Pre-Paid Vs. Promised Incentives: Which Works Better For A Telephone Survey Of Low-Income Respondents?

By

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ABSTRACT

During the Fall of 2002, Mathematica Policy Research, Inc. (MPR) conducted a survey of the barriers that current Temporary Assistance for Needy Families (TANF)\(^1\) recipients in Maryland face in trying to leave welfare. As is the case with many surveys of hard-to-reach populations, we offered a monetary incentive to respondents to help increase response rates and reduce nonresponse bias. We also conducted an experiment to assess the impact of pre-paying a portion of the incentive on (1) the target response rate, (2) the number of contact attempts needed to complete a case, and (3) the number of weeks needed to achieve our target response rate. Results indicated that pre-paying a portion of the incentive reduced the number of contact attempts needed to complete a case but had no impact on the response rate or the number of weeks in the field.

BACKGROUND

Monetary incentives have been used for years to increase survey response rates and reduce nonresponse. Many studies document the positive effects of monetary incentives with respect to response rates on mail surveys (Church, 1993; Fox, Crask & Kim, 1988; Harvey, 1987; Hopkins & Gullickson, 1992; Yammarino, Skinner & Childers, 1991). In addition, a growing body of research documents a similar trend on telephone and in-person surveys (Benus and Ackerman, 1971; Gunn and Rhodes, 1981; Kerachsky and Mallar, 1981; Singer, 1999; Webber et al, 1982). As well as increasing response rates, monetary incentives can also lower overall data collection costs by reducing time and labor spent locating respondents and repeatedly re-contacting a

\(^1\)Prior to the enactment of Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) in 1996, TANF was known as AFDC (Aid to Families with Dependent Children).
household. This is especially true when surveying hard-to-reach populations, such as welfare recipients.

Many studies have demonstrated the significant effect of pre-paid incentives on response rates in mail surveys (Church 1999). For telephone surveys, study results are mixed. Many studies report higher response rates with pre-paid incentives, but the differences are not statistically significant (Singer 1999). However a recent study by Singer et al concluded that prepaid incentives in a random digit dial (RDD) telephone survey had a significant effect on the response rate (Singer et al 2000).

This paper presents the procedures we followed in conducting an incentive payment experiment with pre-paid and promised incentives for the MD TANF Caseload Survey and the results we found. The Office of Management and Budget (OMB), in approving the TANF Caseload survey instrument and study methodology, specified two main guidelines for us to follow regarding incentive payments:

- We were allowed to offer no more than $20 to respondents for participating in the survey
- We were required to pre-pay some portion of the incentive before the survey was conducted, as an additional incentive to participate.

MPR and our client, The University of Maryland Baltimore, were concerned that the impact of prepayment could be diluted because TANF administrative records tend to have a sizeable number of cases with incorrect addresses; therefore some respondents may never receive the prepayment. This concern led us to conduct an experiment designed to test whether paying a small portion of the incentive before conducting the survey (“prepaying”) produces a higher response rate than offering the full incentive after the survey is completed (“postpaying”).
We proposed three research questions: does offering a portion of the incentive prior to conducting a survey (1) significantly increase the response rate?; (2) reduce the number of contact attempts per completed case?; and (3) shorten the number of weeks the survey is in the field? Consistent with OMB’s guidelines for an incentive experiment, we devised two incentive strategies, both equal in amount ($20) but differing in timing of payment. The first, a prepayment strategy, entailed sending $2 cash by mail to sample members along with a letter promising $18 more (paid by check) upon completion of the survey. The second, a post-payment only strategy, entailed sending no cash by mail; rather, we sent sample members a letter that promised $20 (paid by check) upon completion of the survey. Letters for both groups were sent to respondents prior to contacting them by telephone. Our hypothesis was that the prepayment strategy would yield a significantly higher response rate and require less time and effort than the post-payment only strategy.

