

EFFECTS OF INCENTIVE PAYMENTS ON RESPONSE RATES AND FIELD COSTS IN A PRETEST OF A NATIONAL CAPI SURVEY

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Study Background

The National Survey of Family Growth (NSFG) is administered by the National Center for Health Statistics (NCHS) to provide national estimates of behaviors related to the birth rate as well as those related to maternal and infant health. The survey collects data on sexual activity, marriage, cohabitation, contraception, sterilization, infertility, breastfeeding, miscarriages, stillbirths, and induced abortions. Important independent variables such as work histories, education histories, and living arrangements are also collected.

A pretest of Cycle V of the survey was conducted from October 11, 1993 to December 20, 1993 in six sites located in New York, Texas, and North Carolina. 803 women between the ages of 15 and 44 were selected for the pretest from the rosters of households that had participated in the 1991 National Health Interview Survey (NHIS), also conducted by NCHS.

Pretest Design

In Cycle V, significant changes were made in the study. The pretest was designed to test a number of innovations, including the use of the following:

- computer-assisted personal interviewing (CAPI)
- audio computer-assisted self interviewing (ACASI)
- neutral sites in which to interview sample women
- incentives.

For the purposes of testing the effects of incentive payments there were three groups: in-home (CAPI/ACASI), no incentive; in-home (CAPI/ACASI), \$20 incentive; and neutral-site, \$40 incentive. Originally, we had planned to use only two conditions (in-home, no incentive and neutral-site, \$40 incentive), and to randomly assign the treatments within PSU. We were concerned, however, that if the neutral-site group had a better response rate or improved data quality, we would not know whether the improvement was due to the non-home site or the \$40 incentive. We were also concerned that the \$40 incentive plus the cost of setting up and renting neutral sites for 6 months of fieldwork in 150-200 PSUs across the country might be too expensive, not feasible, or both. In order to see whether

a more modest incentive would be effective, we introduced a third group in the pretest: a \$20 incentive for an in-home interview. We thought that this would help us tell whether it was the incentive or the neutral site that was producing any effects we noted, and would help to control costs. Consequently, within PSUs sample women were randomly assigned to either a neutral-site or in-home treatment. Then in three of the six PSUs (one in each pretest state), we tested the \$20 incentive; in the other three PSUs, the women assigned to the in-home treatment were not offered an incentive.

The decision to use the PSU assignment rather than examining the \$0 and \$20 incentives within each PSU was a difficult one. Although we felt that the optimum experiment would be one in which we randomly assigned the sample members to treatments within PSUs, we were concerned that there would be problems in the field if respondents who live near each other received different incentives for the same type of participation request. We felt that we could justify the payment of \$40 to the women who had to travel to the neutral site because of the extra time they would have to devote to the interview and the burden inherent in making arrangements to leave their homes. In the end, we decided not to introduce both types of in-home incentives within PSUs. Prior studies had shown that difficulties can arise if two different incentives for the same activity are offered in the same areas. Thus, it is possible that assigning in-home women to an incentive within PSU would have prevented us from completing the pretest.

Pretest Response Rate Results

The pretest data collection effort resulted in a response rate of 63.5% across the three incentive treatment groups. Table 1 summarizes the response rates by characteristics of the respondent and by incentive; these rates and those in Tables 2 and 3 are for those sample women who were located and had an opportunity to be affected by the incentive treatment. Overall, the two groups of women who were offered an incentive had a response rate about seven percent higher than those who were not offered an incentive. There is little difference between the effect of the \$20 and \$40 incentives, due in part to the added burden on respondents who had to travel to a neutral site for the interview. The pattern of differences between those

with and without an incentive varies by characteristic of the sample women. Of particular note is the effect the payment of incentives has on the participation of Blacks, low income women, and generally reluctant respondents (those who did not report their income in the NHIS). In this case, the incentive payment brings into the survey groups of women who have higher abortion rates and appear to have more sexual partners than others.¹

Table 2 contains refusal rates by incentive level and characteristics of the sample woman. Most refusals were from sample women. A few refusals were from the parent of a sampled minor (age 15-17). The refusal rate is highest among non-Black non-Hispanic women, women under the age of 18, and women with income unknown. Overall, the nonincentive cases had the highest refusal rate, and this was generally consistent by sample women characteristics. However, for Black women and women with income greater than \$20,000, the difference in refusal rate by incentive was small.

Table 3 summarizes the percentage of women unavailable after repeated attempts during the pretest data collection period. A longer data collection period could have reduced these numbers. The nonincentive cases had the highest rate of unavailability with the highest rates among Black women, women over 18, and women with family incomes below \$20,000. Among Black women, the difference by incentive of the unavailability rate is large. It's possible that the unavailability of Black women who did not receive incentives represents passive refusals.

