MODE OF INITIAL CONTACT FOR PERSONAL INTERVIEWS: FINDINGS FROM TWO EXPERIMENTS

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Introduction

To achieve high response rates for personal interviews most survey organizations follow two steps. First, advance letters are sent to sample members. Second, an interviewer approaches the sample unit to conduct the interview. Rarely is the interviewer allowed to contact the sample member by telephone, even in situations where phone numbers for respondents are readily available. Conventional wisdom has discouraged such contacts, citing possible reduction in response rates as the main reason for not using advance telephone contacts as a means to schedule appointments. However, the ever-rising costs of conducting personal interviews has forced researchers to reevaluate the tradeoff between the efficiency and potential savings of using advance telephone calls and the potential drop in response rates.

The research reported in this paper compares two procedures (in-person vs. telephone) by which to make initial contact with respondents. Regardless of which procedure was used to make initial contact, all interviews were conducted in person. Two experiments were conducted; for each, the sample consisted of individuals interviewed approximately six months earlier for a different study. The reinterview situation provides results that may be useful for researchers interested in reducing attrition for panel studies. For those conducting one-time interviews the results provide some guidance since the second interview for both experiments concerned a different subject matter than the first interview.

Previous Research

The findings on the effectiveness of sending an advance letter to sample members prior to a personal interview have been well documented. However, little research has been conducted to measure the effects on response rates and costs of using a telephone contact prior to a personal interview. Two studies conducted in the late 1960's provide conflicting results. Sudman (1966) indicated no difference in interview response rates for respondents initially contacted by telephone and those initially contacted in person. However, in a later study, Brunner and Carroll (1969) report a 35 percentage point difference for the two modes, with the lower response rate associated with respondents initially contacted by telephone.

The most useful research to date comparing use of an advanced telephone call is the work reported by Bergsten, Weeks and Bryan (1984). Their study evaluates the effectiveness of using an advance telephone contact for a sample of Medicare recipients at least 65 years old. The survey's focus was utilization of and expenditures related to health care services. Sample members consisted of both HMO enrollees (N=1800) and nonenrollees (N=1200).

All sample members who were HMO enrollees received an advance telephone call to schedule an appointment for a personal interview. The enrollees had all received prior notification of the study through an advance letter and through the HMO newsletters. The final response rate for this subgroup was over 95 percent.

The nonenrollees were randomly allocated to an advance phone call/no advance phone call treatment. All nonenrollees received an advance letter describing the study. The results indicate no significant difference in interview response rates for the two modes of initial contact; however, the telephone contact resulted in a savings of approximately 20 percent for average direct interviewing costs.

The authors note several limitations in using their study for drawing inferences to other studies. Two factors may have contributed to reducing nonresponse; the subject (health) is a salient topic for the population of interest and only very experienced interviewers were used. However, because the population interviewed was both highly concentrated and more likely to be home, the personal interview data collection was very efficient. For a national study, the authors speculate that the costs difference associated with using a telephone may be much greater.

Sample Design and Method

The experiments reported in this paper, comparing the mode of initial contact, are part of two evaluation projects designed to assess linking the sample design of the National Survey of Family Growth (NSFG) and the National Medical Expenditure Survey (NMES) with the sample for the National Health Interview Survey (NHIS). The National Health Interview Survey is a continuing national household interview. Each week, a probability sample of households in the civilian noninstitutionalized population of the United States is interviewed about health and medical care utilization for each member of the household. Annually, approximately 50,000 households are included in the study. As a means to both reduce sampling costs and to more efficiently locate subgroups of interest, the National Center for Health Statistics has been investigating means by which to use the NHIS frame for other population based surveys. However, a linked design raises questions as to the most efficient way to conduct followup population surveys and the potential effects on response rates and costs.

NSFG - Linkage Design

The design of the experimental NSFG linkage study, referred to as the Reproductive Health Survey[1]

consisted of three experimental factors. These factors were: (1) mode of initial contact; (2) type of sample unit; and (3) length of time between NHIS and NSFG.

