)	
\$0-24.	39.6%	40.7%	+ 1.1%
\$25-49	16.9	17.8	+ .9%
\$50-99	17.8	14.7	- 3.1%
\$100-299	18.1	19.0	+ .9%
\$300+.	<u>7.6</u>	<u>7.8</u>	<u>+ .2%</u>
Total.	100.0%	100.0%	1.24%
<u>E. Census Self-Enumeration</u>			
<u>Failed Edit</u>			
(Number Respondents.	(180)	(180)	
\$0-24.	44.4%	50.0%	+ 5.6%
\$25-49	19.4	9.5	- 9.9%
\$50-99	11.7	11.7	-
\$100-299	13.9	14.4	+ .5%
\$300+.	<u>10.6</u>	<u>14.4</u>	<u>+ 3.8%</u>
Total.	100.0%	100.0%	3.96*

* Total average difference.

2. Hospital Overnight Expenses

With only 9% of all persons reporting hospitalizations involving overnight stays, it is not surprising that the average difference in net frequency distributions for these hospitalization expenses is less than half of one percent. Census direct interviews and Census self-enumeration forms which passed edit are just about the same in average net differences. The fail edit forms as expected are the least accurate. Table 5 presents these data.

TABLE 5

NET FREQUENCY DISTRIBUTIONS OF HOSPITAL OVERNIGHT EXPENSES

<u>A. All Persons</u>	<u>NORC</u>	<u>Census</u>	<u>Difference</u>
(Number Respondents)	(1203)	(1203)	
\$0	91.0%	90.4%	- .6%
\$1-99.	2.0	2.6	+ .6%
\$100-199	2.7	3.2	+ .5%
\$200-299	2.0	1.5	- .5%
\$300+.	<u>2.3</u>	<u>2.3</u>	-
Total.	100.0%	100.0%	.44*

TABLE 5 CONTINUED

	<u>NORC</u>	<u>Census</u>	<u>Difference</u>
B. <u>Census Direct Interview</u>			
(Number Respondents)	(586)	(586)	
\$0	91.6%	90.9%	- .7%
\$1-99	1.5	2.1	+ .6%
\$100-199	2.7	3.4	+ .7%
\$200-299	2.3	1.6	- .7%
\$300+.	1.9	2.0	+ .1%
Total.	100.0%	100.0%	.56*
C. <u>Census Self-Enumeration</u>			
(Number Respondents)	(617)	(617)	
\$0	90.4%	90.0%	- .4%
\$1-99	2.4	3.1	+ .7%
\$100-199	2.6	2.8	+ .2%
\$200-299	1.8	1.4	- .4%
\$300+.	2.8	2.7	- .1%
Total.	100.0%	100.0%	.36*
D. <u>Census Self-Enumeration</u> <u>Passed Edit</u>			
(Number Respondents)	(437)	(437)	
\$0	91.1%	91.7%	+ .6%
\$1-99	2.5	3.0	+ .5
\$100-199	2.7	3.0	+ .3%
\$200-299	1.6	.9	- .7%
\$300+.	2.1	1.4	- .7%
Total.	100.0%	100.0%	.56*
E. <u>Census Self-Enumeration</u> <u>Fail Edit</u>			
(Number Respondents)	(180)	(180)	
\$0	88.9%	85.5%	- 3.4%
\$1-99	2.2	3.4	+ 1.2%
\$100-199	2.2	2.9	+ .7%
\$200-299	2.2	2.1	- .1%
\$300+.	4.5	6.1	+ 1.6%
Total.	100.0%	100.0%	1.4*

*Total average difference.

3. Hospital Not-Overnight Expenses

Only about 3% of all persons reported out-patient care at a hospital not requiring overnight stays. This item was often confused with doctors' expenses and a later section will discuss the discrepancies more fully. On the average, net frequency distributions differed by approximately 2%, with the direct interview distribution coming somewhat closer to the criterion than did the self-enumeration one. Table 6 presents these data.

TABLE 6

NET FREQUENCY DISTRIBUTIONS OF HOSPITAL NOT-OVERNIGHT EXPENSES

<u>A. All Persons</u>	<u>NORC</u>	<u>Census</u>	<u>Difference</u>
(Number Respondents)	(1203)	(1203)	
\$0	96.7%	91.9%	- 4.8%
\$1-24.	1.4	4.0	+ 2.6%
\$25-49 . . . . .	.7	1.8	+ 1.1%
\$50-99 . . . . .	.6	1.2	+ .6%
\$100+. . . . .	.6	1.1	+ .5%
Total.	100%	100%	1.92*
<u>B. Census Direct Interview</u>			
(Number Respondents)	(586)	(586)	
\$0	96.3%	92.8%	- 3.5%
\$1-24.	2.4	4.6	+ 2.2%
\$25-49 . . . . .	.8	1.6	+ .8%
\$50-99 . . . . .	.5	-	- .5%
\$100+.	-	1.0	+ 1.0%
Total.	100%	100%	1.60*
<u>C. Census Self-Enumeration</u>			
(Number Respondents)	(617)	(617)	
\$0	97.3%	91.0%	- 6.3%
\$1-24. . . . .	.5	3.4	+ 2.9%
\$25-49 . . . . .	.5	2.1	+ 1.6%
\$50-99 . . . . .	.6	2.4	+ 1.8%
\$100+.	1.1	1.1	-
Total.	100%	100%	2.52*
<u>D. Census Self-Enumeration</u> <u>Passed Edit</u>			
(Number Respondents)	(437)	(437)	
\$0	97.5%	91.5%	- 6.0%
\$1-24. . . . .	.7	3.9	+ 3.2%
\$25-49	-	1.8	+ 1.8%
\$50-99 . . . . .	.7	1.9	+ 1.2%
\$100+.	1.1	.9	- .2%
Total.	100%	100%	2.48*
<u>E. Census Self-Enumeration</u> <u>Failed Edit</u>			
(Number Respondents)	(180)	(180)	
\$0	96.6%	89.5%	- 7.1%
\$1-24.	-	2.2	+ 2.2%
\$25-49	1.7	2.8	+ 1.1%
\$50-99 . . . . .	.6	3.9	+ 3.3%
\$100+.	1.1	1.6	+ .5%
Total.	100%	100%	2.84*

* Total average difference.

4. Doctors' Expenses

Over half of all persons reported some doctor expenses during the past year. On the average, total net frequency distributions varied only about 1%. It is interesting that the short reports understate the very small expenditures of less than \$25 and tend to overstate slightly the larger categories of expenses. Direct Census interviews produced the greatest accuracy, with the average net frequency difference amounting to less than one half of one percent. Fail edit reports again show the greatest variability as Table 7 shows.

TABLE 7

NET FREQUENCY DISTRIBUTIONS OF DOCTORS' EXPENSES

<u>A. All Persons</u>	<u>NORC</u>	<u>Census</u>	<u>Difference</u>
(Number Respondents)	(1203)	(1203)	
\$0	44.3%	44.5%	+ .2%
\$1-24.	31.3	28.1	- 3.2%
\$25-49	9.3	10.7	+ 1.4%
\$50-99	6.8	7.3	+ .5%
\$100-199	5.6	5.7	+ .1%
\$200+.	2.7	3.7	+ 1.0%
Total.	100%	100%	1.07*
 <u>B. Census Direct Interview</u>			
(Number Respondents)	(586)	(586)	
\$0	40.8%	40.0%	- .8%
\$1-24.	32.4	32.1	- .3%
\$25-49	10.5	10.2	- .3%
\$50-99	7.0	7.9	+ .9%
\$100-199	6.6	6.6	-
\$200+.	2.7	3.2	+ .5%
Total.	100%	100%	.47*
 <u>C. Census Self-Enumeration</u>			
(Number Respondents)	(617)	(617)	
\$0	47.8%	48.3%	+ 1.0%
\$1-24.	30.3	24.3	- 6.0%
\$25-49	7.9	11.2	+ 3.3%
\$50-99	6.7	6.8	+ .1%
\$100-199	4.7	4.7	-
\$200+.	2.6	4.2	+ 1.6%
Total.	100%	100%	2.0*

TABLE 7 CONTINUED

<u>D. Census Self-Enumeration Passed Edit</u>	<u>NORC</u>	<u>Census</u>	<u>Difference</u>
(Number Respondents)	(437)	(437)	
\$0.	46.9%	49.2%	+ 2.3%
\$1-24.	29.3	24.3	- 5.0%
\$25-49	10.1	12.1	+ 2.0%
\$50-99	7.6	7.5	- .1%
\$100-199	4.1	4.6	+ .5%
\$200+.	<u>2.0</u>	<u>2.3</u>	<u>+ .3%</u>
Total.	100%	100%	1.7*
<u>E. Census Self-Enumeration Failed Edit</u>			
(Number Respondents)	(180)	(180)	
\$0	50.0%	47.7%	- 2.3%
\$1-24.	32.8	24.5	- 8.3%
\$25-49	2.8	8.9	+ 6.1%
\$50-99	4.4	5.0	+ .6%
\$100-199	6.1	5.0	- 1.1%
\$200+.	<u>3.9</u>	<u>8.9</u>	<u>+ 5.0%</u>
Total.	100%	100%	3.90*

* Total average difference.

5. Medicine Expenses

Net frequency distributions reported on Census short forms for medicine expenses were only a little over 1% different, on the average from NORC reports. Direct enumeration and self-enumeration forms which passed edit were about the same, but fail edit reports were consistently less accurate. No expenditures are combined with under \$25 expenses because of an artifact in NORC reporting. In many cases, only a family total for non-prescription medicine was arbitrarily divided evenly among family members by NORC. On Census self-enumeration reports this was not so, so many more no expenditure discrepancies would result if the category was shown separately.