Effects on Field Costs

Incentives may also affect the amount of effort that is required to gain a respondent's cooperation. Table 4 presents summary data on the number of interviewer actions for response and nonresponse cases by incentive. Overall, fewer interviewer actions were required for the incentive cases. Interestingly, the number of actions for nonresponding cases, including refusals, was slightly higher for incentive cases, indicating that interviewers probably did not give up on these cases as easily because they believed the incentive was a persuasive inducement to participate.

To further examine the effect of incentives on the number of interviewer actions, we calculated the number of appointments that were missed or broken across each incentive group. Broken appointments increase the level of interviewer effort, requiring the interviewer to make additional contacts with the sample woman to reschedule the appointment and conduct the interview. Also, because broken appointments are often evasive tactics for respondents who can't say "no," interviewers may have to make a greater number of attempts to make

contact with a sample woman following a broken appointment. Table 5 shows that the number of broken appointments is highest for the nonincentive cases (37%) and lowest for the \$20 in-home cases (24%). For the \$40 incentive cases, we assume that the additional burden of travelling to the neutral site was responsible for the increased number of broken appointments.

Table 6 presents selected data collection cost data for each of the three incentive treatments. Of particular note in this table is the fact that the average number of interviewer hours per completed interview went down significantly as the amount of the incentive went up. In general, every twenty dollar increment in the incentive reduced the average hours per interview by two (10.9 hours for no incentive, 8.8 hours for the \$20 incentive, and 6.4 hours for the \$40 incentive). The table also shows a significant difference by incentive in the number of miles driven per completed interview (118 for no incentive, 76 for \$20 incentive, and 51 for \$40 incentive). Because the incentive increased cooperation, time was saved in locating and contacting the respondent, in traveling to the interview, and in conferences with supervisors about problem cases. By factoring in the amount of the incentive, the average interviewer costs per completed interview for each treatment were \$161 for no incentive, \$147 for the \$20 incentive, and \$136 for the \$40 incentive. These figures show that the cost of paying an incentive was more than made up for by a reduction in interviewer time. In other words, the \$20 incentives paid for themselves.

Main Study Recommendation

For the main study, we recommended that interviews be conducted in the home and that respondents be paid a \$20 incentive. The use of incentives had a positive effect on the response rate. They also brought into the survey women who would not have otherwise participated, providing a more socioeconomically diverse group of respondents. In addition, incentives resulted in a reduction in the average number of field interviewer hours required to complete an interview. This reduction in hours more than made up for the cost of paying the incentive. For the neutral site cases, however, the cost of the interview was greatly increased by the high costs of arranging for and renting the neutral sites. Consequently, the most cost-effective pretest treatment was the in-home interview with a \$20 incentive.

¹S. Henshaw, *FP Perspect* 20 (4): 158-168, 1988; Leigh et al, *AJPH*, 83 (10): 1400-1407, Oct. 1993.

Table 1
Response Rates of Sample Women
Who Were Eligible for the Pretest, by Characteristics of the Women

Eligible for Pretest	Overall	Hispanic	Black, Non- Hispanic	Non-Black Non- Hispanic	<18	18+	Income <20,000	Income 20,000+	Income Unknown
All Treatments									
Located, eligible	645	74	165	406	41	604	139	414	92
Located eligibles responding	500	59	135	306	31	469	111	329	60
Proportion responding	0.78	0.80	0.82	0.75	0.76	0.78	0.80	0.79	0.65
In-Home-0									
Located, eligible	269	20	56	193	17	252	42	185	42
Located eligibles responding	196	13	42	141	11	185	31	142	23
Proportion responding	0.73	0.65	0.75	0.73	0.64	0.73	0.74	0.77	0.55
In-Home-20									
Located, eligible	188	32	68	88	12	176	56	105	27
Located eligibles responding	153	29	58	66	12	141	48	85	20
Proportion responding	0.81	0.91	0.85	0.75	1.00	0.80	0.86	0.81	0.74
Neutral-Site-40									
Located, eligible	188	22	41	125	12	176	41	124	23
Located eligibles responding	151	17	35	99	8	143	32	102	17
Proportion responding	0.80	0.77	0.85	0.79	0.67	0.81	0.78	0.82	0.74

NOTE: SAMPLE WOMEN SELECTED FROM 1991 NATIONAL HEALTH INTERVIEW (NHIS) SURVEY. CHARACTERISTICS OF WOMEN ARE AS REPORTED IN THE NHIS.

