

# Impact of Differential Appeals in an Advance Letter Mailing on Phone Recruitment for a Longitudinal Survey

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## Abstract

The Medicare Current Beneficiary Survey (MCBS) serves as the leading source of information on the Medicare program and health care costs for the Medicare population. As a continuous, multipurpose longitudinal survey of a nationally representative sample of the Medicare population, a new panel of beneficiaries is selected to join the survey every fall. In response to the coronavirus (COVID-19) pandemic, data collection shifted from in-person to phone outreach and survey administration. This shift brought concerns of lower response rates typically seen with phone surveys, as well as incomplete data since phone numbers were not available on the sample frame. This placed increased emphasis on the importance of alternate forms of respondent outreach, such as mailings and respondent-driven toll-free calls.

The MCBS has long used an advance letter, sent to all sampled beneficiaries in advance of their first contact, to legitimize and notify them that an interviewer would soon be contacting them to request their participation in the survey. In Fall 2021, we implemented a split ballot experiment testing the effect of different appeals within the advance letter, specifically testing new language prompting panel members to call the survey toll-free number for more information and to schedule an interview. Of approximately 15,000 sample members, 7,538 were sent an advance letter with a revised appeal, containing bolded text inviting beneficiaries to call the 800-line. The remaining 7,541 were sent the standard MCBS advance letter which tells beneficiaries to expect contact from an interviewer.

This paper shares detail on the impact of the revised appeal on completion rates, timelines, and interviewer effort required to complete a case. Findings will help inform how advance materials can be leveraged to increase respondent cooperation and improve efficiency.

**Key Words:** respondent recruitment, respondent outreach, telephone interviewing, advance letter, experiment

## 1. Introduction

The Medicare Current Beneficiary Survey (MCBS) is a continuous, longitudinal survey that serves as the leading source of information on the Medicare program and health care costs for the Medicare population sponsored by the Centers for Medicare and Medicaid Services (CMS) through a contract with NORC at the University of Chicago (NORC). The MCBS recruits a new panel of beneficiaries each fall, referred to as the baseline panel. Historically baseline panel recruitment and interviewing have been done in person by trained field interviewers. In March 2020, the project transitioned to recruitment and interviewing by phone in response to the COVID-19 pandemic. The project was conducted

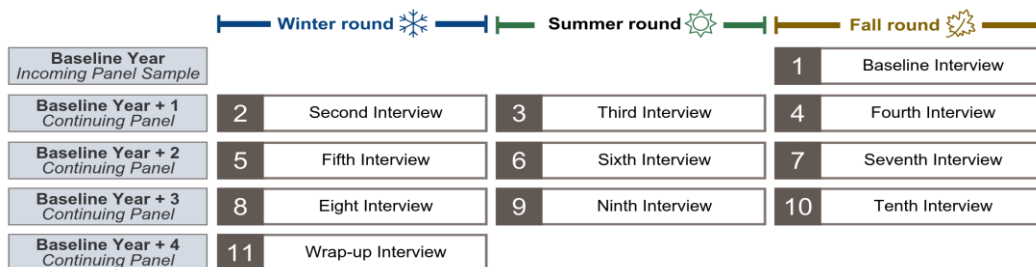
fully by phone throughout 2020 and into 2021 with in-person interviewing gradually resuming by the end of 2021. This shift to phone outreach and interviewing led to concerns of lower response rates that are typically seen in phone surveys (Aneshensel et al. 1982; de Leeuw 1992; Groves 1977; Groves & Kahn 1979; Henson et al. 1977; Hinkle & King 1978; Hochstim 1962; Hox & de Leeuw 1994; Jordan et al. 1980; Mulry-Liggan 1983; Thornberry 1987; Weeks et al. 1983). We introduced a series of operational changes to the MCBS to maintain response rates during the shift to phone data collection.

One of these operational changes focused on the advance letter, long used by the MCBS to gain respondent cooperation in advance of interviewer outreach each fall. In Fall 2021, we implemented a split ballot experiment to test the effect of different appeals using the advance letter. The experiment specifically tested new language prompting beneficiaries to call the survey toll-free number for more information and to schedule an interview. We hypothesized that asking beneficiaries to “call us” to complete their interview might improve response and increase interviewer efficiency by shifting the effort of outreach from the interviewer to the beneficiary. The purpose of this paper is to summarize findings from this experiment.

