

## RESPONSE EXPERIENCE IN A LONGITUDINAL STUDY OF OLDER PERSONS

Michele M. Chyba and Joseph E. Fitti, National Center for Health Statistics  
6525 Belcrest Road, Room 850, Hyattsville, Maryland 20782

KEY WORDS: Longitudinal, Response, Reinterview

### I. Purpose

This paper presents information about the Longitudinal Study of Aging's (LSOA) experience in recontacting persons who were 70 years of age or older in 1984. The LSOA followed a sample of participants in the Supplement on Aging of the National Health Interview Survey conducted in face-to-face interviews in 1984. In the six year period between 1984 and 1990, three reinterviews were conducted. The recontacts were primarily by telephone using Computer Assisted Telephone Interviewing (CATI); however, when the telephone contact was not feasible, a mail questionnaire was sent to the sample person.

Recontact is discussed in this paper and includes: use of proxies, response status, deceased status, and health characteristics.

### II. Introduction

The LSOA was designed to measure changes in functioning and in living arrangements, including institutionalization, in a cohort of persons 70 years and older at the baseline interview.

The LSOA has been a collaborative effort of the National Center for Health Statistics and the National Institute of Aging. Telephone (CATI) interviews were conducted by the Bureau of the Census at their facility in Hagerstown, Maryland.

The baseline information for the LSOA came from the 1984 National Health Interview Survey (NHIS), the 1984 Health Insurance Supplement, and the 1984 Supplement on Aging (SOA).(1,2,3) Reinterviews were conducted in 1986, 1988, and 1990. The 5,151 persons reinterviewed in

1986 were a subsample of the 7,541 persons who were 70 years and older in 1984. Everyone who was 70 years old and over in 1984, except persons known to have died or who asked not to be recontacted, was included in the 1988 (6,921) and 1990 (5,978) samples.

Each reinterview collected information about living arrangements, activity limitations, functional limitations, and use of medical care.

In addition to the information collected during the reinterviews, data for the LSOA were obtained from the National Death Index (NDI) (4) maintained by NCHS and the Medicare Automated Data retrieval System maintained by the Health Care Financing Administration (HCFA). This paper addresses only the reinterview experience.

### III. Response Characteristics

Using telephone as the primary interview mode for the LSOA was successful.(5) Older persons were willing to participate in a telephone interview, and the majority of the interviews were completed by telephone. Of the completed interviews, 86.3 percent were completed by telephone in 1986, 86.6 percent in 1988 and 93.5 percent in 1990. Mail questionnaires were sent to persons who either could not be located by telephone or who could not be interviewed by telephone.

Individuals who respond to the mail questionnaires tend to be in poorer health and have less income than their counterparts responding to other data collection methods. A mail questionnaire was sent to minimize

this possible bias in the study.(3) This paper combines the information obtained from the telephone and mail interviews.

#### A. Interview Outcome

Table 1 summarizes the outcome of the LSOA for each reinterview year. The total sample refers to the number of persons included in the reinterview sample for the particular year. The reinterview sample for each year after 1986 did not include either people known to have died or people who asked not to be recontacted. Also, as stated earlier, the 1988 and 1990 samples included approximately 2,000 people aged 70 years and older in 1984 who were not in the 1986 subsample.

This table shows that the response rate decreased over time. The percent of noninterviews more than doubled from 1986 to 1990; from 8.4 percent in 1986 to 18.9 percent in 1990. The percent of deceased remained relatively stable.

The decline in response could be attributed to several factors. In 1988, additional sample persons were added to the survey. There was no tracing and tracking of those sample persons between 1984 and 1988, consequently, noninterviews resulted. Some of the persons were not contacted and not interviewed because they had died.

The distribution of noninterviews is shown in Table 2. It should be noted that the institutionalized persons are primarily persons in nursing homes and that persons with health problems as reasons for noninterview are mainly persons with hearing impairments.

The difference in the percentage of noninterviews classified as institutionalized and for health incapacity in 1988 cannot be explained at this time. It is possible that interviewer coding or respondent reporting was different in that year.