TABLE 8

NET FREQUENCY DISTRIBUTIONS OF MEDICINE EXPENSES

<u>A. All Persons</u>	<u>NORC</u>	<u>Census</u>	<u>Difference</u>
(Number Respondents)	(1203)	(1203)	
\$0-24.	73.8%	76.5%	+ 2.7%
\$25-49	14.4	11.8	- 2.6%
\$50-99	7.6	7.5	- .1%
\$100+.	4.2	4.2	-
Total.	100%	100%	1.35*
<u>B. Census Direct Interview</u>			
(Number Respondents)	(586)	(586)	
\$0-24.	73.7%	75.4%	+ 1.7%
\$25-49	15.0	12.8	- 2.2%
\$50-99	6.5	7.4	+ .9%
\$100+.	4.8	4.4	- .4%
Total.	100%	100%	1.30*
<u>C. Census Self-Enumeration</u>			
(Number Respondents)	(617)	(617)	
\$0-24.	73.9%	77.4%	+ 3.5%
\$25-49	13.8	10.9	- 2.9%
\$50-99	8.8	7.6	- 1.2%
\$100+.	3.5	4.1	+ .6%
Total.	100%	100%	2.05*
<u>D. Census Self-Enumeration Passed Edit</u>			
(Number Respondents)	(437)	(437)	
\$0-24.	75.3%	77.1%	+ 1.8%
\$25-49	13.3	11.5	- 1.8%
\$50-99	8.9	8.2	- .7%
\$100+.	2.5	3.2	+ .7%
Total.	100%	100%	1.25*
<u>E. Census Self-Enumeration Failed Edit</u>			
(Number Respondents)	(180)	(180)	
\$0-24.	70.6%	78.3%	+ 7.7%
\$25-49	15.0	9.5	- 5.5%
\$50-99	8.3	6.1	- 2.2%
\$100+.	6.1	6.1	-
Total.	100%	100%	3.85*

* Total average difference.

6. Dental Expenses

Over one-third of all persons report some dental expenses, with the average net frequency interval difference between Census and NORC reports amounting to only 1%. Only minor differences are noted in Table 9 for the different types of Census reports.

TABLE 9

NET FREQUENCY DISTRIBUTIONS OF DENTAL EXPENSES

<u>A. All Persons</u>	<u>NORC</u>	<u>Census</u>	<u>Difference</u>
(Number Respondents)	(1203)	(1203)	
\$0	64.3%	64.3%	-
\$1-24.	20.5	17.8	- 2.7%
\$25-49	6.3	8.7	+ 2.4%
\$50-99	4.2	3.7	- .5%
\$100+.	4.7	5.5	+ .8%
Total.	100%	100%	1.28*
<u>B. Census Direct Interview</u>			
(Number Respondents)	(586)	(586)	
\$0	64.0%	65.0%	+ 1.0%
\$1-24.	21.9	18.3	- 3.6%
\$25-49	6.3	7.8	+ 1.5%
\$50-99	4.4	3.8	- .6%
\$100+.	3.4	5.1	+ 1.7%
Total.	100%	100%	1.68*
<u>C. Census Self Enumeration</u>			
(Number Respondents)	(617)	(617)	
\$0	64.5%	63.7%	- .8%
\$1-24.	19.3	17.3	- 2.0%
\$25-49	6.3	9.6	+ 3.3%
\$50-99	4.1	3.6	- .5%
\$100+.	5.8	5.8	-
Total.	100%	100%	1.32*
<u>D. Census Self-Enumeration Passed Edit</u>			
(Number Respondents)	(437)	(437)	
\$0	63.4%	62.9%	- .5%
\$1-24.	17.8	15.6	- 2.2%
\$25-49	7.4	11.2	+ 3.8%
\$50-99	5.0	3.4	- 1.6%
\$100+.	6.4	6.9	+ .5%
Total.	100%	100%	1.72*

TABLE 9 CONTINUED

<u>E. Census Self-Enumeration Failed Edit</u>	<u>NORC</u>	<u>Census</u>	<u>Difference</u>
(Number Respondents)	(180)	(180)	
\$0	67.2%	65.5%	- 1.7%
\$1-24.	22.8	21.7	- 1.1%
\$25-49	3.9	5.6	+ 1.7%
\$50-99	1.7	3.9	+ 2.2%
\$100+.	4.4	3.3	- 1.1%
<u>Total.</u>	<u>100%</u>	<u>100%</u>	<u>1.56*</u>

* Total average difference.

7. Other Medical Expenses

Other medical expenses includes such items as eye glasses, hearing aids, crutches, braces and other medical appliances, as well as costs of nursing, chiropractors and other non-doctor personnel. On the average, net frequency distributions reported to Census and NORC were within 1½% of one another. Direct interviewing was most accurate but the differences are small as can be seen in Table 10.

TABLE 10

NET FREQUENCY DISTRIBUTIONS OF OTHER MEDICAL EXPENSES

<u>A. All Persons</u>	<u>NORC</u>	<u>Census</u>	<u>Difference</u>
(Number Respondents)	(1203)	(1203)	
\$0	78.0%	81.6%	+ 3.6%
\$1-24.	9.5	6.3	- 3.2%
\$25-49	8.5	7.8	- .7%
\$50-99	3.1	3.3	+ .2%
\$100+. . . . .	.9	1.0	+ .1%
<u>Total.</u>	<u>100%</u>	<u>100%</u>	<u>1.56*</u>
<u>B. Census Direct Interview</u>			
(Number Respondents)	(586)	(586)	
\$0	78.8%	81.7%	+ 2.9%
\$1-24.	8.7	6.5	- 2.2%
\$25-49	7.7	7.5	- .2%
\$50-99	3.4	3.1	- .3%
\$100+.	1.4	1.2	- .2%
<u>Total.</u>	<u>100%</u>	<u>100%</u>	<u>1.16*</u>

TABLE 10 CONTINUED

<u>C. Census Self-Enumeration</u>	<u>NORC</u>	<u>Census</u>	<u>Difference</u>
(Number Respondents)	(617)	(617)	
\$0	77.3%	81.5%	+ 4.2%
\$1-24.	10.2	6.2	- 4.0%
\$25-49	9.2	8.1	- 1.1%
\$50-99	2.8	3.4	+ .6%
\$100+. . . . .	.5	.8	+ .3%
Total.	100%	100%	2.04*

D. Census Self-Enumeration
Passed Edit

(Number Respondents)	(437)	(437)	
\$0	75.9%	82.2%	+ 6.3%
\$1-24.	10.3	5.9	- 4.4%
\$25-49	9.6	8.7	- .9%
\$50-99	3.7	2.7	- 1.0%
\$100+. . . . .	.5	.5	-
Total.	100%	100%	2.52*

E. Census Self-Enumeration
Failed Edit

(Number Respondents)	(180)	(180)	
\$0	80.6%	80.0%	- .6%
\$1-24.	10.0	6.7	- 3.3%
\$25-49	8.3	6.7	- 1.6%
\$50-99 . . . . .	.6	5.0	+ 4.4%
\$100+. . . . .	.5	1.6	+ 1.1%
Total.	100%	100%	2.20*

* Total average difference.

C. Gross Differences in Frequency Distributions of Medical Expenses

Almost two-thirds of all persons reported total medical expenditures in the same class interval in both the short Census report and the more detailed NORC interview. Differences, as shown in Table 11, are not significant between Census Direct interviews and self-enumeration.

The precise magnitude of the discrepancy between the Census and NORC reports for a given category of expenses is quite arbitrary. This magnitude is a function of the number and width of the class intervals employed and the shape of the expenditure distribution. Since these factors varied, comparisons as to the relative accuracy of the reporting with regard to different types of expenses would not be fruitful.

Since the level of agreement is artificially high for relatively rare types of expenses like those for hospital care, the percentages of coincident classification exclusive of the "no expense" cell of the diagonal are presented in Part D of the table.

TABLE 11

COMPARISONS OF GROSS DIFFERENCES IN CLASS INTERVALS
OF MEDICAL EXPENSE REPORTED TO CENSUS AND NORC

	<u>Total</u>	<u>Hosp. Over- night</u>	<u>Hosp. Not Over- night</u>	<u>Doctor</u>	<u>Medi- cine</u>	<u>Den- tists</u>	<u>Other</u>
A. <u>All Persons</u>							
Same class interval . . .	63.2%	95.3%	92.1%	62.6%	75.4%	81.1%	84.2%
Census more	19.9	2.8	6.2	20.7	11.3	10.7	6.0
Census less	16.9	1.9	1.7	16.7	13.3	8.2	9.8
B. <u>Census Direct</u>							
Same class interval . . .	63.8%	95.9%	92.9%	62.8%	75.5%	80.6%	85.3%
Census more	20.1	2.4	5.2	20.2	11.6	10.9	4.7
Census less	16.1	1.7	1.9	17.0	12.9	8.5	10.0
C. <u>Census Self- Enumeration</u>							
Same class interval . . .	62.6%	94.6%	91.6%	62.3%	75.1%	81.9%	83.1%
Census more	19.7	3.2	7.1	21.0	11.3	10.4	7.1
Census less	17.7	2.2	1.3	16.2	13.6	7.7	9.8
D. <u>Adjustment for No Expense All Persons</u>							
No expenses-NORC-Census.	*	89.6%	90.9%	34.0%	*	58.9%	73.8%
Same class interval with expenses	*	5.7	1.2	28.6	*	22.2	10.4
Different class interval with expenses	*	4.7	7.9	37.4	*	18.9	15.8

* Owing to the combination of the "no expense" and "\$1 - \$24" class intervals, a meaningful adjustment is not possible for the "Total" and "Medicine" categories.

It is interesting to note in Table 12 that only 9% of all persons report to NORC and Census total expenses which are two or more class intervals different. About a fourth of all persons report only one class interval difference in total medical expenses. Likewise, all but doctor expenses have less than 9% of all persons reporting two or more class interval differences. Clearly most of the discrepancies reported to Census on the short form are inaccuracies involving only one class interval difference.

TABLE 12
NUMBER OF CLASS INTERVAL DIFFERENCES
IN MEDICAL EXPENSES REPORTED TO CENSUS AND NORC

<u>All Persons</u>	<u>Total</u>	<u>Hosp Over- night</u>	<u>Hosp. Not Over- night</u>	<u>Doctor</u>	<u>Medi- cine</u>	<u>Den- tists</u>	<u>Other</u>
<u>One class interval</u>							
<u>Difference from NORC</u>							
Census more	15.5%	2.2%	3.3%	15.4%	8.5%	8.0%	2.7%
Census less	12.2	1.2	1.2	12.5%	10.0	6.5	6.1
Total	27.7%	3.4%	4.5%	27.9%	18.5%	14.5%	8.8%
<u>Two or more class</u>							
<u>Interval Differences</u>							
<u>From NORC</u>							
Census more	4.4%	.6%	2.9%	5.3%	2.8%	2.7%	3.3%
Census less	4.7	.7	.5	4.2	3.3	1.7	3.7
Total	9.1%	1.3%	3.4%	9.5%	6.1%	4.4%	7.0%

Details on gross differences in reported medical expenses for all six categories of expenses are shown in Table 13.