**EXPERIMENTAL DESIGN**

Data were collected during a telephone survey of single adults with children who received a positive TANF benefit from the state of Maryland in June 2002. We randomly assigned the August sample release, consisting of 1,146 cases, into two equal groups (n = 573) based upon incentive type: prepayment or post-payment only. Personalized letters were mailed to all 1,146 sample members prior to any telephone contact.\(^2\) The letter described the purpose of the study, identified the study sponsor, and stressed the importance of participation. The letter then presented the incentive amount and provided a toll-free number for sample members to call and participate in the survey. For the prepayment group, the envelope in which the letter was sent

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\(^2\)Addresses were obtained from MD DHR’s administrative data files. Of the 1,146 advance letters mailed, 14.5 percent (n=166) were returned to MPR from the post office due to incorrect address.
also contained $2 cash (two, one dollar bills). The post-payment only group received no cash with their letter.

Telephone interviewing began three days after the letters were mailed. Specially trained interviewers conducted the survey interviews via Computer-Assisted Telephone Interviewing (CATI) from MPR’s Princeton Telephone Center. During the survey introduction, the incentive amount was reiterated to sample members. In addition, the prepayment group was asked whether they received their letter (and the $2 it contained). This was done to verify receipt of the $2 cash prepayment, and 90 percent of sample members reported having received the $2. We tracked the number of completed interviews and the number of dial attempts per case for both incentive groups through the eleven-week field period, which ran from August 19 to October 31, 2002.

LOGISTICS AND INTERNAL VALIDITY

We implemented a number of tools to better ensure that the results of the experiment would be internally valid. The first tool was the use of random assignment. We randomly assigned sample members to the prepayment and post-payment only group to ensure that systematic bias did not affect the assignment of sample members to either group. After executing random assignment, we examined each group along geographic dimensions (i.e., strata) and found that neither group differed significantly from the distribution of the full sample.

We employed measures to further ensure that the results of the experiment would be internally valid. These included:

- Designing identical versions of the advance letter, except for the sentence that described the incentive amount
• Mailing all advance letters on the same day so each sample member had an equal chance of receiving the letter in time to participate

• Allowing ample time for sample members to receive their letter and respond before the experiment ended

We employed additional measures to minimize confusion and reduce error by telephone interviewers and supervisory staff. These measures included:

• Using CATI to administer the survey and survey introduction. The survey introduction was identical for both groups

• Printing the incentive amount in large font on the top of the respondent information sheet (contact sheet)

• Instructing telephone interviewers and supervisors to work all sample pieces evenly; (supervisors were instructed to distribute sample to interviewers equally across both groups)

• Handling refusal avoidance, refusal conversion and locating efforts in the same manner for both incentive groups

RESULTS

At the end of the data collection period, 819 out of 1,146 sample members completed the survey, yielding an overall response rate of 71.5%. When analyzing the response rate by incentive group, the post-payment only group yielded a higher percentage of completes than the prepayment group. As Table 1 shows, 73.6% (n = 422) of the post-payment only group completed an interview, compared to 69.3% (n = 397) of the prepayment group.

Using a chi-square test on the percentages, the difference between the incentive groups was not statistically significant for the combined data, $\chi^2$ (df 1, n = 819) = 0.10, p > .05. Hence, the chi-square test indicates that there is no association between the incentive groups and the number of completed interviews.
A look at the number of contact attempts needed to complete a survey by incentive group reveals some differences between the two groups. As Table 2 indicates, the post-payment only group achieved a higher response rate with fewer contact attempts than the prepayment group. The post-payment only group had surpassed the target response rate of 70 percent with fewer than 20 contacts, whereas the prepayment group never reached a 70 percent response rate even after interviewers made more than 31 contact attempts on some cases.

Using a Wilcoxon Mann Whitney test on the number of contact attempts it took each incentive group to achieve a 69.3 percent response rate (the response rate achieved by the prepayment group), the difference between incentive groups was statistically significant ($p = 0.0335$, $p < 0.05$). The test indicates that there is an association between the incentive groups and the number of contact attempts.