Table 2
Refusal Rates of Sample Women
Who Were Eligible for the Pretest, by Characteristics of the Women

Eligible for Pretest	Overall	Hispanic	Black, Non-Hispanic	Non-Black Non-Hispanic	<18	18+	Income <20,000	Income 20,000+	Income Unknown
All Treatments									
Located, eligible	645	74	165	406	41	604	139	414	92
Located eligibles refusing	101	11	18	72	9	92	16	60	25
Proportion refusing	15.7	14.9	10.9	17.7	22.0	15.2	11.5	14.5	27.2
In-Home-0									
Located, eligible	269	20	56	193	17	252	42	185	42
Located eligibles refusing	53	6	6	41	11	48	6	31	16
Proportion refusing	19.7	30.0	10.7	21.2	29.4	19.1	14.3	16.8	38.1
In-Home-20									
Located, eligible	188	32	68	88	12	176	56	105	27
Located eligibles refusing	23	2	7	14	0	23	4	15	4
Proportion refusing	12.2	6.3	10.3	15.9	0.0	13.1	7.1	14.3	14.8
Neutral-Site-40									
Located, eligible	188	22	41	125	12	176	41	124	23
Located eligibles refusing	25	3	5	17	4	21	6	14	5
Proportion refusing	13.3	13.6	12.2	13.6	33.3	11.9	14.6	11.3	21.7

NOTE: SAMPLE WOMEN SELECTED FROM 1991 NATIONAL HEALTH INTERVIEW (NHIS) SURVEY. CHARACTERISTICS OF WOMEN ARE AS REPORTED IN THE NHIS.

Table 3
Unavailability Rates of Sample Women
Who Were Eligible for the Pretest, by Characteristics of the Women

Eligible for Pretest	Overall	Hispanic	Black, Non-Hispanic	Non-Black Non-Hispanic	<18	18+	Income <20,000	Income 20,000+	Income Unknown
All Treatments									
Located, eligible	645	74	165	406	41	604	139	414	92
Located eligibles unavailable	41	3	12	26	1	40	11	24	6
Proportion unavailable	6.4	4.1	7.3	6.4	2.4	6.6	7.9	5.8	6.5
In-Home-0									
Located, eligible	269	20	56	193	17	252	42	185	42
Located eligibles unavailable	19	1	8	10	1	18	5	11	3
Proportion unavailable	7.1	5.0	14.3	5.2	5.9	7.1	11.9	5.9	7.1
In-Home-20									
Located, eligible	188	32	68	88	12	176	56	105	27
Located eligibles unavailable	10	0	3	7	0	10	3	5	2
Proportion unavailable	5.3	0.0	4.4	8.0	0.0	5.7	5.4	4.8	7.4
Neutral-Site-40									
Located, eligible	188	22	41	125	12	176	41	124	23
Located eligibles unavailable	12	2	1	9	0	12	3	8	1
Proportion unavailable	6.4	9.1	2.4	7.2	0.0	6.8	7.3	6.5	4.3

NOTE: SAMPLE WOMEN SELECTED FROM 1991 NATIONAL HEALTH INTERVIEW (NHIS) SURVEY. CHARACTERISTICS OF WOMEN ARE AS REPORTED IN THE NHIS.

Table 4
Average Number of Interview Actions During Response Solicitation Process
By Response Status and Incentive

	In Home-0	In Home-20	Neutral-40
Response Status			
Responded	5.67	4.95	4.87
Non-response Overall	9.41	10.11	10.62
Type of non-response			
Parent refusal	7.50	----	4.67
Refusal SW	8.69	9.91	11.55
SW unavailable	11.84	11.40	10.42
Other	----	----	----
Total Actions All Outcomes	6.28	5.80	5.77

Table 5
Percentage of Broken Appointments by Incentive

	In Home-0	In Home-20	Neutral-40
Appointments Made	256	155	190
Appointments Broken	94	37	58
Percent Broken	36.7%	23.9	30.5

Table 6
Selected Pretest Data Collection Cost Data by Interview Treatment

Production/Cost Category	In-Home Interview/ \$0 Incentive	In-Home Interview/ \$20 Incentive	Neutral Site Interview/ \$40 Incentive
Total interviews completed	196	153	151
Averages per completed interview			
FI hours	10.9	8.8	6.4
FI miles	118.6	75.8	50.7
Respondent incentives	0	20.0	42.48
FI other expenses	\$10.02	\$10.02	\$10.02
FI total costs	\$160.77	\$146.82	\$135.92
Other costs for neutral sites	\$0	\$0	\$100.99
Total of FI costs and other costs for neutral sites	\$160.77	\$146.82	\$236.91