TABLE 13
COMPARISON OF CENSUS AND NORC REPORTS OF MEDICAL EXPENSES

A. GRAND TOTALS

NORC	<u>Total Census</u>										Total	
	<u>\$0-24</u>		<u>\$25-49</u>		<u>\$50-99</u>		<u>\$100-299</u>		<u>\$300+</u>			
\$0-24. . . .	394	32.8%	63	5.3%	26	2.1%	7	.6%	4	.3%	494	41.1%
\$25-49 . . .	63	5.3	88	7.3	49	4.1	16	1.3	-	-	216	18.0
\$50-99 . . .	33	2.7	33	2.7	79	6.6	47	3.9	1	.1	193	16.0
\$100-299 . .	11	.9	10	.8	32	2.7	120	10.0	26	2.2	199	16.5
\$300+	1	.1	1	.1	2	.1	18	1.5	79	6.5	101	8.4
Total	502	41.8%	195	16.2%	183	15.6%	208	17.3%	110	9.1%	1203	100.0%

Census Direct Interview

\$0-24. . . .	186	31.8%	36	6.1%	13	2.2%	4	.7%	2	.3%	241	41.1%
\$25-49 . . .	30	5.1	45	7.7	24	4.1	8	1.4	-	-	107	18.3
\$50-99 . . .	11	1.9	15	2.5	47	8.0	20	3.4	1	.2	94	16.0
\$100-299 . .	6	1.0	3	.5	17	2.9	59	10.0	10	1.7	95	16.2
\$300+	1	.2	1	.2	2	.4	8	1.4	37	6.3	49	8.4
Total. . . .	234	40.0%	100	17.0%	103	17.6%	99	16.9%	50	8.5%	586	100.0%

Census Self-Enumeration Totals

\$0-24. . . .	208	33.7%	27	4.4%	13	2.1%	3	.5%	2	.3%	253	41.0%
\$25-49 . . .	33	5.3	43	7.0	25	4.1	8	1.3	-	-	109	17.7
\$50-99 . . .	22	3.6	18	2.9	32	5.2	27	4.4	-	-	99	16.1
\$100-299 . .	5	.8	7	1.1	15	2.4	61	9.9	16	2.6	104	16.8
\$300+	-	-	-	-	-	-	10	1.6	42	6.8	52	8.4
Total. . . .	268	43.4%	95	15.4%	85	13.8%	109	17.7%	60	9.7%	617	100.0%

Census Self-Enumeration - Pass Edit

\$0-24. . . .	139	31.3%	24	5.5%	9	2.1%	-	-%	1	.2%	173	39.6%
\$25-49 . . .	20	4.6	33	7.5	16	3.7	5	1.2	-	-	74	16.9
\$50-99 . . .	15	3.4	14	3.2	27	6.2	22	5.0	-	-	78	17.8
\$100-299 . .	4	.9	7	1.6	12	2.7	49	11.2	7	1.6	79	18.1
\$300+	-	-	-	-	-	-	7	1.6	26	6.0	33	7.6
Total. . . .	178	40.7%	78	17.8%	64	14.7%	83	19.0%	34	7.8%	437	100.0%

Census Self-Enumeration - Fail Edit

\$0-24. . . .	69	38.4%	3	1.7%	4	2.2%	3	1.6%	1	.5%	80	44.4%
\$25-49 . . .	13	7.2	10	5.6	9	5.0	3	1.6	-	-	35	19.4
\$50-99 . . .	7	3.9	4	2.2	5	2.8	5	2.8	-	-	21	11.7
\$100-199 . .	1	.5	-	-	3	1.7	12	6.7	9	5.0	25	13.9
\$300+	-	-	-	-	-	-	3	1.7	16	8.9	19	10.6
Total. . . .	90	50.0%	17	9.5%	21	11.7%	26	14.4%	26	14.4%	180	100.0%

COMPARISON OF CENSUS AND NORC REPORTS OF MEDICAL EXPENSES

B. HOSPITAL OVERNIGHT

<u>NORC</u>	<u>Total Census</u>											
	0		1-99		100-199		200-299		300+		Total	
0	1078	89.6%	12	1.0%	5	.4%	-	-%	-	-%	1095	91.0%
1-99	4	.3	15	1.3	4	.3	1	.1	-	-	24	2.0
100-199	1	.1	3	.2	22	1.9	5	.4	1	.1	32	2.7
200-299	1	.1	1	.1	5	.5	10	.8	6	.5	24	2.0
300+	4	.3	-	-	1	.1	2	.2	21	1.7	28	2.3
Total	1088	90.4%	31	2.6%	38	3.2%	18	1.5%	28	2.3%	1203	100.0%

Census Direct Interview

0	529	90.2%	7	1.2%	1	.2%	-	-%	-	-%	537	91.6%
1-99	2	.3	5	.9	2	.3	-	-	-	-	9	1.5
100-199	1	.2	-	-	13	2.2	2	.3	-	-	16	2.7
200-299	1	.2	-	-	4	.7	6	1.0	2	.4	13	2.3
300+	-	-	-	-	-	-	2	.3	9	1.6	11	1.9
Total	533	90.9%	12	2.1%	20	3.4%	10	1.6%	11	2.0%	586	100.0%

Census Self-Enumeration Totals

0	549	89.0%	5	.8%	4	.6%	-	-	-	-	558	90.4%
1-99	2	.3	10	1.6	2	.3	1	.2	-	-	15	2.4
100-199	-	-	3	.5	9	1.4	3	.5	1	.2	16	2.6
200-299	-	-	1	.2	2	.3	4	.7	4	.6	11	1.8
300+	4	.7	-	-	1	.2	-	-	12	1.9	17	2.8
Total	555	90.0%	19	3.1%	18	2.8%	8	1.4%	17	2.7%	617	100.0%

Census Self-Enumeration - Pass Edit

0	395	90.4%	2	.5%	1	.2%	-	-%	-	-%	398	91.1%
1-99	2	.4	7	1.6	2	.5	-	-	-	-	11	2.5
100-199	-	-	3	.7	8	1.8	1	.2	-	-	12	2.7
200-299	-	-	1	.2	2	.5	3	.7	1	.2	7	1.6
300+	4	.9	-	-	-	-	-	-	5	1.2	9	2.1
Total	401	91.7%	13	3.0%	13	3.0%	4	.9%	6	1.4%	437	100.0%

Census Self-Enumeration - Fail Edit

0	154	85.5%	3	1.7%	3	1.7%	-	-	-	-	160	88.9%
1-99	-	-	3	1.7	-	-	1	.5	-	-	4	2.2
100-199	-	-	-	-	1	.6	2	1.1	1	.5	4	2.2
200-299	-	-	-	-	-	-	1	.5	3	1.7	4	2.2
300+	-	-	-	-	1	.6	-	-	7	3.9	8	4.5
Total	154	85.5%	6	3.4%	5	2.9%	4	2.1%	11	6.1%	180	100.0%

COMPARISON OF CENSUS AND NORC REPORTS OF MEDICAL EXPENSES

C. HOSPITAL - NOT OVERNIGHT

NORC	Total Census											
	0		1-24		25-49		50-99		100+		Total	
0.	1094	90.9%	38	3.2%	14	1.2%	8	.6%	10	.8%	1164	96.7%
1-24	6	.5	8	.6	1	.1	2	.2	-	-	17	1.4
25-49	2	.2	2	.2	3	.2	-	-	1	.1	8	.7
50-99	1	.1	-	-	4	.3	2	.2	-	-	7	.6
100+	2	.2	-	-	-	-	3	.2	2	.2	7	.6
Total.	1105	91.9%	48	4.0%	22	1.8%	15	1.2%	13	1.1%	1203	100.0%

Census Direct Interview												
0.	536	91.5%	18	3.1%	5	.9%	-	-%	5	.8%	564	96.3%
1-24	6	1.0	7	1.2	1	.2	-	-	-	-	14	2.4
25-49	1	.1	2	.3	1	.2	-	-	1	.2	5	.8
50-99	1	.2	-	-	2	.3	-	-	-	-	3	.5
100+	-	-	-	-	-	-	-	-	-	-	-	-
Total.	544	92.8%	27	4.6%	9	1.6%	-	-	6	1.0%	586	100.0%

Census Self-Enumeration Totals												
0.	558	90.5%	20	3.2%	9	1.5%	8	1.3%	5	.8%	600	97.3%
1-24	-	-	1	.2	-	-	2	.3	-	-	3	.5
25-49	1	.2	-	-	2	.3	-	-	-	-	3	.5
50-99	-	-	-	-	2	.3	2	.3	-	-	4	.6
100+	2	.3	-	-	-	-	3	.5	2	.3	7	1.1
Total.	561	91.0%	21	3.4%	13	2.1%	15	2.4%	7	1.1%	617	100.0%

Census Self-Enumeration - Pass Edit												
0.	399	91.3%	16	3.7%	6	1.4%	3	.7%	2	.4%	426	97.5%
1-24	-	-	1	.2	-	-	2	.5	-	-	3	.7
25-49	-	-	-	-	-	-	-	-	-	-	-	-
50-99	-	-	-	-	2	.4	1	.3	-	-	3	.7
100+	1	.2	-	-	-	-	2	.4	2	.5	5	1.1
Total.	400	91.5%	17	3.9%	8	1.8%	6	1.9%	4	.9%	437	100.0%

Census Self-Enumeration - Fail Edit												
0.	159	88.3%	4	2.2%	3	1.7%	5	2.8%	3	1.6%	174	96.6%
1-24	-	-	-	-	-	-	-	-	-	-	-	-
25-49	1	.6	-	-	2	1.1	-	-	-	-	3	1.7
50-99	-	-	-	-	-	-	1	.6	-	-	1	.6
100+	1	.6	-	-	-	-	1	.5	-	-	2	1.1
Total.	161	89.5	4	2.2	5	2.8	7	3.9	3	1.6	180	100.0%

COMPARISON OF CENSUS AND NORC REPORTS OF MEDICAL EXPENSES

D. DOCTOR

NORC	Total Census													
	0		1-24		25-49		50-99		100-199		200+		Total	
0	409	34.0%	90	7.5%	17	1.4%	12	1.0%	5	.4%	-	-%	533	44.3%
1-24	97	8.0	208	17.3	42	3.5	23	1.9	5	.4	2	.2	377	31.3
25-49	16	1.4	27	2.2	52	4.3	13	1.1	2	.2	1	.1	111	9.3
50-99	7	.6	10	.8	11	.9	33	2.7	16	1.4	5	.4	82	6.8
100-199	5	.4	3	.3	7	.6	7	.6	31	2.5	15	1.2	68	5.6
200+	1	.1	-	-	-	-	-	-	9	.8	22	1.8	32	2.7
Total	535	44.5%	338	28.1%	129	10.7%	88	7.3%	68	5.7%	45	3.7%	1203	100.0%