The central focus of this paper is to compare the effects of the first design feature, mode of initial contact. All respondents received an advance letter describing the purpose of the study. Following the advance letter, a random half of the respondents were initially contacted by telephone, the remaining sample members were approached by personal contact. As noted above, all interviews were conducted face-to-face.

The second design feature compared two types of sample units drawn from the NHIS frame -- a sample of addresses vs. a sample of eligible women. The first type of sample, a sample of addresses, or housing units, implies that regardless of who is presently living at the NHIS address, an interview will be attempted. Since the Reproductive Health Survey is only interested in interviewing women, ages 15-44, housing units can be classified as having been eligible (woman, 15-44 years old residing in housing unit) or ineligible at the time of the NHIS interview. Under the sample of addresses design, sampling costs can be reduced by sampling eligible housing units at a higher rate than ineligible housing units. However, to avoid bias in the sample frame, both eligible and ineligible units were included in the sample and screened at the time of the Reproductive Health Survey to determine whether an eligible respondent resided in the housing unit.[2] We wanted to evaluate whether allowing interviewers to use the telephone both to complete the screener and to schedule an appointment when an eligible respondent was found would result in significant cost savings.

The second sampling approach involved sampling specific women from the NHIS frame who were known to be eligible for the reproductive health survey. This sampling approach involved locating the sampled women, regardless of whether they were still at the original address or had moved. Women who had moved were tracked and interviewed at their new address[3], resulting in the cost of tracing being added to the cost of interviewing. However, because eligible women had been identified, there were no costs associated with screening to identify respondents.

The final design feature, length of time between the two studies, ranged from 2 to 12 months. Preliminary analysis suggests that the varying length of duration had no effect on response rates nor was there any evidence of an interaction between mode of initial contact and length of time between the two studies.

The sample of housing units and the sample of selected women were chosen from NHIS respondents in ten primary sampling units (PSUs).[4] Each site included both housing unit and selected woman samples as well as both telephone and in-person modes of initial contact.

The sample consisted of approximately 540 sampled persons and 780 housing units, of which 240 were initially classified as ineligible. Within households with more than one woman 15-44, the youngest woman was designated as the respondent. Parental permission was obtained prior to interviewing respondents 17 years old and younger.

NMES - Linkage Design

The design of the NMES experimental linkage study paralleled the Reproductive Health Survey. For the NMES experiment, a total of 604 sample units at eight sites across the country were selected from the list of households selected for the NHIS during the first six months of 1985. The units were selected to include oversamples of Hispanics, blacks, the elderly and the poor. The sample consisted of 560 households who had completed the NHIS and 44 units that were contacted for, but did not participate, in the NHIS.

To test alternative ways of carrying out a linked study, the 560 units in the basic sample were assigned randomly to four groups. Similar to the NSFG Study these groups were defined in terms of the method by which the interviewer was to make initial contact with the sampled unit and the rules for identifying the sampled units. All of the selected units were sent an advance letter that briefly explained the study and indicated that the addressees had been chosen to participate in the NMES. Half of the sampled units were then designated to receive their first contact from the interviewer by telephone, with the interviewer calling to make an appointment for the NMES interview. The other half of the units were to receive their first contact in person, with the interviewer visiting the sampled address and attempting to conduct the interview on the first visit. Within each of these mode of contact cells, the units were randomly allocated for the second design factor, type of sample unit. Two types of sample units were tested: "household" and "housing unit." The "households" were treated as groups of sampled persons, all of whom were to be located and interviewed at their current addresses, including groups and individual group members who had moved since the time of the NHIS interview. The "housing units" were treated as addresses; the interviewers were to contact and interview the current occupants of the selected addresses, even if the persons who had participated in the earlier NHIS no longer lived there. Thus, individual reporting unit members or entire reporting units in the household sample might require tracing to locate their new address; no tracing was required for the housing unit sample.