Without question, the majority of

nonresponse is found in the category labelled "other." This category includes persons without known working telephone numbers and with no available contact person. "Other" also includes persons deceased since the previous contact but who were not known to be dead at the time of the recontact. A later match with the NDI revealed their deceased status. In the NDI match performed after the 1990 reinterview, 26.5 percent of non-respondents in the "other" category were identified as deceased.

The table also shows that the percent of noninterviews defined as "other" decreased over the four year period while the percent of refusals increased; it doubled from 1988 to 1990.

Refusals accounted for 38.1 percent of the noninterviews in 1990. The increase of refusals from the levels in the 1986 and 1988 recontact may reflect an interviewer phenomenon, namely, novice interviewer's inability or inexperience in converting the initial refusal by either the sample person or proxy. Other factors that would have affected the noninterview rate was the general quality of interviewing, field staff changes, interviewer attrition, and the difficulty of the survey. The larger portion of noninterviews did not occur because the sample person had moved or could not be located.

#### B. Self/Proxy Response

Table 3 and Figure 1 present information about the self and proxy response in the LSOA. Summarized in Table 3 is the distribution of the percent of complete and sufficient partial interviews by self and proxy response. Note that the total is the total number of interviews not the total sample.

One would expect that the percent of self response would decrease over time and that proxy response would increase given the age of the cohort and deterioration of health that

occurs within the older age groups. However, there is a high level of stability in the type of respondent in this study.

The percent of self response interviews remained relatively constant over the four year period as did the overall proxy response. The increase of responses by a proxy not in the household in 1988 was probably due to the addition of the new sample persons into the cohort who had not been contacted since 1984.

Of the persons who responded for themselves in 1984, 72 percent were self respondents in 1986. Figure 1 illustrates the consistency of self/proxy response in 1988 and 1990 relative to 1986. Of the persons who were self respondents in 1986, about 69.9 percent were self respondents in 1988 and about 61 percent were self respondents in 1990. If the person responded for himself/herself initially, he/she was likely to do so again.

If the response in 1986 was a self response then the response in 1988 and 1990 could be expected to be a self response. Similarly, if there was a proxy respondent in 1986, it was likely that there would be a proxy respondent in 1988 and 1990. There was not a noticeable amount of change in type of respondent over time. Some change did occur, but it was expected given the age of the sample people and the reason for the proxy which is the poor health or the death of the sample person. For example, of the proxy interviews in 1988, 19 percent were by proxy because of the sample person's death.

#### IV. Health Characteristics

The health characteristics of an older population are of special interest in longitudinal study. It seems reasonable to assume that the health status of the sample people will be an important determinant of whether or not reinterviews will be completed during the period of follow-back study. The poorer the

health the less likely that the sample people will be available for longitudinal interviews. A sample person's poor health is a potential source of nonresponse because it contributes to changes in living arrangements or, because of the sample person's death.

#### A. Living Arrangements

The percentage of people who were living alone at the time of the 1986, 1988, and 1990 reinterviews were 31 percent, 28 percent, and 27 percent respectively.

Of the people who were living alone in 1986, Figure 2 shows 68 percent were still living alone in 1988 and 56 percent were living alone in 1990. Only 9 percent of those living alone in 1986 changed to other living arrangements in 1988 (2 percent with spouses only and 7 percent with others who were not spouses); in 1990 19 percent changed from living alone in 1986.

Of the people who were living with their spouses only in 1986, again two-thirds (67 percent) were still in the same living arrangement in 1988 and 55 percent were in the same arrangement in 1990. Of those living with spouses only in 1986, only 9 percent also changed their living arrangements by 1988, of whom 7 percent changed to living alone and 2 percent changed to living with others not spouses. And by 1990, only 2.5 percent of those living only with spouses in 1986 changed this living arrangement.