Census Direct Interview

0	179	30.6%	49	8.4%	2	.4%	5	.9%	3	.5%	-	-%	239	40.8%
1-24	42	7.2	113	19.3	19	3.2	14	2.4	2	.3	-	-	190	32.4
25-49	7	1.2	16	2.7	30	5.1	6	1.0	2	.4	1	.1	62	10.5
50-99	3	.5	7	1.2	6	1.0	17	2.9	7	1.2	1	.2	41	7.0
100-199	3	.5	3	.5	3	.5	4	.7	19	3.2	7	1.2	39	6.6
200+	-	-	-	-	-	-	-	-	6	1.0	10	1.7	16	2.7
Total	234	40.0%	188	32.1%	60	10.2%	46	7.9%	39	6.6%	19	3.2%	586	100.0%

Census Self-Enumeration Totals

0	230	37.3%	41	6.6%	15	2.5%	7	1.1%	2	.3%	-	-%	295	47.8%
1-24	55	8.9	95	15.4	23	3.7	9	1.5	3	.5	2	.3	187	30.3
25-49	9	1.4	11	1.8	22	3.6	7	1.1	-	-	-	-	49	7.9
50-99	4	.7	3	.5	5	.8	16	2.6	9	1.5	4	.6	41	6.7
100-199	2	.3	-	-	4	.6	3	.5	12	1.9	8	1.3	29	4.7
200+	1	.2	-	-	-	-	-	-	3	.5	12	2.0	16	2.6
Total	301	48.8%	150	24.3%	69	11.2%	42	6.8%	29	4.7%	26	4.2%	617	100.0%

Census Self-Enumeration - Pass Edit

0	163	37.3%	27	6.2%	9	2.1%	5	1.1%	1	.2%	-	-%	205	46.9%
1-24	39	8.9	67	15.3	16	3.6	4	.9	2	.5	-	-	128	29.3
25-49	7	1.6	9	2.1	21	4.8	7	1.6	-	-	-	-	44	10.1
50-99	3	.7	3	.7	4	.9	14	3.2	7	1.6	2	.5	33	7.6
100-199	2	.5	-	-	3	.7	3	.7	8	1.8	2	.4	18	4.1
200+	1	.2	-	-	-	-	-	-	2	.5	6	1.4	9	2.0
Total	215	49.2%	106	24.3%	53	12.1%	33	7.5%	20	4.6%	10	2.3%	437	100.0%

Census Self-Enumeration - Fail Edit

0	67	37.2%	14	7.8%	6	3.4%	2	1.1%	1	.5%	-	-%	90	50.0%
1-24	16	8.8	28	15.6	7	3.9	5	2.8	1	.6	2	1.1	59	32.8
25-49	2	1.2	2	1.1	1	.5	-	-	-	-	-	-	5	2.8
50-99	1	.5	-	-	1	.6	2	1.1	2	1.1	2	1.1	8	4.4
100-199	-	-	-	-	1	.5	-	-	4	2.2	6	3.3	11	6.1
200+	-	-	-	-	-	-	-	-	1	.6	6	3.4	7	3.9
Total	86	47.7%	44	24.5%	16	8.9%	9	5.0%	9	5.0%	16	8.9%	180	100.0%

COMPARISON OF CENSUS AND NORC REPORTS OF MEDICAL EXPENSES

E. MEDICINE

<u>NORC</u>	<u>Total Census</u>								<u>Total</u>	
	<u>0-24</u>		<u>25-49</u>		<u>50-99</u>		<u>100+</u>			
0-24	794	66.0%	67	5.5%	26	2.2%	1	.1%	888	73.8%
25-49	91	7.6	53	4.4	23	1.9	6	.5	173	14.4
50-99	30	2.5	18	1.5	30	2.5	14	1.1	92	7.6
100+	5	.4	4	.4	11	.9	30	2.5	50	4.2
Total.	920	76.5%	142	11.8%	90	7.5%	51	4.2%	1203	100.0%

<u>Census Direct Interview</u>										
0-24	382	65.1%	36	6.2%	14	2.4%	-	-	432	73.7%
25-49	48	8.2	30	5.1	10	1.7	-	-	88	15.0
50-99	10	1.8	7	1.2	13	2.2	8	1.3	38	6.5
100+	2	.3	2	.3	6	1.1	13	3.1	28	4.8
Total.	442	75.4%	75	12.8%	43	7.4%	26	4.4%	586	100.0%

<u>Census Self-Enumeration Totals</u>										
0-24	412	66.7%	31	5.1%	12	1.9%	1	.2%	456	73.9%
25-49	43	7.0	23	3.7	13	2.1	6	1.0	85	13.8
50-99	20	3.2	11	1.8	17	2.8	6	1.0	54	8.8
100+	3	.5	2	.3	5	.8	12	1.9	22	3.5
Total.	478	77.4%	67	10.9%	47	7.6%	25	4.1%	617	100.0%

<u>Census Self-Enumeration - Pass Edit</u>										
0-24	302	69.1%	19	4.4%	8	1.8%	-	-	329	75.3%
25-49	22	5.1	21	4.8	11	2.5	4	.9	58	13.3
50-99	13	2.9	9	2.1	14	3.2	3	.7	39	8.9
100+	-	-	1	.2	3	.7	7	1.6	11	2.5
Total.	337	77.1%	50	11.5%	36	8.2%	14	3.2%	437	100.0%

<u>Census Self-Enumeration - Fail Edit</u>										
0-24	110	61.1%	12	6.7%	4	2.2%	1	.6%	127	70.6%
25-49	21	11.7	2	1.1	2	1.1	2	1.1	27	15.0
50-99	7	3.9	2	1.1	3	1.7	3	1.6	15	8.3
100+	3	1.6	1	.6	2	1.1	5	2.8	11	6.1
Total.	141	78.3%	17	9.5%	11	6.1%	11	6.1%	180	100.0%

COMPARISON OF CENSUS AND NORC REPORTS OF MEDICAL EXPENSES

F. DENTIST

NORC	<u>Total Census</u>											
	0		1-24		25-49		50-99		100+		Total	
0.	709	58.9%	41	3.4%	14	1.2%	3	.3%	6	.5%	773	64.3%
1-24	52	4.3	156	13.0	33	2.7	5	.4	1	.1	247	20.5
25-49.	6	.5	13	1.1	45	3.7	10	.8	2	.2	76	6.3
50-99.	2	.2	3	.2	10	.8	23	1.9	13	1.1	51	4.2
100+.	5	.4	1	.1	3	.3	3	.3	44	3.6	56	4.7
Total.	774	64.3%	214	17.8%	105	8.7%	44	3.7%	66	5.5%	1203	100.0%
						<u>Census Direct Interview</u>						
0.	345	58.9%	20	3.4%	5	.8%	2	.4%	3	.5%	375	64.0%
1-24	31	5.3	79	13.5	14	2.4	3	.5	1	.2	128	21.9
25-49.	2	.3	6	1.0	21	3.6	7	1.2	1	.2	37	6.3
50-99.	1	.2	2	.4	5	.8	10	1.7	8	1.3	26	4.4
100+.	2	.3	-	-	1	.2	-	-	17	2.9	20	3.4
Total.	381	65.0%	107	18.3%	46	7.8%	22	3.8%	30	5.1%	586	100.0%
						<u>Census Self-Enumeration Totals</u>						
0.	364	59.0%	21	3.4%	9	1.5%	1	.2%	3	.4%	398	64.5%
1-24	21	3.4	77	12.5	19	3.1	2	.3	-	-	119	19.3
25-49.	4	.6	7	1.1	24	3.9	3	.5	1	.2	39	6.3
50-99.	1	.2	1	.2	5	.8	13	2.1	5	.8	25	4.1
100+.	3	.5	1	.1	2	.3	3	.5	27	4.4	36	5.8
Total.	393	63.7%	107	17.3%	59	9.6%	22	3.6%	36	5.8%	617	100.0%
						<u>Census Self-Enumeration - Pass Edit</u>						
0.	256	58.6%	12	2.8%	7	1.6%	1	.2%	1	.2%	277	63.4%
1-24	14	3.1	49	11.2	15	3.5	-	-	-	-	78	17.8
25-49.	2	.5	5	1.2	21	4.8	3	.7	1	.2	32	7.4
50-99.	1	.2	1	.2	5	1.1	11	2.5	4	1.0	22	5.0
100+.	2	.5	1	.2	1	.2	-	-	24	5.5	28	6.4
Total.	275	62.9%	68	15.6%	49	11.2%	15	3.4%	30	6.9%	437	100.0%
						<u>Census Self-Enumeration - Fail Edit</u>						
0.	108	60.0%	9	5.0%	2	1.1%	-	-	2	1.1%	121	67.2%
1-24	7	3.9	28	15.6	4	2.2	2	1.1	-	-	41	22.8
25-49.	2	1.1	2	1.1	3	1.7	-	-	-	-	7	3.9
50-99.	-	-	-	-	-	-	2	1.1	1	.6	3	1.7
100+.	1	.5	-	-	1	.6	3	1.7	3	1.6	8	4.4
Total.	118	65.5%	39	21.7%	10	5.6%	7	3.9%	6	3.3%	180	100.0%

COMPARISON OF CENSUS AND NORC REPORTS OF MEDICAL EXPENSES

G. OTHER EXPENSES

NORC	<u>Total Census</u>											
	0		1-24		25-49		50-99		100+		Total	
0	888	73.8%	18	1.5%	20	1.6%	10	.9%	3	.2%	939	78.0%
1-24	52	4.3	49	4.1	7	.6	5	.4	1	.1	114	9.5
25-49	32	2.7	8	.6	54	4.5	7	.6	1	.1	102	8.5
50-99	10	.8	1	.1	12	1.0	14	1.2	-	-	37	3.1
100+	-	-	-	-	1	.1	3	.2	7	.6	11	.9
Total	982	81.6%	76	6.3%	94	7.8%	39	3.3%	12	1.0%	1203	100.0%

<u>Census Direct Interviews</u>												
0	439	74.9%	6	1.0%	10	1.7%	5	.9%	2	.3%	462	73.8%
1-24	23	3.9	25	4.3	2	.3	1	.2	-	-	51	8.7
25-49	15	2.6	6	1.0	22	3.8	2	.3	-	-	45	7.7
50-99	2	.3	1	.2	9	1.5	8	1.4	-	-	20	3.4
100+	-	-	-	-	1	.2	2	.3	5	.9	8	1.4
Total	479	81.7%	38	6.5%	44	7.5%	18	3.1%	7	1.2%	586	100.0%