## 2. Background

The MCBS was launched in 1991 and is a continuously fielded survey of a nationally representative sample of the Medicare population. The survey covers topics including sources of health insurance coverage, satisfaction with care, health status and functioning, among others. The Medicare population includes all persons aged 65 and over, persons with certain disabilities, and persons with end-stage renal disease who are enrolled in Medicare. Interviews are conducted with beneficiaries living in the community and in facilities such as nursing homes or long-term care facilities. Data are collected for the same beneficiary continuously up to three times a year over a four-year period for a total of 11 interviews. Every fall, new respondents are recruited into the survey and have their first interview. Subsequent interviews are conducted at four-month intervals. Each year there are three rounds of interviews identified seasonally – a Fall Round, a Winter Round, and a Summer Round.

The sample design uses a rotating panel, where one-quarter of the sample is retired each year in the Winter Round and a new sample is selected in the Fall Round. The MCBS Data Collection Life Cycle is shown in Figure 1, demonstrating the long-term impact of response in the initial baseline panel.



**Figure 1: MCBS Data Collection Life Cycle**

Although phone interviewing has been permitted for certain cases since the origin of the survey, the primary mode of data collection has been in-person interviews by trained staff.

In the Baseline Year in particular, initial outreach and interviewing was always conducted in person by interviewers to gain cooperation and build rapport with the beneficiary. The COVID-19 pandemic, however, forced the project to adapt protocols to maintain respondent and interviewer engagement while keeping both populations safe. To ensure the health and safety of both respondents and field interviewers, the MCBS maintained a predominantly phone-only approach through 2021. The Medicare population is at increased risk for contracting COVID-19 and severe illness<sup>1</sup> and continuing to collect data concerning their health remains critical to public health policy.

In 2021, the MCBS was approaching the second consecutive baseline panel where recruiting new panel beneficiaries needed to be entirely by phone. Specifically, rather than visiting Medicare beneficiaries at their home address to recruit and interview them, the project used commercial locating databases to identify up to six phone numbers associated with the beneficiary name and address. The sample frame does not include telephone numbers. We reviewed the MCBS protocol for new panelist outreach to identify areas of opportunity to maintain the high participation rates the MCBS has experienced for in-person recruitment. Specifically, we tested a new appeal in the advance letter, which asked beneficiaries to “call us”, rather than using the language in the previous letter telling beneficiaries “we’ll contact you” (see Figure 2).

Dear [Respondent Name]:

The U.S. Centers for Medicare and Medicaid Services has selected you to participate in a study about Medicare, called the Medicare Current Beneficiary Survey (MCBS). We conduct this study in order to better understand your experiences receiving Medicare services in order to improve the Medicare program.

We have selected you as part of a sample of people with Medicare from across the United States that can give us an accurate picture of how well people’s health care needs are being met. Your participation in the study is your choice. Your Medicare benefits cannot be affected in any way by your decision to participate or the answers you provide.

The study can be completed by phone at a time that is convenient for you.

**To complete the interview, call us at 1-877-389-3429.**

**Figure 2** “We’ll Contact You” Experimental Letter

The MCBS has used an advance letter for all beneficiaries sampled for the baseline panel since before the pandemic. Advance letters are standard practice in survey operations and have been proven effective at increasing response rates for face-to-face and phone surveys, as they serve to underscore the legitimacy of the survey and interviewer and communicating the value of the survey (de Leeuw et al 2007; Link & Mokdad 2005; Vogl et al 2008). They are often viewed as relatively easy and cost-effective. Further, interviewers value an advance letter as it builds rapport and removes the surprise of a “cold call” survey request.

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<sup>1</sup> Centers of Disease Control and Prevention. “People at Increased Risk for COVID-19”. Updated Nov. 30, 2020. Available from: <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/index.html>

The remainder of this paper will summarize the methods and findings from our two research questions: 1) Will a revised advance letter appeal increase cooperation rates by prompting beneficiaries to call us; and 2) Will a revised advance letter appeal improve interviewer efficiency by decreasing the number of contact attempts required or time in the field to complete an interview.