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3 Response rates calculated as the number of completed interviews divided by the total release (per incentive group).

TABLE 2

CUMULATIVE COMPLETES (AND RESPONSE RATES) BY NUMBER OF CONTACT ATTEMPTS AND INCENTIVE GROUP

<table>
<thead>
<tr>
<th>Number of Contact Attempts</th>
<th>Prepayment (n = 573)</th>
<th>Post-Payment Only (n = 573)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-10</td>
<td>340 (59.3)</td>
<td>365 (63.7)</td>
</tr>
<tr>
<td>11-20</td>
<td>380 (66.3)</td>
<td>406 (70.9)</td>
</tr>
<tr>
<td>21-30</td>
<td>392 (68.4)</td>
<td>416 (72.6)</td>
</tr>
<tr>
<td>31 and higher</td>
<td>397 (69.3)</td>
<td>422 (73.6)</td>
</tr>
</tbody>
</table>

Another comparison of the incentive groups can be made by looking at the number of completes and response rates over time. As Table 3 shows, the post-payment only group had reached a 69.3 percent response rate by the ninth week of the field period, whereas the prepayment group reached it after eleven weeks in the field. We estimate that the prepayment group would have reached the target 70% response rate after twelve weeks in the field – roughly three weeks after the post-payment only group.

Using a Wilcoxon Mann Whitney test on the number of weeks it took each incentive group to achieve a 69.3 percent response rate (the response rate achieved by the prepayment group), the difference between incentive groups was not statistically significant (p = 0.3491, p > 0.05). Hence, the test indicates that there is no association between the incentive groups and the number of weeks in the field.
TABLE 3

CUMULATIVE COMPLETES (AND RESPONSE RATES) BY INCENTIVE GROUP AND NUMBER OF WEEKS IN THE FIELD

<table>
<thead>
<tr>
<th>Number of Weeks in Field</th>
<th>Prepayment (n = 573)</th>
<th>Post-Payment Only (n = 573)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>145 (25.3)</td>
<td>151 (26.3)</td>
</tr>
<tr>
<td>2</td>
<td>190 (33.2)</td>
<td>210 (36.6)</td>
</tr>
<tr>
<td>3</td>
<td>229 (39.9)</td>
<td>255 (44.5)</td>
</tr>
<tr>
<td>4</td>
<td>286 (49.9)</td>
<td>294 (51.3)</td>
</tr>
<tr>
<td>5</td>
<td>308 (53.8)</td>
<td>314 (54.5)</td>
</tr>
<tr>
<td>6</td>
<td>331 (57.8)</td>
<td>335 (58.5)</td>
</tr>
<tr>
<td>7</td>
<td>349 (60.9)</td>
<td>362 (63.2)</td>
</tr>
<tr>
<td>8</td>
<td>357 (62.3)</td>
<td>376 (65.6)</td>
</tr>
<tr>
<td>9</td>
<td>377 (65.8)</td>
<td>400 (69.8)</td>
</tr>
<tr>
<td>10</td>
<td>390 (68.1)</td>
<td>419 (73.1)</td>
</tr>
<tr>
<td>11</td>
<td>397 (69.3)</td>
<td>422 (73.6)</td>
</tr>
</tbody>
</table>

DISCUSSION

Contrary to expectations, the prepayment strategy had no impact on the response rate or on the length of the field period. Though not statistically significant, the prepayment group had a lower response rate and required more time in the field. These results indicate that prepayment did not have the intended effect of increasing the response rate and reducing the overall survey field period. The prepayment strategy also cost more since the payment (though modest) went to nonrespondents as well as respondents. It is possible that offering a larger prepayment would have had a more positive impact on the results of this experiment. Indeed, this is something to consider for future “prepayment” experiments.
REFERENCES