<u>Census Self-Enumeration Totals</u>												
0	449	72.7%	12	2.0%	10	1.6%	5	.8%	1	.2%	477	77.3%
1-24	29	4.7	24	3.9	5	.8	4	.7	1	.1	63	10.2
25-49	17	2.8	2	.3	32	5.2	5	.7	1	.2	57	9.2
50-99	8	1.3	-	-	3	.5	6	1.0	-	-	17	2.8
100+	-	-	-	-	-	-	1	.2	2	.3	3	.5
Total	503	81.5%	38	6.2%	50	8.1%	21	3.4%	5	.8%	617	100.0%

<u>Census Self-Enumeration - Pass Edit</u>												
0	314	71.8%	7	1.6%	8	1.8%	3	.7%	-	-	332	75.9%
1-24	23	5.3	18	4.1	4	.9	-	-	-	-	45	10.3
25-49	14	3.2	1	.2	23	5.3	4	.9	-	-	42	9.6
50-99	8	1.9	-	-	3	.7	5	1.1	-	-	16	3.7
100+	-	-	-	-	-	-	-	-	2	.5	2	.5
Total	359	82.2%	26	5.9%	38	8.7%	12	2.7%	2	.5%	437	100.0%

<u>Census Self-Enumeration - Fail Edit</u>												
0	135	75.1%	5	2.8%	2	1.1%	2	1.1%	1	.5%	145	80.6%
1-24	6	3.3	6	3.3	1	.6	4	2.2	1	.6	18	10.0
25-49	3	1.6	1	.6	9	5.0	1	.6	1	.5	15	8.3
50-99	-	-	-	-	-	-	1	.6	-	-	1	.6
100+	-	-	-	-	-	-	1	.5	-	-	1	.5
Total	144	80.0%	12	6.7%	12	6.7%	9	5.0%	3	1.6%	180	100.0%

D. Analysis of Reported Medical Expenses by Selected Personal Characteristics

In the discussion of net and gross differences in reported frequency distributions of medical costs, the offsetting of overstatements by understatements of expenses was noted. While this tendency to balance errors in reporting on the short forms produces desirable overall accuracy, it is important in evaluating medical costs of different types of individuals to be certain that there are no systematic biases in reporting related to specific personal characteristics such as sex, age, or education. An analysis of these items which will be presented in this section, reveals no serious biases related to these factors. The class intervals employed in this analysis are, for each of the expense categories, the same ones as appear in the corresponding section of Table 13.

1. Sex

The degree of consistency between the class intervals of the medical expenses reported to Census and those reported to NORC is generally about the same for males as it is for females. For the Census interview and self-enumerated cases combined, a difference in the level of class interval coincidence of as much as 5% occurred only in the case of expenses for doctors' care. This latter difference is to some extent an artifact of the higher proportion incurring doctors' charges among females than among males. If we consider as coincident only those diagonal cases where some expense was reported both to Census and to NORC, 30% of the females would have been classified in the same class interval on the short form as on the long form, while this would have been true for only 27% of the males. Similarly, among the self-enumerated cases, the exclusion of those individuals for whom doctors' charges were reported on neither the short nor the long form changes the coincidence figure for women to 28% and for men to 23%.

TABLE 14

COMPARISON OF NORC AND CENSUS REPORTS OF MEDICAL EXPENSES
BY SEX

1. All Persons	A. <u>Grand Totals</u>	
	Male	Female
(Number Respondents)	(573)	(630)
Same-Census-NORC	62.0%	64.1%
Census Greater	19.7	20.2
Census less.	18.3	15.7
2. <u>Census Direct</u>		
(Number Respondents)	(272)	(312)
Same-Census-NORC	62.5%	64.7%
Census greater	19.1	21.2
Census less.	18.4	14.1
3. <u>Census-Self-Enumeration</u>		
(Number Respondents)	(301)	(318)
Same-Census-NORC	61.5%	63.5%
Census greater	20.2	19.2
Census less.	18.3	17.3

TABLE 14 CONTINUED

		<u>B. Hospital Overnight</u>	
		<u>Male</u>	<u>Female</u>
<u>1. Total Census</u>			
(Number Respondents)	.....	(573)	(630)
Same Census-NORC	.....	95.3%	95.1%
Census greater	.....	2.6	3.0
Census less	.....	2.1	1.9
<u>2. Census Direct</u>			
(Number Respondents)	.....	(272)	(312)
Same Census-NORC	.....	96.3%	95.5%
Census greater	.....	1.8	2.9
Census less	.....	1.9	1.6
<u>3. Census Self-Enumeration</u>			
(Number Respondents)	.....	(301)	(318)
Same Census-NORC	.....	94.4%	94.7%
Census greater	.....	3.3	3.1
Census less	.....	2.3	2.2

C. Hospital Not Overnight

<u>1. Total Census</u>			
(Number Respondents)	.....	(573)	(630)
Same Census-NORC	.....	91.6%	92.7%
Census greater	.....	6.5	5.9
Census less	.....	1.9	1.4
<u>2. Census Direct</u>			
(Number Respondents)	.....	(272)	(312)
Same Census-NORC	.....	90.8%	94.6%
Census greater	.....	6.6	3.8
Census less	.....	2.6	1.6
<u>Census Self-Enumeration</u>			
(Number Respondents)	.....	(301)	(318)
Same Census-NORC	.....	92.4%	90.9%
Census greater	.....	6.3	7.9
Census less	.....	1.3	1.2

TABLE 14 CONTINUED

<u>D. Doctors Expenses</u>		
	<u>Male</u>	<u>Female</u>
<u>1. All Persons</u>		
(Number Respondents)	(573)	(630)
Same Census-NORC	65.1%	60.5%
Census greater	17.1	24.0
Census less.	17.8	15.5
<u>2. Census Direct</u>		
(Number Respondents)	(272)	(312)
Same Census-NORC	64.7%	61.2%
Census greater	15.1	24.7
Census less.	20.2	14.1
<u>3. Census self-enumeration</u>		
(Number Respondents)	(301)	(318)
Same Census-NORC	65.5%	59.7%
Census greater	18.9	23.3
Census less.	15.6	17.0

E. Medicine Expenses

<u>1. All Persons</u>		
(Number Respondents)	(573)	(630)
Same Census-NORC	75.6%	74.9%
Census greater	10.5	12.7
Census less.	13.9	12.4
<u>2. Census Direct</u>		
(Number Respondents)	(272)	(312)
Same Census-NORC	76.9%	74.7%
Census greater	9.9	13.1
Census less.	13.2	12.2
<u>3. Census Self-Enumeration</u>		
(Number Respondents)	(301)	(318)
Same Census-NORC	75.1%	75.2%
Census greater	10.0	12.3
Census less.	14.9	12.5

TABLE 14 CONTINUED

F. Dental Expenses

	<u>Male</u>	<u>Female</u>
<u>1. All Persons</u>		
(Number Respondents)	(573)	(630)
Same Census-NORC	80.6%	81.6%
Census greater	10.7	10.8
Census less.	8.7	7.6
<u>2. Census Direct</u>		
(Number Respondents)	(272)	(312)
Same-Census-NORC	77.6%	83.3%
Census greater	12.5	9.3
Census less.	9.9	7.4
<u>3. Census Self-Enumeration</u>		
(Number Respondents)	(301)	(318)
Same Census-NORC	83.4%	80.2%
Census greater	9.0	11.9
Census less.	7.6	7.9

G. Other Medical Expenses

<u>1. All Persons</u>		
(Number Respondents)	(573)	(630)
Same Census-NORC	85.0%	83.0%
Census greater	5.4	6.7
Census less.	9.6	10.3
<u>2. Census Direct</u>		
(Number Respondents)	(272)	(312)
Same Census-NORC	84.2%	85.9%
Census greater	4.4	5.1
Census less.	11.4	9.0
<u>3. Census Self-Enumeration</u>		
(Number Respondents)	(301)	(318)
Same Census-NORC	85.7%	80.2%
Census greater	6.3	8.2
Census less.	8.0	11.6

2. Age

As can be seen from Table 15, there was, in general, little systematic variation between individuals of different ages in the degree of class interval coincidence of the expenses reported for them. A higher level of utilization of the particular type of service by the deviant age group accounts for most exceptions. For instance, there was quite a bit less agreement between the dental expenses reported to NORC and those reported to the Census for the 15-34 age groups than for the others. But, this appears to be due primarily to the fact that, according to both surveys, the proportion of individuals incurring some dental expense was considerably greater in this age group than in any of the others.

One result for which there is no ready explanation is the exceptionally low coincidence level of the doctors' expenses reported for the oldest age group in the self-enumeration sample. Since a disproportionate number of the discrepant individuals appears to have come from the "problem families," those who at least originally failed edit and those who completely failed to return the self-enumeration form and therefore had to be interviewed by telephone, the finding provides no basis for the improvement of the self-enumeration form itself. It is not clear whether we are here dealing with basically unreliable respondents or whether the questioning by the Census supervisor of the original self-enumeration response led to an inflation of the expense figures (or greater accuracy than the NORC criterion interview figure). In any event, the discrepancy even for this deviant group does not appear to be so large as to present an insurmountable problem.

Because of the high level of interest in the medical expenses of those 65 years of age or older, separate tabulations were made for the 55-64 year group and the 65+ group. These two groups do not appear to differ appreciably in their coincidence level. They have been combined in Table 15 because of the extremely small (112 individuals 55-64, 103 individuals 65+) numbers of cases in each of these age class intervals.