### 3. Methods

To assess the effects of the two advance letter appeals, we designed an experiment to assign all baseline panel cases to receive one of the two letters. The sampled cases were split evenly between the two letter types using systematic random sampling. A propensity score was assigned to each case using a model that predicted the likelihood to complete the survey. The model was built using final survey data from the previous Fall 2020 round and included demographic, operational, and geographic characteristics (see Table 1).

**Table 1.** Characteristics Included in Propensity Score Model

<i>Demographic</i>	<ul style="list-style-type: none"> <li>▪ Age</li> <li>▪ Urban/Rural Status</li> <li>▪ Race/Ethnicity</li> <li>▪ Gender</li> <li>▪ Primary Language</li> </ul>
<i>Operational</i>	<ul style="list-style-type: none"> <li>▪ The number of phone numbers found for the case through pre-fielding locating efforts</li> <li>▪ The source of phone numbers found through pre-fielding locating efforts</li> </ul>
<i>Geographic<sup>a</sup></i>	<ul style="list-style-type: none"> <li>▪ The percent of Hispanic residents within ZIP code</li> <li>▪ The percent of residents in poverty within ZIP code</li> </ul>

<sup>a</sup> Geographic characteristics were obtained from 2015-2019 ACS 5-year estimates and were merged with MCBS administrative data by Zip code.

Cases were sorted by their propensity score and systematically assigned one of the two types of advance letters. This ensured that the comparison groups were equally representative of the likelihood to complete the survey. A small number of cases, 465, were excluded from the experiment as we did not have a phone number for them. These cases were all assigned to the “call us” letter and excluded from analysis and presentation in this paper.

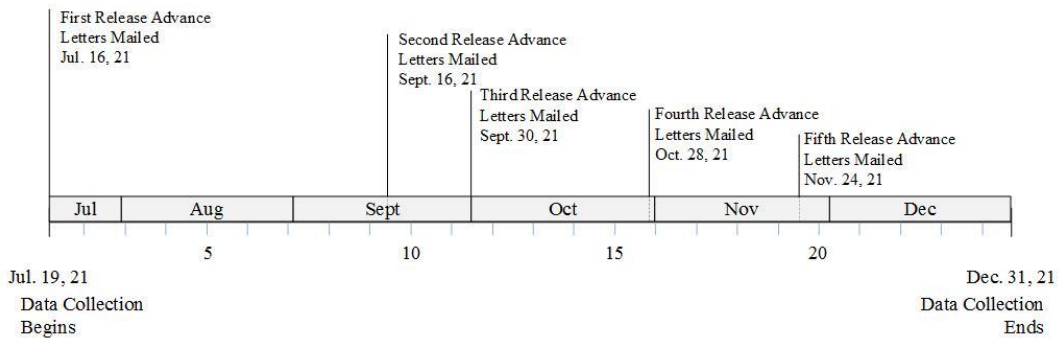
**Table 2.** Number of Cases Assigned to Each Advance Letter Type

	<i>English</i>	<i>Spanish Bilingual</i>	<i>Total</i>
“We’ll contact you” letter	7,277	264	7,541
“Call us” letter	7,254	284	7,538
“Call us” letter <sup>a</sup>	465	111	576

<sup>a</sup> Cases without any located phone numbers were automatically assigned a “Call Us” letter and were excluded from analyses.

All advance letters were sent via the United States Postal Service in the week preceding the start of data collection. Due to the nature of ongoing MCBS participant enrollment in Medicare, some cases were released for survey fielding later in the data collection period,

and their advance letters were mailed one week prior to their release. Figure 3 shows a general timeline of data collection and subsequent mailing dates.



**Figure 3.** Timeline of Advance Letter Mailings

Demographic characteristics for each case including age, race/ethnicity, and gender used in propensity score modeling and final analyses were provided in administrative data on the sample frame from CMS through the Medicare program. Additional characteristics related to survey fielding including the final survey disposition and characteristics of the interviewer were obtained through operational and case-management data collected during survey fielding. Telephone locating characteristics including the number of telephone numbers located and their source were provided through pre-fielding locating efforts. These data sources were combined at the case-level to build the propensity score model for letter assignment as well as form the final analytic file.