The same pattern of relative stability in living arrangements is maintained among those people who were living with others not spouses in 1986. Of these, almost 60 percent in 1988 and 55 percent in 1990 were still in the same living arrangement category. About 8 percent of people living with others who were not spouses in 1986 changed living arrangements between 1986 and 1988; in 1988 7 percent were living alone and less than 1 percent were living

with spouses.

The major characteristic of living arrangements of the sample people interviewed at each of the three recontact points in this study was its continuity. Relatively little change occurred in the living arrangements among those recontacted over the total six year span of the study.

#### B. Health Status

Analysis of data from the National Health Interview Survey (NHIS) showed that the self-perceived health status variable is a good indicator of other, objective health-related phenomena (1).

The categories of health status, obtained in the 1984 baseline Supplement on Aging (SOA) interview of the LSOA sample were: excellent, very good, good, fair, and poor.

Figures 3, 4 and 5 show the distribution of the sample for each of the three reinterview years by 1984 health status. These figures show that completed interviews comprise the greater percent of each health status category each year. The proportion of completed interviews decreases slightly over the three reinterview years.

As would be expected, the percent deceased in each reinterview year is greater among persons with only fair/poor 1984 health status.

Noninterviews increased in each of the three reinterview years regardless of 1984 health status.

#### C. Functional Status

Measurement of the level of functional difficulty was made in the 1984 baseline interview. Analysis of the percentage of completed interviews for people in each level of functional difficulty for each of the three recontact years shows that, as time passes, a greater percentage of the completed interviews were with those people who had no functional difficulty in 1984 (Figures 6, 7 and 8).

The percent of people found to be deceased showed relatively little change over the three reinterview years regardless of the 1984 functional status. The occurrence of noninterviews over time seemed unrelated to 1984 functional status.

#### V. Summary/Conclusions

The following observations can be made based on the three telephone interviews in this study:

- o older persons were willing to participate in telephone interviews;
- o nonresponse increased over time because of respondent refusals more than an inability to locate;
- o no change occurred over time in whether the response was by self or proxy;
- o the health of the sample person is not a barrier to recontact; and
- o the high rates of recontact over time with the elderly sample were obtained among those with relatively little change in living arrangements.

#### References

1. National Center for Health Statistics, M.G.Kovar and G.S.Poe; The National Health Interview Survey Design, 1973-1984, and Procedures, 1975-1983. Vital and Health Statistics. Series 1, No. 18. DHHS Pub. No. (PHS) 85-1320. Public Health Service. Washington. U.S. Government Printing Office, August, 1985.
2. National Center for Health Statistics, J.E.Fitti and M.G.Kovar; The Supplement on Aging to the 1984 National Health Interview Survey. Vital and Health Statistics. Series 1, No. 21. DHHS Pub. No. (PHS) 87-1323. Public Health Service. Washington. U.S. Government Printing Office, Oct. 1987.
3. Fitti, J.E. and M. G. Kovar, "A Multi-mode Longitudinal Study of Aging", Proceedings of the American

Statistical Association, Section on Survey Research Methods, 1987.

4. National Center for Health Statistics, Users Manual, The National Death Index. DHHS Pub. No. (PHS) 81-1148. Public Health Service. Hyattsville, MD. U.S. Government

Printing Office, Sept, 1981.

5. Kovar, M.G. and J.E. Fitti, "A Linked Follow-up Study of Older People", Proceedings of the American Statistical Association, Section on Survey Research Methods, 1985.

Table 1. Outcome of the LSOA interviews for each interview year

	Year of interview		
	1986	1988	1990
Interview sample	5,151	6,921	5,978
Outcome:	Percent		
Complete/sufficient partial	79.9	72.0	69.3
Deceased during interval	11.7	13.6	11.8
Non-interview	8.4	14.4	18.9

SOURCE: NCHS, LSOA

Table 2. Percent distribution of reasons for non-interviews by interview year

	Year of interview		
	1986	1988	1990
Total non-interviews	434	996	1,128
Reason for non-interview:	Percent		
Institutionalized	3.9	0.7	5.2
Health incapacity	6.5	0.5	6.8
Moved, unable to locate	1.6	0.7	1.2
Refused	0.7	17.8	38.1
Other	87.3	80.1	48.5