TABLE 15

COMPARISON OF NORC AND CENSUS REPORTS OF MEDICAL EXPENSES BY AGE

A. Grand Totals

	<u>Age Group</u>			
	<u>0-14</u>	<u>15-34</u>	<u>35-54</u>	<u>55+</u>
<u>1. All Persons</u>				
(Number Respondents)	(385)	(268)	(335)	(215)
Same Census-NORC	63.9%	63.1%	62.7%	62.3%
Census greater	19.7	18.6	21.8	19.1
Census less	16.4	18.3	15.5	18.6
<u>2. Census Direct</u>				
(Number Respondents)	(194)	(128)	(162)	(100)
Same Census-NORC	65.5%	66.4%	61.1%	61.0%
Census greater	19.6	20.3	22.8	17.0
Census less	14.9	13.3	16.1	22.0
<u>3. Census Self-Enumeration</u>				
(Number Respondents)	(191)	(140)	(173)	(115)
Same Census-NORC	62.3%	60.0%	64.2%	63.5%
Census greater	19.9	17.1	20.8	20.9
Census less	17.8	22.9	15.0	15.6

TABLE 15 CONTINUED

B. Hospital Overnight

	<u>0-14</u>	<u>15-34</u>	<u>35-54</u>	<u>55+</u>
<u>1. Total Census</u>				
(Number Persons)	(385)	(268)	(335)	(215)
Same-Census-NORC.	93.5%	95.9%	96.4%	95.3%
Census greater.	4.9	2.2	.9	2.8
Census less	1.6	1.9	2.7	1.9
<u>2. Census Direct</u>				
(Number Persons)	(194)	(128)	(162)	(100)
Same Census-NORC.	92.8%	96.9%	98.1%	97.0%
Census greater.	5.7	1.5	0.0	1.0
Census less	1.5	1.6	1.9	2.0
<u>3. Census Self-Enumeration</u>				
(Number Respondents)	(191)	(140)	(173)	(115)
Same Census-NORC.	94.2%	95.0%	94.8%	93.9%
Census greater.	4.2	2.9	1.7	4.3
Census less	1.6	2.1	3.5	1.8

C. Hospital Not Overnight

<u>1. Total Census</u>				
(Number Respondents)	(385)	(268)	(335)	(215)
Same Census-NORC.	94.3%	88.8%	91.3%	94.0%
Census greater.	4.2	9.3	6.9	4.6
Census less	1.5	1.9	1.8	1.4
<u>2. Census Direct</u>				
(Number Respondents)	(194)	(128)	(162)	(100)
Same Census-NORC.	94.3%	89.8%	92.6%	94.0%
Census greater.	4.1	7.8	5.6	3.0
Census less	1.6	2.4	1.8	3.0
<u>3. Census Self-Enumeration</u>				
(Number Respondents)	(191)	(140)	(173)	(115)
Same Census-NORC.	94.2%	87.9%	90.2%	93.9%
Census greater.	4.2	10.7	8.1	6.1
Census less	1.6	1.4	1.7	-

TABLE 15 CONTINUED

<u>D. Doctors</u>				
	<u>0-14</u>	<u>15-34</u>	<u>35-54</u>	<u>55+</u>
<u>1. All Persons</u>				
(Number Respondents)	(385)	(268)	(335)	(215)
Same Census-NORC	63.1%	62.3%	64.2%	59.5%
Census greater	21.8	22.0	18.2	21.9
Census less	15.1	15.7	17.6	18.6
<u>2. Census Direct</u>				
(Number Respondents)	(194)	(128)	(162)	(100)
Same Census-NORC	61.9%	61.7%	63.0%	66.0%
Census greater	24.7	22.7	16.7	14.0
Census less	13.4	15.6	20.3	20.0
<u>3. Census Self-Enumeration</u>				
(Number Respondents)	(191)	(140)	(173)	(115)
Same Census-NORC	64.4%	63.6%	65.3%	53.9%
Census greater	18.8	20.0	19.7	28.7
Census less	16.8	16.4	15.0	17.4

<u>E. Dentist</u>				
	<u>0-14</u>	<u>15-34</u>	<u>35-54</u>	<u>55+</u>
<u>1. All Persons</u>				
(Number Respondents)	(385)	(268)	(335)	(215)
Same Census-NORC	84.9%	71.3%	84.5%	81.4%
Census greater	7.0	16.4	9.8	11.6
Census less	8.1	12.3	5.7	7.0
<u>2. Census Direct</u>				
(Number Respondents)	(194)	(128)	(162)	(100)
Same Census-NORC	86.6%	71.1%	81.5%	79.0%
Census greater	7.7	16.4	9.2	13.0
Census less	5.7	12.5	9.3	8.0
<u>3. Census Self-Enumeration</u>				
(Number Respondents)	(191)	(140)	(173)	(115)
Same Census-NORC	83.2%	71.4%	87.3%	83.5%
Census greater	6.3	16.4	10.4	10.4
Census less	10.5	12.2	2.3	6.1

TABLE 15 CONTINUED

F. Medicine

	<u>0-14</u>	<u>15-34</u>	<u>35-54</u>	<u>55+</u>
<u>1. All Persons</u>				
(Number Respondents)	(385)	(268)	(335)	(215)
Same Census-NORC.	76.1%	77.2%	77.6%	68.4%
Census greater.	10.6	9.0	12.2	14.4
Census less	13.3	13.8	10.2	17.2
<u>2. Census Direct</u>				
(Number Respondents)	(194)	(128)	(162)	(100)
Same Census-NORC.	74.2%	83.6%	77.2%	66.0%
Census greater.	12.4%	8.6%	11.1%	15.0%
Census less	13.4	7.8	11.7	19.0
<u>3. Census Self-Enumeration</u>				
(Number Respondents)	(191)	(140)	(173)	(115)
Same Census-NORC.	78.0%	71.4%	78.0%	70.4%
Census greater.	8.9	9.3	13.3	13.9
Census less	13.1	19.3	8.7	15.7

G. Other

<u>1. All Persons</u>				
(Number Respondents)	(385)	(268)	(335)	(215)
Same Census-NORC.	90.4%	85.1%	78.5%	79.5%
Census greater.	3.1	5.6	8.7	7.9
Census less	6.5	9.3	12.8	12.6
<u>2. Census Direct</u>				
(Number Respondents)	(194)	(128)	(162)	(100)
Same Census-NORC.	91.8%	83.6%	79.0%	84.0%
Census greater.	2.0	6.2	8.0	3.0
Census less	6.2	10.2	13.0	13.0
<u>3. Census Self-Enumeration</u>				
(Number Respondents)	(191)	(140)	(173)	(115)
Same Census-NORC.	89.0%	86.4%	78.1%	75.7%
Census greater.	4.2	5.0	9.2	12.2
Census less	6.8	8.6	12.7	12.1

3. Education of Family Head

Table 16 shows the comparisons between the individuals' medical expenses reported to the Census and those reported to NORC with each individual classified in terms of the educational attainment of the head of the family of which he is a member. The pattern of response coincidence is quite erratic--so much so that it defies a ready interpretation.

The differences in coincidence level between sub-groups are considerably larger when the classification is on the basis of the educational attainment of the head than when it is on the basis of the individual's sex and age. This may be due to the fact that the sampling variance of the differences between sub-groups is probably considerably greater when we classify by a characteristic of the family head (or the family as a whole) than when we classify by a characteristic of the individual--all the individuals in a given family, and therefore all the individuals for whom a given informant reported, in the former case appear in the same sub-groups, while in the latter case they are likely to appear in several sub-groups. This, of course, assumes a substantial positive intra-class correlation of reporting discrepancies within families, a not too unlikely possibility.

Among the more mysterious results are the extreme unreliability of the Census-direct reports of doctors' and dentists' expenses for individuals in families headed by someone with at least one year of college completed. While this is in part an artifact of the more widespread use of physician and dental services by persons in families headed by college-educated individuals than by persons in families headed by someone with less education, this factor hardly accounts for the entire discrepancy. If it did, one would expect a similar pattern of deviance in the self-enumeration cases, something which did not occur. As unsatisfying as such an explanation is, it would appear most prudent to view the poor performance of the college families on the Census direct interview as a sampling anomaly rather than as a substantive finding which necessitates special modification of the direct interview form.

TABLE 16

COMPARISON OF NORC AND CENSUS REPORTS OF MEDICAL EXPENSES BY EDUCATION

A. Grand Totals

	<u>Elementary</u>	<u>High School</u>	<u>College</u>
<u>1. Total Census</u>			
(Number Respondents)	(426)	(516)	(229)
Same Census-NORC	64.5	62.6	61.6
Census greater	18.1	20.3	22.7
Census less	17.4	17.1	15.7
<u>2. Census Direct</u>			
(Number Respondents)	(206)	(252)	(110)
Same Census-NORC	61.2	68.2	58.2
Census greater	19.4	17.5	27.3
Census less	19.4	14.3	14.5
<u>3. Census Self-Enumeration</u>			
(Number Respondents)	(220)	(264)	(119)
Same Census-NORC	67.7	57.2	64.7
Census greater	16.8	23.1	18.5
Census less	15.5	19.7	16.8

TABLE 16 CONTINUED

B. Hospital Overnight

	<u>Elementary</u>	<u>High School</u>	<u>College</u>
<u>1. Total Census</u>			
(Number Respondents)	(426)	(516)	(229)
Same Census-NORC	96.5%	95.5%	91.7%
Census greater	2.1	3.1	3.5
Census less.	1.4	1.4	4.8
<u>2. Census Direct</u>			
(Number Respondents)	(206)	(252)	(110)
Same Census-NORC	97.1%	96.8%	90.9%
Census greater	1.9	2.8	2.7
Census less.	1.0	.4	6.4
<u>3. Census Self-Enumeration</u>			
(Number Respondents)	(220)	(264)	(119)
Same Census-NORC	95.9%	94.3%	92.4%
Census greater	2.3	3.4	4.2
Census less.	1.8	2.3	3.4

C. Hospital Not Overnight

<u>1. Total Census</u>			
(Number Respondents)	(426)	(516)	(229)
Same Census-NORC	93.2%	93.2%	88.2%
Census greater	4.7	5.4	10.5
Census less.	2.1	1.4	1.3
<u>2. Census Direct</u>			
(Number Respondents)	(206)	(252)	(110)
Same Census-NORC	93.7%	92.9%	91.8%
Census greater	3.9	5.5	6.4
Census less.	2.4	1.6	1.8
<u>3. Census Self-Enumeration</u>			
(Number Respondents)	(220)	(264)	(119)
Same Census-NORC	92.7%	93.6%	84.9%
Census greater	5.5	5.3	14.3
Census less.	1.8	1.1	.8

TABLE 16 CONTINUED

D. Doctors

	<u>Elementary</u>	<u>High School</u>	<u>College</u>
<u>1. Total Census</u>			
(Number Respondents)	(426)	(516)	(229)
Same Census-NORC	66.7%	64.0%	52.0%
Census greater	17.6	21.5	24.4
Census less.	15.7	14.5	23.6
<u>2. Census Direct</u>			
(Number Respondents)	(206)	(252)	(110)
Same Census-NORC	67.0%	67.5%	46.4%
Census greater	16.5	19.0	30.0
Census less.	16.5	13.5	23.6
<u>3. Census Self-Enumeration</u>			
(Number Respondents)	(220)	(264)	(119)
Same Census-NORC	66.4%	60.6%	59.7%
Census greater	18.6	23.9	19.3
Census less.	15.0	15.5	21.0

