

# Interviewer-Reported Reasons for Conducting Interviews by Telephone in the National Health Interview Survey, 2005

Barbara J. Stussman, Catherine Simile, and James Dahlhamer

National Center for Health Statistics, Centers for Disease Control and Prevention  
3311 Toledo Rd., Hyattsville, MD 20782/bjs6@cdc.gov

## Introduction

In an effort to increase response rates and decrease costs, many survey operations have begun to use several modes of administration to collect relevant data. While the National Health Interview Survey (NHIS), a multipurpose household health survey conducted annually by the National Center for Health Statistics, Centers for Disease Control and Prevention, is primarily a face-to-face survey (e.g., 75% of interviews in 2005 were conducted entirely by personal visit), interviewers also rely on the telephone to complete some interview sections. Once a personal visit has occurred, interviewers may use telephone follow-up if a personal visit follow-up is not possible. Any one of the NHIS's four main sections (household composition, family, sample child, sample adult) may be conducted by a telephone follow-up. In 1997, 18% of all completed interviews included at least one main section that was conducted primarily by telephone. By 2005, the proportion of interviews in which at least one main section was conducted primarily by telephone had risen to almost 25%.

de Leeuw (2005) found that differences in data quality between face-to-face and telephone interviews were small, with face-to-face interviews doing slightly better than the telephone. However, the reviewed comparative studies were carefully designed to be equivalent across modes on such things as question formats and sampling procedures. The NHIS is by design a face-to-face survey and little consideration is given to ensuring that questions are comparable across modes. Simile et al. (2006) examined the impact of telephone follow-up on national estimates of health in the NHIS, and found that mode effects did not appear to be large. However, mode effects were not completely eliminated by the introduction of controls. This paper is part of a larger project intending to provide a more complete picture of telephone usage in the NHIS.

The purpose of this study is to describe the field circumstances that give rise to interviewers' use of the telephone instead of a personal visit in completing sections of the NHIS interview. Textual narratives detailing why the telephone was used were collected for every interview for which sections were administered primarily by telephone; in 2005, 10,461 such entries were collected. This study summarizes those data to describe the main reasons given for the use of the telephone. The results may be useful in adjusting field procedures and evaluating the impact on the quality of data collected.

## Methodology

### Data Source

The NHIS is a nationally representative annual household survey of the general health of the civilian, non-institutionalized household population of the United States. The U.S. Census Bureau, which serves as data collection agent for the NHIS, has 12 regional offices throughout the country where data collection activities are locally managed. The NHIS is comprised of four major modules: the Household, Family, Sample Child, and Sample Adult questionnaires. Each of these modules is made up of various smaller sections. The Household Composition module collects basic demographic information on members of the household through a Household Respondent. Through a knowledgeable adult in the family, the Family Module collects general health information on all family members. From each family, one Sample Adult and one Sample Child (if applicable) are selected randomly, and health information is collected on each module about the Sample Adult and Sample Child respondents. The NHIS often lasts for more than an hour, and involves two or more respondents in 40 percent of interviews. Data from the 2005 NHIS were analyzed for this study because they were the most recent available. The interviewed sample for 2005 consisted of 38,509 households, which yielded 98,649 persons in 39,284 families, 12,523 Sample Child interviews (by proxy response from a knowledgeable adult in the family) and 31,428 Sample Adult interviews.

This study is based on information from questions on interviewing mode from a section of the NHIS where interviewers answer questions about the interview. At the completion of each interview, interviewers are asked a series of questions about the administration of the interview. For example, they are asked to report on the cooperativeness of respondents, the

language(s) in which the interview was conducted, how many visits the interviewer made to the household, etc. Interviewers also record “yes” or “no” answers to each of the following question(s): “Were any of the following sections conducted primarily by telephone? Household Composition? Family? Sample Adult? Sample Child?” No precise meaning of the word “primarily” is given to the interviewers; that determination is left up to the interviewers. Finally, for the cases where at least one section was conducted primarily by telephone, interviewers are instructed to record the specific reason why a telephone interview was conducted using open-ended text. There is a comment recorded for any case where at least one section was completed by telephone. Except in the cases where only one section is completed by telephone, it is not possible to link the particular reason with the particular section that was conducted by telephone. While it is not possible to distinguish the reasons by section, it is possible to determine generally the reasons given for why the telephone was used.