Units selected from the NHIS nonrespondents were all assigned to the "household, in-person" contact group. Since no information other than the unit address was available from the NHIS for these units, they could not be assigned for initial contact by telephone. Placing all of the NHIS nonrespondents in the household sample provided a chance to gain experience with the difficulties of tracing movers about whom only minimal information was available. These cases have been eliminated from the present analysis.

Although the experimental design of the two studies is quite similar, it is important to note the differences between the two surveys. The Reproductive Health Survey was a relatively short questionnaire, administered to only one woman within a housing unit. Over half the sample was selected from the Los Angeles area and the sample overrepresented black women and teenagers. Only households in which signed waivers were obtained at the time of the NHIS interview were eligible for the Reproductive Health Survey.

In contrast, the NMES questionnaire was relatively long (approximately an hour) and asked questions

about all members of a family living in the dwelling unit. The sample was evenly distributed over the eight PSU's with oversamples of black, Hispanic, elderly and poor households. Due to the redesign of the NHIS, no waiver was required from the NHIS respondents to be included in the NMES linkage study.

Results

The findings from this study are mixed, but to a large extent parallel the results of the Bergsten, Weeks, and Bryan paper. The use of a telephone, both for the purpose of screening households to determine eligibility and to schedule appointments, can significantly reduce the level of effort needed to complete an interview without negative effects on response rates.

Table 1 presents the response rates by mode of initial contact for the NSFG and NMES experiments separately for the housing unit and selected woman/household samples. The response rates are presented for the total sample and the Los Angeles PSU, the only PSU which was selected for both samples. The response rates in Table 1 are unweighted and calculated differently for the NSFG housing unit sample than for the other sample types (NSFG selected woman; NMES housing unit and NMES household sample). For the NSFG housing unit sample, the reported response rate is the product of the screener response rate and the extended interview response rate, where

$$\text{Screener Response Rate} = \frac{\text{Number of Completed Screeners}}{\text{Total Sample-Vacant HUs-Nondwelling Units}}$$

$$\text{Extended Interview Response Rate} = \frac{\text{Completed Interviews}}{\text{Cases With Eligible Respondent}}$$

The response rates calculations for the other sample types are:

■ NSFG, Selected Woman

$$RR = \frac{\text{Completed Interviews}}{\text{Total Sample}}$$

■ NMES, Housing Unit

$$RR = \frac{\text{Completed Interviews}}{\text{Total Sample-Vacant-Nondwelling Units-Ineligible Units}}$$

■ NMES, Household

$$RR = \frac{\text{Completed Interviews}}{\text{Total Sample-Ineligible Units}}$$

For the NMES linkage experiment, ineligible units refer to those cases in which entire NHIS household is deceased or is composed entirely of students, age 17-22 who have parents living elsewhere.

The findings from Table 1 clearly indicate that for most cases the use of a telephone prior to a personal interview does not have a significant effect in reducing response rates. However, there is some indication that the telephone response rates for the NMES experiment are lower than those obtained for the in-person mode. Although the results presented in Table 1 are not significant, when the household and housing unit samples are pooled, there is a significant difference in the response rates for the two modes (90.1% vs. 84.4%; p<.05).

Table 2 presents the comparison for level of effort associated with the telephone and in-person mode of initial contact for the NSFG experiment. Results are presented by sample type. For both the housing unit sample and the selected woman sample, the average number of personal visits per completed interview is sharply reduced when the interviewer initially contacts the sample member by telephone. The results are more dramatic (approximately 50 percent reduction in the number of visits) in the housing unit sample, where interviewers were allowed to complete the screener to determine eligibility over the telephone.

Table 3 presents the same comparison for the NMES experiment. Once again, we see a clear trend of a reduced level of effort necessary to complete an interview when interviewers are allowed to use the telephone for initial contact with the respondents.

Conclusions

The research findings reported in this paper clearly indicate significant reductions in level of effort, when interviewers use an advance telephone call to schedule an appointment. The relative savings are even greater when the telephone is used to screen households to determine eligibility.