E. Medicine

<u>1. Total Census</u>			
(Number Respondents)	(426)	(516)	(229)
Same Census-NORC	76.3%	73.0%	77.7%
Census greater	11.7	12.8	8.3
Census less.	12.0	14.2	14.0
<u>2. Census Direct</u>			
(Number Respondents)	(206)	(252)	(110)
Same Census-NORC	70.4%	79.8%	77.3%
Census greater	14.6	11.5	6.4
Census less.	15.0	8.7	16.3
<u>3. Census Self-Enumeration</u>			
(Number Respondents)	(220)	(264)	(119)
Same Census-NORC	81.8%	66.7%	78.2%
Census greater	9.1	14.0	10.1
Census less.	9.1	19.3	11.7

TABLE 16 CONTINUED

F. Dentists

	<u>Elementary</u>	<u>High School</u>	<u>College</u>
<u>1. Total Census</u>			
(Number Respondents)	(426)	(516)	(229)
Same Census-NORC	81.9%	82.6%	74.2%
Census greater	10.8	9.1	15.3
Census less.	7.3	8.3	10.5
<u>2. Census Direct</u>			
(Number Respondents)	(206)	(252)	(110)
Same Census-NORC	78.6%	86.5%	68.2%
Census greater	11.2	6.3	21.8
Census less.	10.2	7.2	10.0
<u>3. Census Self-Enumeration</u>			
(Number Respondents)	(220)	(264)	(119)
Same Census-NORC	85.0%	78.8%	79.8%
Census greater	10.5	11.7	9.3
Census less.	4.5	9.5	10.9

G. Other

<u>1. Total Census</u>			
(Number Respondents)	(426)	(516)	(229)
Same Census-NORC	84.3%	84.3%	83.4%
Census greater	4.9	6.0	7.9
Census less.	10.8	9.7	8.7
<u>2. Census Direct</u>			
(Number Respondents)	(206)	(252)	(110)
Same Census-NORC	84.9%	85.7%	84.5%
Census greater	4.9	4.0	5.5
Census less.	10.2	10.3	10.0
<u>3. Census Self-Enumeration</u>			
(Number Respondents)	(220)	(264)	(119)
Same Census-NORC	83.6%	83.0%	82.4%
Census greater	5.0	8.0	10.1
Census less.	11.4	9.0	7.5

E. Analysis of Major Discrepancies

For the purposes of detailed analysis, it was desired to isolate a subgroup of individuals for whom the two sets of expense reports were particularly inconsistent. It was felt that an examination of such cases would provide us with leads as to how the short form might be improved.

A "major discrepancy" in any particular category of expense was defined as a difference of two or more class intervals between the Census and NORC reports. In addition, differences of \$100 or more within the highest (open-ended) class interval were also treated as major discrepancies. Those individuals for whom there was at least one major discrepancy were drawn into the special analysis. Many individuals had several major discrepancies--for instance one with respect to the grand total and one with respect to each of several different expense components. There were other individuals, of course, for whom there were major discrepancies with respect to two or more expense components but no discrepancy with respect to total expenses owing to the compensating character of the component errors.

Of those reporting overall overstatements, doctors' expenses are overstated 67% of the time, medicine costs 44%, dental costs 25%, all other expenses 21% and hospital expenses 17-19% of the time. The patterns are the same for direct interviewing and self-enumeration.

Of those reporting overall understatements, medicine costs are underreported in 59% of the cases, doctors' expenses 46%, other expenses 30% and other components less than 20% of the time. As in the overstatements, no big differences are observed in Table 17 between the patterns of discrepancy in direct interview and self-enumerated reports.

TABLE 17

KINDS OF ERRORS IN MAJOR DISCREPANCIES
BY TYPE OF MEDICAL EXPENSES

A. Total

	<u>Total</u>		<u>Census Direct</u>		<u>Census Self</u>	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
<u>1. Total</u>						
Census greater.	170	49%	78	50%	92	48%
Census less	161	46	71	46	90	46
Census same	17	5	6	4	11	6
No expense.	-	-	-	-	-	-
Total	<u>348</u>	<u>100%</u>	<u>155</u>	<u>100%</u>	<u>193</u>	<u>100%</u>
<u>2. Hospital Overnight</u>						
Census greater.	32	9%	12	8%	20	11%
Census less	28	8	12	8	16	8
Census same	21	6	7	4	14	7
No expense.	<u>267</u>	<u>77</u>	<u>124</u>	<u>80</u>	<u>143</u>	<u>74</u>
Total	<u>348</u>	<u>100%</u>	<u>155</u>	<u>100%</u>	<u>193</u>	<u>100%</u>
<u>3. Hospital Not Overnight</u>						
Census greater.	43	12%	13	8%	30	16%
Census less	10	3	3	2	7	3
Census same	8	2	4	3	4	2
No expense.	<u>287</u>	<u>83</u>	<u>135</u>	<u>87</u>	<u>152</u>	<u>79</u>
Total	<u>348</u>	<u>100%</u>	<u>155</u>	<u>100%</u>	<u>193</u>	<u>100%</u>
<u>4. Doctor</u>						
Census greater.	135	39%	57	37%	78	41%
Census less	90	26	49	32	41	21
Census same	65	19	24	15	41	21
No expense	<u>58</u>	<u>16</u>	<u>25</u>	<u>16</u>	<u>33</u>	<u>17</u>
Total	<u>348</u>	<u>100%</u>	<u>155</u>	<u>100%</u>	<u>193</u>	<u>100%</u>
<u>5. Medicine</u>						
Census greater.	94	27%	44	28%	50	26%
Census less	126	36	56	36	70	36
Census same	105	30	46	30	59	31
No expense.	<u>23</u>	<u>7</u>	<u>9</u>	<u>6</u>	<u>14</u>	<u>7</u>
Total	<u>348</u>	<u>100%</u>	<u>155</u>	<u>100%</u>	<u>193</u>	<u>100%</u>
<u>6. Dentist</u>						
Census greater.	56	16%	26	17%	30	16%
Census less	34	10	12	8	22	11
Census same	89	26	39	25	50	26
No expense.	<u>169</u>	<u>48</u>	<u>78</u>	<u>50</u>	<u>91</u>	<u>47</u>
Total	<u>348</u>	<u>100%</u>	<u>155</u>	<u>100%</u>	<u>193</u>	<u>100%</u>
<u>7. Other</u>						
Census greater.	46	13%	18	11%	28	14%
Census less	67	19	37	24	30	16
Census same	35	10	12	8	23	12
No expense.	<u>200</u>	<u>58</u>	<u>88</u>	<u>57</u>	<u>112</u>	<u>58</u>
Total	<u>348</u>	<u>100%</u>	<u>155</u>	<u>100%</u>	<u>193</u>	<u>100%</u>

KINDS OF ERRORS IN MAJOR DISCREPANCIES
BY TYPE OF MEDICAL EXPENSES

B. Census Greater

	<u>Total</u>		<u>Census Direct</u>		<u>Densus Self</u>	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
2. <u>Hospital Overnight</u>						
Census greater.	29	17%	11	14%	18	20%
Census less	5	3	3	4	2	2
Census same	8	5	2	3	6	6
No expense.	<u>128</u>	<u>75</u>	<u>62</u>	<u>79</u>	<u>66</u>	<u>72</u>
Total	170	100%	78	100%	92	100%
3. <u>Hospital Not Overnight</u>						
Census greater.	32	19%	10	13%	22	24%
Census less	5	3	2	3	3	3
Census same	3	2	-	-	3	3
No expense.	<u>130</u>	<u>76</u>	<u>66</u>	<u>84</u>	<u>64</u>	<u>70</u>
Total	170	100%	78	100%	92	100%
4. <u>Doctor</u>						
Census greater.	113	67%	52	67%	61	66%
Census less	10	6	5	6	5	6
Census same	26	15	11	14	15	16
No expense.	<u>21</u>	<u>12</u>	<u>10</u>	<u>13</u>	<u>11</u>	<u>12</u>
Total	170	100%	78	100%	92	100%
5. <u>Medicine</u>						
Census greater.	75	44%	36	46%	39	42%
Census less	24	14	10	13	14	15
Census same	55	33	24	31	31	34
No expense.	<u>16</u>	<u>9</u>	<u>8</u>	<u>10</u>	<u>8</u>	<u>9</u>
Total	170	100%	78	100%	92	100%
6. <u>Dentist</u>						
Census greater.	42	25%	21	27%	21	23%
Census less	3	2	-	-	3	3
Census same	48	28	25	32	23	25
No expense.	<u>77</u>	<u>45</u>	<u>32</u>	<u>41</u>	<u>45</u>	<u>49</u>
Total	170	100%	78	100%	92	100%
7. <u>Other</u>						
Census greater.	35	21%	14	18%	21	23%
Census less	17	10	8	10	9	10
Census same	14	8	6	8	8	9
No expense.	<u>104</u>	<u>61</u>	<u>50</u>	<u>64</u>	<u>54</u>	<u>58</u>
Total	170	100%	78	100%	92	100%

KINDS OF ERRORS IN MAJOR DISCREPANCIES
BY TYPE OF MEDICAL EXPENSES

	C. Census Less						D. Census Same*		
	Total		Census Direct		Census Self		Total	Census Direct	Census Self
	Number	Percent	Number	Percent	Number	Percent	Number	Number	Number
2. Hospital Overnight									
Census greater.	2	1%	1	1%	1	1%	1	-	1
Census less	21	13	9	13	12	13	2	-	2
Census same	12	8	5	7	7	8	1	-	1
No expense.	126	78	56	79	70	78	13	6	7
Total	161	100%	71	100%	90	100%	17	6	11
3. Hospital Not Overnight									
Census greater.	10	6%	3	4%	7	8%	1	-	1
Census less	4	3	1	1	3	3	1	-	1
Census same	5	3	4	6	1	1	-	-	-
No expense.	142	88	63	89	79	88	15	6	9
Total	161	100%	71	100%	90	100%	17	6	11
4. Doctor									
Census greater.	13	8%	3	4%	10	11%	9	2	7
Census less	74	46	42	59	32	36	6	2	4
Census same	37	23	11	16	26	29	2	2	-
No expense.	37	23	15	21	22	24	-	-	-
Total	161	100%	71	100%	90	100%	17	6	11
5. Medicine									
Census greater.	13	8%	6	8%	7	8%	6	2	4
Census less	94	59	43	60	51	57	8	3	5
Census same	47	29	21	30	26	29	3	1	2
No expense.	7	4	1	2	6	6	-	-	-
Total	161	100%	71	100%	90	100%	17	6	11
6. Dentist									
Census greater.	10	6%	4	6%	6	6%	4	1	3
Census less	27	17	11	15	16	18	4	1	3
Census same	39	24	14	20	25	28	2	-	2
No expense.	85	53	42	59	43	48	7	4	3
Total	161	100%	71	100%	90	100%	17	6	11
7. Other									
Census greater.	6	4%	1	2%	5	6%	5	3	2
Census less	48	30	29	41	19	21	2	-	2
Census same	19	12	6	8	13	14	2	-	2
No expense.	88	54	35	49	53	59	8	3	5
Total	161	100%	71	100%	90	100%	17	6	11

* Not percentaged because totals are too small.