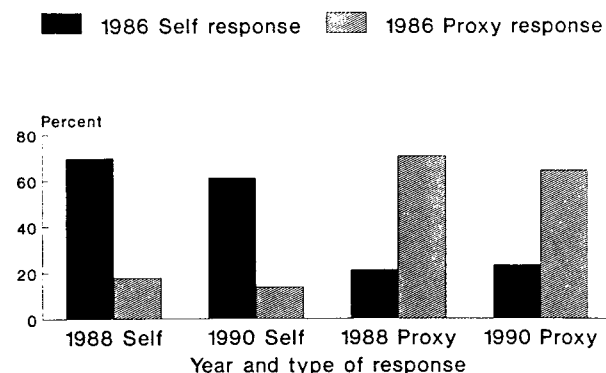
SOURCE: NCHS, LSOA

Table 3. Percent distribution of self/proxy response for interviews by interview year

	Year of interview		
	1986	1988	1990
Total interviews	4,717	5,917	4,802
Type of response:	Percent		
Self response	65.7	63.9	63.3
Proxy response	34.3	36.0	34.6
in household	30.4	27.5	30.0
not in household	3.9	8.5	4.6
Unknown	0.0	0.0	2.0

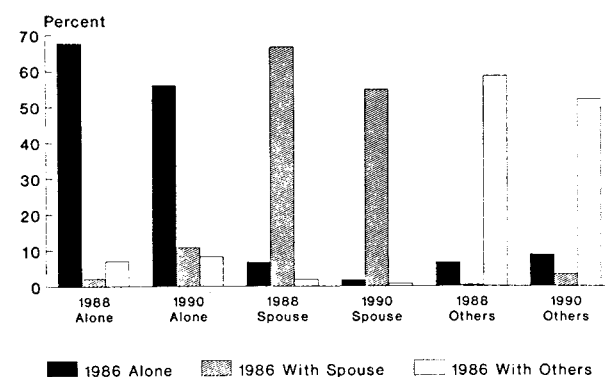
SOURCE: NCHS, LSOA

Figure 1. Self/proxy response in 1988 and 1990 by response status in 1986



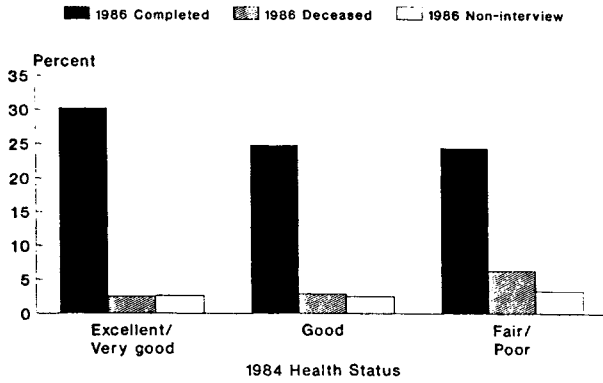
SOURCE: NCHS, LSOA

Figure 2. Living arrangements in 1988 and 1990 by living arrangements in 1986



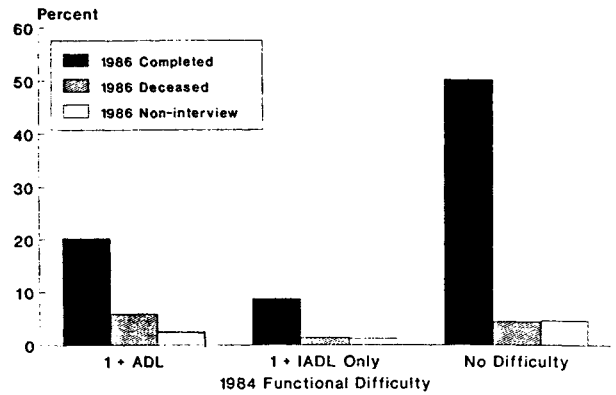
SOURCE: NCHS, LSOA