### Analysis

The goal of the analysis is to describe the circumstances of interviews where one or more sections are conducted primarily by telephone. Open-ended responses from two 5 percent samples of the 10,461 entries were analyzed using the constant comparative method (Strauss and Corbin, 1990). The constant comparative method is the process of generating conceptual categories from uncategorized data. This involves comparing each piece of data so that similar pieces of data are labeled and grouped to form categories. Every new piece of data is then compared to this categorical structure, and the structure is reconstructed in an iterative manner until no new piece of data challenges the structure’s ability to account for all pieces of data. Results from Samples 1 and 2 were very similar, indicating that the categories generated from the data were exhausted.

### Results

In 2005, the entire interview was conducted by telephone for 19.8% of cases. Additionally, interviewers indicated that 21.0% of the household composition sections, 21.3% of the family sections, 24.7% of the sample adult sections, and 22.2% of the sample child sections were conducted primarily by telephone. For cases where one or more main section was conducted by telephone, the entire interview was usually conducted by telephone (74.4%).

### Reasons Given for Telephone Interviews

Table 1 shows the most common categories generated from the open-ended responses. Responses can be grouped by those that are Respondent driven (84.1%), Interviewer driven (4.8 %) or a combination of Interviewer and Respondent driven (10.2 %). Respondent driven includes actively driven cases, e.g. the reason for a telephone interview was due to the respondent actively seeking one (64.3%), and passively driven cases, e.g. the respondent’s situation required a telephone interview (19.8%). Examples of passively driven cases include a respondent being extremely busy and reachable only by telephone, or no physical access is possible.

**Table 1: Interviewer-Reported Reasons for Conducting Main Sections of the Interview Primarily by Telephone: NHIS, 2005**

Total Number of Records=10,461					
Category	Reason	Count			
		1 <sup>st</sup> 5% Sample N=521	2 <sup>nd</sup> 5% Sample N=522	Total Sample N=1,043	Percent Total Sample 100%
<b>Respondent Driven 84.1%</b>					
Actively Driven by Respondent 64.3%	Respondent requested, no more information	221	220	441	42.3%
	Respondent. Did not want interviewer in the house	47	40	87	8.3%
	Respondent called and wanted to do section of interview right then	39	39	78	7.5%
	Respondent requested because s/he was busy / Ran out of time	28	37	65	6.2%
Passively Driven by Respondent	Difficult for interviewer to contact Respondent	89	83	172	16.5%

19.8%	Illness in family	15	11	26	2.5%
	No access (gated, dog, etc.)	4	5	9	0.9%
<b>Interviewer Driven 4.8 %</b>					
	More convenient for Interviewer	18	18	36	3.5%
	Near closeout	7	7	14	1.3%
<b>Other 10.2%</b>					
	Follow-up/Reassigned	26	24	50	4.8%
	Distance Barrier	18	21	39	3.7%
	Spanish/language barrier	4	8	12	1.2%
	Natural disaster/weather	3	2	5	0.5%
<b>Other 0.9%</b>					
	Other	2	7	9	0.9%

**Actively Driven by Respondent.** Active reasons include those where the interviewer made contact with the respondent and the respondent requested a telephone interview. The most common active category was “Respondent requested, no more information” (42.3%). This included cases where the interviewer recorded a response such as “Per respondent request” and did not list the reason. For these cases, the reason for the request is unknown. For those cases with a known reason, the most common actively respondent-driven reason was “Respondent did not want interviewer in the house” (8.3%). Variations in responses in the actively driven by respondent category include, “Initially a refusal. Does not want anyone in home”, “Respondent refused an in-person interview but consented to a phone interview”, “Did not want me to come into house”, and “Very leery to let people into apartment. She lives alone.”