Each of the 348 discrepant cases was individually examined to determine the reasons for Census-NORC differences. Each component of medical expense is analyzed separately below.

1. Overnight Hospitalizations.

Of the overstatements of overnight hospital expenses, exactly half of the major discrepant cases was apparently due to general exaggeration of charges. These individuals for whom charges were exaggerated are compensated for by an almost equal number for whom charges were underestimated (16 and 13 individuals, respectively). The two most frequent specific causes for overstatement are wrong date and duplication of charges. NORC screened for the reported date of last hospitalization and was able to find five cases where the hospitalization occurred prior to the survey year. In four cases, costs for hospital room and board and miscellaneous hospital charges were included more than once in inflating the total estimate of costs.

In analyzing the 28 understatements of hospital expense, 29% were found to have forgotten about an only hospitalization, 18% forgot the second or third hospitalization, and 7% included the overnight costs in the hospitalization not-overnight category. Table 18 presents these findings.

TABLE 18

REASONS FOR MAJOR DISCREPANCIES
IN OVERNIGHT HOSPITALIZATIONS

	<u>A. Overstatement</u>	
	<u>Number</u>	<u>Percent</u>
Total overstatements	32	100%
Wrong date	5	16
Duplication of charges	4	12
Includes outpatient care	2	6
Includes surgeon fee	2	6
Error in respondent.	1	3
Includes doctor visits	1	3
Includes medicines	1	3
General error in estimate.	16	50
	<u>B. Understatement</u>	
	<u>Number</u>	<u>Percent</u>
Total understatements.	28	100%
Omit only hospitalization.	8	29
Omit second or more hospitalizations . . .	5	18
Reported as not-overnight stay	2	7
General error in estimate.	13	46

2. Not Overnight Hospitalizations

This category was originally separated from overnight hospitalizations because it was feared that it would be overlooked if not handled separately. Actual field experience, however, indicates that the respondents often confused this item. As Table 19 shows, in 28% of the overstatements, regular doctor visits were erroneously included, in 7% it included overnight hospitalizations, and in 2% it mistakenly included non-doctor care. Wrong date was again responsible for 21% of all overstatements.

In 70% of the understatements, the cost of not-overnight hospitalizations was included under other categories, of which doctors expense accounted for 30%, medicine 20% and overnight hospitalizations for 20%. Of course, the numbers of cases are small and must be considered in evaluating the percentages.

TABLE 19

REASONS FOR MAJOR DISCREPANCIES
IN NOT OVERNIGHT HOSPITALIZATIONS

	<u>A. Overstatement</u>	
	<u>Number</u>	<u>Percent</u>
Total overstatements	43	100%
Includes doctor office visits.	12	28
Wrong date	9	21
Includes overnight stay.	3	7
Includes free care	3	7
Wrong respondent	2	5
Includes non-doctor care	1	2
General error in estimate.	13	30
	<u>B. Understatement</u>	
	<u>Number</u>	<u>Percent</u>
Total understatements.	10	100%
Included in doctors.	3	30
Included in medicine	2	20
Included in overnight stay	2	20
Omit only hospitalization.	1	10
Omit lab tests	1	10
Error in other treatments.	1	10

3. Doctors Expenses

Over 70% of all overstatements of doctor's expenses could not be attributed to anything more than general overstatement. Of the remaining specific reasons, free care, and wrong date are the most numerous.

The major reasons for understating doctor's expenses are the omissions of serious illnesses. In 26% of the understatements a major condition was forgotten; in 23% a chronic illness. Forgetting visits to hospitals and office visits, each account for 17% of the understatements. Omitting minor illnesses, anesthetists and surgeon's charges each accounts for about 10%. Table 20 presents these data.

TABLE 20

REASONS FOR MAJOR DISCREPANCIES
IN DOCTOR EXPENSES

	<u>A. Overstatement</u>	
	<u>Number</u>	<u>Percent</u>
Total.	135	100%
Includes free care	15	11
Wrong date	8	6
Wrong respondent	4	3
Includes medicine.	4	3
Includes out patient clinic.	4	3
Includes current pregnancy	3	2
Duplication of visits.	1	1
Includes non-doctor.	1	1
Error in home visits	1	1
Error in office visits	1	1
General error in estimate.	96	71
	<u>B. Understatement</u>	
Total.	90	100%
Omit major condition	23	26
Omit chronic illness	21	23
Omit visits in hospital.	15	17
Omit office visits	15	17
Omit minor illnesses	9	10
Omit anesthetists.	8	9
Omit surgeon	8	9
Omit tests and treatments pre and post hospital care.	5	6
Care included in hospital out patient. . .	3	3
Omit insurance payment	2	2
Omit clinic visits in hospital cases . . .	2	2
General error in estimate.	4	4

4. Medicine Expenses

Virtually all of the overstatement in medicine expense appears to be general exaggeration. Free care, and errors in allocating family costs are other reasons for overstatement.

Understatements, however, are due to more specific reasons. Almost one-third are due to omission of a major condition which also required special medication. About a fifth of all understatements are due to forgetting general medicines and tonics, or failing to allocate general medicines to all family members. Other reasons are presented in Table 21,

TABLE 21

REASONS FOR MAJOR DISCREPANCIES
IN MEDICINE EXPENSES

	<u>A. Overstatement</u>	
	<u>Number</u>	<u>Percent</u>
Total.	94	100%
Free care.	2	2
Includes family total.	1	1
Error in respondent.	1	1
Duplication with doctor.	1	1
Duplication with hospital.	1	1
General error in estimate.	90	96
	<u>B. Understatement</u>	
Total.	119	100%
Omit major condition medicine.	36	30
Omit miscellaneous medicines	26	22
Family total not allocated	21	18
Omit medicine for hospitalized condition	19	16
Omit doctor suggested medicine	15	13
Omit prescriptions	13	11
Wrong respondents.	3	3
Wrong date	1	1
Included in doctor charges	2	2

5. Dental Expenses

As in the case of doctors and medicine expenses, overstatements of dental expenses are largely general exaggerations of costs. Mistakes in respondents and inclusion of free care are some of the minor reasons for overstating dental costs.

Understatements can be attributed to omissions of general examinations in 65% of the cases, to forgetting about fillings in 62% of the under reporting and to omission of treatments, extraction and bridgework in lesser numbers of cases. Table 22 presents these details.

TABLE 22

REASONS FOR MAJOR DISCREPANCIES
IN DENTIST EXPENSES

	<u>A. Overstatement</u>	
	<u>Number</u>	<u>Percent</u>
Total.	56	100%
Wrong respondents.	3	5
Free care.	2	4
Wrong dates.	1	2
Included in doctors.	1	2
General error in estimate.	51	91
	<u>B. Understatement</u>	
Total.	34	100%
Omit examination	22	65
Omit fillings.	21	62
Omit other treatments.	14	41
Omit extractions	12	35
Omit bridgework.	10	29
Wrong date	1	3
Wrong respondent	2	6

6. All Other Medical Expenses

The biggest single reason for both overstating and understating this category of expense is the mistake made in the cost of eye glasses. In 15% of the overstatements and 72% of the understatements, errors in eye glasses was the reason. Omission of non-doctor care amounts to an additional 15% of the understatements. Omission of other medical appliances accounts for the remaining under reporting. These details are presented in Table 23.

TABLE 23

REASONS FOR MAJOR DISCREPANCIES
IN OTHER MEDICAL EXPENSES

	<u>A. Overstatement</u>	
	<u>Number</u>	<u>Percent</u>
Total.	46	100%
Error in glasses	7	15
Free care.	2	4
Wrong dates.	1	2
Wrong respondent	1	2
General error in estimate.	35	76
	<u>B. Understatement</u>	
Total.	67	100%
Omit glasses	48	72
Omit non-doctor care	10	15
Omit elastic hose.	3	4
Wrong respondent	2	3
Omit wheel chair	2	3
Omit artificial leg.	1	1
Omit special corset.	1	1
Omit arch supports	1	1
Wrong date	1	1

III. CONCLUSIONS AND RECOMMENDATIONS

1. A short questionnaire provides reasonably accurate information on total and major components of medical expenses.
2. The quality of short-form reporting does not appear to vary to such a degree according to the age and sex of the individual about whom the report is made nor the educational attainment of the head of his family as to introduce a serious bias in the estimates of sub-group differentials in expenditures.
3. Short direct interviews are slightly more accurate than self-enumerated reports. Depending on the degree of accuracy desired and the funds available, however, self-enumeration may be used as a reasonable substitute for direct interviews.
4. In making summary estimates of medical expenses, there is a general tendency to inflate estimates. Specific detailed probing reduces this general overstatement and adds costs which are overlooked.
5. Although there are substantial discrepancies in detailed comparisons, the overreporting tends to offset the underreporting so that the marginal frequency distributions and mean estimates of medical costs are not substantially different in NORC and Census reports.
6. In designing the short questionnaire forms, greater emphasis should be placed on the following items:
 - a. Consolidate non-overnight hospital outpatient and emergency care in doctor's expenses.
 - b. Stress actual dates of period covered by survey.
 - c. Screen for actual date of last hospitalization to avoid errors in dates.
 - d. Probe for second and third hospitalizations during the survey year.
 - e. Use reminder probes on major conditions and chronic illnesses in connection with doctor's and medicine expenses.
 - f. Use other specific reminder probes on hospital, office, anesthetist and surgeon charges in aggregating doctor's expenses.
 - g. Allocate general medicine, tonics and vitamin costs among all family members.
 - h. Use reminder probes on dental cost question to assist recall of types of treatment.
 - i. Use a separate question on costs of eye glasses including any charges for examinations.
 - j. Use appropriate reminder probes for medical appliances.