The findings are somewhat mixed with respect to the effect of mode of initial contact on levels of response rate. The NSFG experiment indicated no significant difference in response rate for the different modes, whereas the telephone contact resulted in a trend of lower response rates for the NMES sample. Further research is being conducted to determine factors which may have contributed to this difference. Among the possible causes are demographic factors and family-style type of questionnaire.

Although the findings are somewhat limited by the fact that the cases in these samples were all cooperators in an earlier survey, this limitation does not negate the results reported here. Rather, the fact that these findings parallel the findings of Bergsten, Weeks, and Bryan suggests that use of an advance phone call may be an effective means to reduce the costs associated with personal interviews especially in cases of follow-back surveys.

Notes

[1]The questionnaire used in the experimental linkage study was a shorter version of the NSFG instrument. For purpose of clarity, the current instrument and study will be referred to as the Reproductive Health Study.

[2]Depending on the length of time between the NHIS interview and the RHS interview, the composition of some portion of the housing units will have changed.

[3]Although attempts were made to locate all women, because this study was limited to 10 PSU's, not all women who moved out of the original PSU's were interviewed. These women are retained, however, in the denominator for response rate calculations.

[4]The sample was restricted to those NHIS respondents who signed a waiver releasing use of their name or address for a second study. This restriction was due to the fact that the sample was drawn from decennial census information. A redesign of NHIS, changing to an area probability sample, eliminated this source of bias in the NMES linkage study.

References

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Table 1. Response Rates for In-Person and Telephone Mode of Initial Contact: Total Sample and Los Angeles PSU, NSFG and NMES Linkage Experiments[1]

	Total Sample		Los Angeles PSU	
	In-Person Contact	Telephone Contact	In-Person Contact	Telephone Contact
NSFG Experiment				
Housing Unit Sample[2]	83.8% (376)	83.4% (377)	83.5% (199)	80.9% (199)
Selected Woman Sample[3]	81.3% (276)	82.9% (269)	78.7% (150)	84.1% (151)
NMES Experiment				
Housing Unit Sample	91.9% (136)	85.0% (140)	87.9% (36)	88.9%
Household Sample[4]	88.3% (137)	83.7% (135)	85.3% (34)	87.9% (33)

[1] The numbers in parentheses represent the sample size for that cell.

[2] The response rate for NSFG housing unit sample combines eligible and ineligible housing units as classified by the NHIS interview.

[3] The responsible rate for NSFG selected woman sample combines movers and nonmovers.

[4] All NHIS nonresponse cases were assigned to the household sample, in-person mode of initial contact. The response rate eliminates these cases. The response rate combines movers and nonmovers.

Table 2. Number of Telephone Calls and Number of Personal Visits for In-Person and Telephone Mode of Initial Contact: Total Sample and Los Angeles PSU, NSFG Experiment

	Total Sample		Los Angeles PSU	
	In-Person Contact	Telephone Contact	In-Person Contact	Telephone Contact
Housing Unit Sample				
Number of Telephone Calls	118	741	58	380
Number of Personal Visits	1,164	579	672	341
Number of Personal Visits Per Completed Interview	5.52	2.78	5.65	2.94
Selected Woman Sample				
Number of Telephone Calls	241	761	118	359
Number of Personal Visits	955	519	578	334
Number of Personal Visits Per Completed Interview	4.40	2.33	4.90	2.63

Table 3. Number of Telephone Calls and Number of Personal Visits for In-Person and Telephone Mode of Initial Contact: Total Sample and Los Angeles PSU, NMES Experiment

	Total Sample		Los Angeles PSU	
	In-Person Contact	Telephone Contact	In-Person Contact	Telephone Contact
Housing Unit Sample				
Number of Telephone Calls	38	100	10	46
Number of Personal Visits	336	204	86	62
Number of Personal Visits Per Completed Interview	2.69	1.71	2.96	1.94
Household Sample				
Number of Telephone Calls	53	193	11	46
Number of Personal Visits	356	185	112	63
Number of Personal Visits Per Completed Interview	2.94	1.64	3.84	2.17