Another actively respondent-driven reason includes “Respondent called and wanted to do interview right then” (7.5%). These were situations where the interviewer did not want to pass up an immediate chance to complete the interview. Examples of entries under this category include, “Respondent called and wanted to get it over with” and “Respondent called me and said let’s do it.” The final actively respondent-driven category is “Respondent requested because s/he was busy” (6.2%). These were respondents who had very busy schedules and preferred to do the interview at work or some other place by telephone (e.g. “Respondent is dentist and called during his break.”)

**Passively Driven by Respondent.** There are three categories that include situations that were passively-driven by the respondent. These were cases where the respondent did not say s/he wanted a telephone interview, but where the respondent’s situation necessitated a telephone interview. The most common passively respondent-driven category was “Difficult for interviewer to contact respondent” (16.5%). Responses in this category showed that the interviewer was unable to reach the respondent by personal visit and the telephone was the last resort. Examples of this type of entry include, “No response to letters sent or notice on door – last resort”, “Could not find during personal visits, finally contacted by phone”, and “Several personal visits, never home.” Another passively respondent-driven category was “Illness in family” (2.5%). This category includes the respondent being ill as well as illness of the respondent’s family members. Examples of entries include, “He has bad cold, wanted to wait to do this week by phone”, “Wife not well, only way could do it” and “Mother in house is extremely ill, 24 hour aides.” The final passively respondent-driven category was “No access”, which included gated communities, dogs, and other physical barriers to the respondent’s home. An example of an open-ended entry is “Gated community, could not get to house. Agreed to phone interview.”

**Interviewer Driven.** Interviewer-driven reasons for telephone interviews comprise a small percentage of all reasons (4.8%), and included cases where the interviewer preferred to do the interview by telephone, either for convenience (3.5%) or because close-out was nearing (1.3%). Interviewers are required to complete their NHIS interviews within a 17-day span or

interview period. “Close-out” refers to the end of this 17-day interview period. An example of an interviewer convenience entry was “I phoned for appointment - apartment building with lots of steps - respondent willing to do on phone.” One example of a “Near closeout” entry was “Late in survey period.”

**Other Reasons.** Other reasons included comprised 10.2% of cases, and included “Follow-up/reassigned” (4.8%), “Distance barrier” (3.7%), Language barrier (1.2%), and “Natural disaster/weather” (0.5%). The “Follow-up/reassigned” category included cases where the interview had been reassigned and the new interviewer was either located too far away for a personal visit or did not have time to make a visit before closeout. The “Spanish/language barrier” category included cases where the interviewer conducting the interview was not in the same area as the respondent. One narrative entry was “Respondent speaks Spanish only, Spanish interviewer by phone.” “Distance barrier” included both cases where the respondent was out-of-town and cases where the interviewer lived too far away from the respondent to make multiple home visits. Examples of natural disaster/weather entries include, “Inclement unsafe weather in area” and “Blizzard of 2005.” An additional 0.9% did not fall into any of the categories listed in the table.

**Reasons Given by Census Regional Office.** As previously mentioned, data collection activities are locally supervised via 12 Census regional offices throughout the country. Table 2 shows the distribution across regional offices of interviews where one or more section was conducted primarily by telephone. The difference between the regional office with the highest and the one with the lowest percentage of interviews where at least one main section was conducted by telephone is 33.3% (48.9% versus 15.6%). We hypothesized that an examination of the reasons for telephone interviews might reveal differences in respondents, working or living habits, or culture that could explain the difference in telephone interviewing rates across regions. In order to look for the most pronounced differences, a comparison was made between the region having the highest rate of telephone interviews (49.6 %) and the region with the lowest rate (17.5 %). We found that the proportion of respondent-driven reasons, as compared to interviewer-driven or a combination of interviewer and respondent driven, were similar across regional offices (83.5% for the regional office with the highest telephone interviewing rate versus 89.7 % for the regional office with the lowest). Furthermore, no substantial differences were found in any reason categories, indicating that the different rates of telephone interviewing might be due to the specific practices of the regional office rather than differences in respondent situations, or to differences in recording practices (results available upon request).