Figure 3. Percent of 1984 health status by 1986 interview status



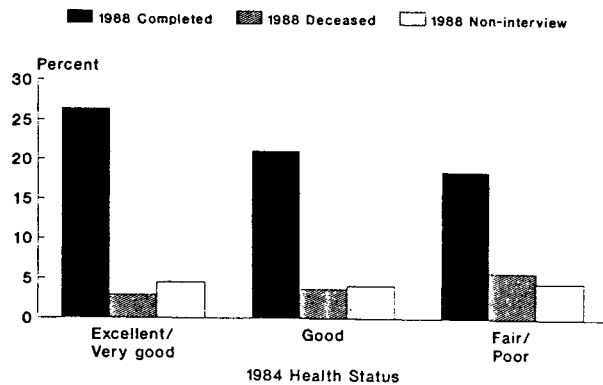
SOURCE: NCHS, LSOA

Figure 6. Percent of 1984 functional difficulty by 1986 interview status



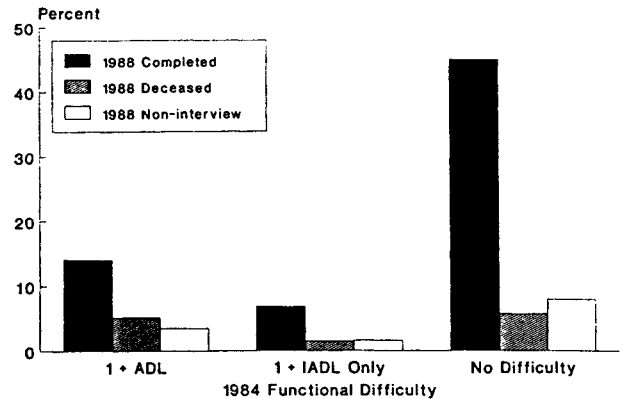
SOURCE: NCHS, LSOA

Figure 4. Percent of 1984 health status by 1988 interview status



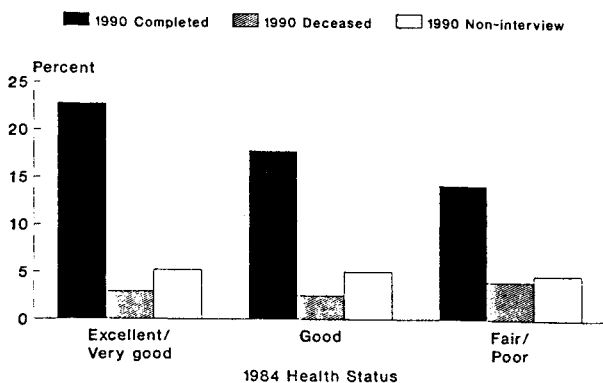
SOURCE: NCHS, LSOA

Figure 7. Percent of 1984 functional difficulty by 1988 interview status



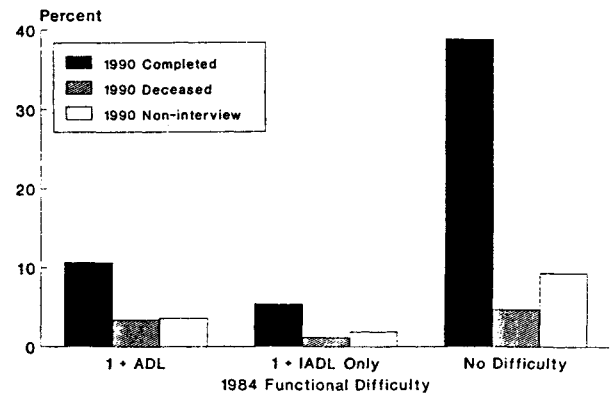
SOURCE: NCHS, LSOA

Figure 5. Percent of 1984 health status by 1990 interview status



SOURCE: NCHS, LSOA

Figure 8. Percent of 1984 functional difficulty by 1990 interview status



SOURCE: NCHS, LSOA