**Table 2: Percentage of Interviews Where One or More Main Sections Was Conducted Primarily by Telephone by Census Regional Office: NHIS, 2005 (unweighted)**

<i>Census Regional Office</i>	<i>Percent of Interviews with One or More Main Sections Administered Primarily by Telephone</i>
Regional Office A	48.9
Regional Office B	40.4
Regional Office C	27.9
Regional Office D	27.8
Regional Office E	27.6
Regional Office F	26.5
Regional Office G	25.9
Regional Office H	25.8
Regional Office I	25.0
Regional Office J	22.4
Regional Office K	17.0
Regional Office L	15.6

## Conclusions

The vast majority of cases where one or more main sections of the NHIS were conducted by telephone were respondent driven indicating that interviewers used the telephone in completing the interview in order to accommodate respondents. In most cases the respondent requested a telephone interview, while in other cases the interviewer pursued the interview by

telephone in order not to lose the interview entirely. The data entries suggest a busy public, working long and unusual hours, coupled with a desire to maintain privacy within the home. Given that the vast majority of reasons (84.1%) for telephone interviews are respondent-driven, the NHIS may have little control over the rate of telephone interviewing via interviewer instruction or procedure changes. Furthermore, efforts to reduce telephone interviewing could result in a reduction in response rates.

The largest category identified in this analysis was “respondent requested, no more information given” (42.3 % of all cases). This indicates that interviewers often do not record enough information to gain a true sense of why telephone interviews occur in the field. Revising the questions so that interviewers are required to give more detailed information may yield more insight into reasons for telephone interviews. Rather than collecting this information exclusively through open-ended entries, more specific categories can be used to gather a more complete picture.

### **Limitations**

The data analyzed for this paper were recorded by interviewers based on their interpretation of why the interview was conducted by telephone rather than face-to-face. Because the information was not collected directly from the respondent, the potential exists that the interviewer misinterpreted or neglected to accurately describe the field situation.

### **Next Steps**

This analysis will be combined with an analysis of the impact of telephone interviews on estimates as well as modeling respondent and field situations that impact the use of telephone interviewing. Should future research find that conducting portions of the interview by telephone has a negative effect on data quality, the NHIS may want to consider becoming a mixed-mode survey by design or at the very least designing questions to be mode-neutral. Dillman and Christian (2005) explain that writing survey questions in a manner that will work satisfactorily across different survey modes will limit mode effects. They go on to detail requirements for survey conductors wishing to design questions for multiple modes, such as forgoing show cards with face-to-face interviews and reducing the length of scales. All of these factors will need to be considered as the NHIS continues to adapt to a public increasingly requesting telephone interviews.

### **References**

- de Leeuw, E. (2005), “To Mix or Not to Mix Data Collections Modes in Surveys,” *Journal of Official Statistics*, 21(2), pp.233-255.
- Dillman, D., and Christian, L. (2005). “Survey Mode as a Source of Instability in Responses across Surveys,” *Field Methods*, 17(1), pp. 30-52.
- Simile, C., Stussman, B., and Dahlhamer, J. (2006). Exploring the Impact of Mode on Key Health Estimates in the National Health Interview Survey. Proceedings of Statistics Canada Symposium 2006: Methodological Issues in Measuring Population Health.
- Strauss, A. and Corbin, J. (1990). Basics of Qualitative Research: Grounded Theory Procedures and Techniques. Newbury Park: Sage Publications.