Univariate analyses were used to assess practical and operational outcomes for the two advance letter type groups. Bivariate analyses provided comparisons between the “call us” and “we’ll call you” letter type groups. Chi-Squared tests for significance were used to determine if measures including the rate of completed interviews and the rate of inbound calls to the survey toll-free number were significantly different among advance letter type groups. Wilcoxon-Mann-Whitney tests for significance were used to determine if the number of interviewer contact attempts or the number of days a case was in the field differed by advance letter type group. Furthermore, multivariate analyses controlling for demographic characteristics as well as interviewer effects were conducted to assess significant differences in interviewer effort between the two advance letter types. Demographic characteristics included age, gender, and race/ethnicity. Interviewer characteristics included the number of years of experience of the interviewer and whether the interviewer was permitted to conduct in-person gaining cooperation contacts<sup>2</sup>. All analyses were completed using SAS and were unweighted since they included cases that did not complete the survey and therefore did not have a final survey weight.

#### 4. Results

To assess effort required by our interviewers and gauge the impact of the different appeals in each letter, the proportion of cases who called the survey toll-free number was assessed (see Table 3). Those who received the “call us” letter called the toll-free number at a statistically significantly higher rate than those who received the “we’ll contact you” letter

<sup>2</sup> In-person efforts began in mid-October, 2021, about half-way through data collection. These efforts were limited in the Fall 2021 due to COVID-19 requirements and protocols and therefore were a minor component of overall outreach protocols.

(13 percent vs. 11 percent,  $p < 0.05$ ). Furthermore, among those who called the survey toll-free number, those who received the “call us” letter completed the survey at a statistically significantly higher rate than those who received the “we’ll contact you” letter (67 percent vs. 59 percent,  $p < 0.05$ ).

**Table 3.** Inbound Calls to the Survey Toll-Free Number and Completion Rates of those Calling the Hotline

	<i>Advance Letter Type</i>			
	<i>“We’ll Contact You”</i>		<i>“Call Us”</i>	
	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>
Cases Calling the Toll-Free Number*	856	11.4	999	13.3
Completion Among those Calling the Toll-Free Number*	504	58.9	670	67.1

\* Indicates a statistically significant difference ( $p < 0.05$ ) in proportions between the two advance letter type groups at the 95 percent level.

Table 4 displays completion rates by advance letter type. At the end of the data collection period, the rate of completed surveys was slightly higher among those who received the “we’ll contact you” letter (38 percent) as compared to those who received the “call us” letter (36 percent), however this difference was not statistically significant. The same response rate was found among females and males receiving the “call us” letter, however males completed at a slightly higher rate than females among those receiving the “we’ll contact you” letter. The rate of completion ranged from 35 percent to 38 percent across age groups among those who received the “call us” letter, while the rate of completion ranged from 32 percent to almost 40 percent across age groups among those who received the “we’ll contact you” letter. Across all demographics, very few show statistically significant differences in completion rates between the treatment groups.

Of the cases with a known race and ethnicity, the largest difference in completion rates occurred among Asian, Native Hawaiian, or Pacific Islander (NHOPI), with 39 percent completion among those receiving the “we’ll contact you” letter and 20 percent completion among those receiving the “call us” letter. American Indian or Alaska Native (AIAN) cases were the only group with higher completion rates among those receiving the “call us” letter (25 percent) when compared to the “we’ll contact you” letter (23 percent). No significant differences were found between the advance letter types in any subgroups except those 80 to 84 years old and those who were Asian, Native Hawaiian, or Pacific Islander.

**Table 4** Completion Rates (Percent) by Letter Type

	<i>Advance Letter Type</i>		<i>Total</i>
	<i>“Call Us”</i>	<i>“We’ll Contact You”</i>	
<i>Total Sample Size</i>	7,538	7,541	15,079
<i>Total Complete</i>	36.4	38.1	37.3
<i>Gender</i>			
Male	36.4	38.9	37.7
Female	36.4	37.4	36.9
<i>Age</i>			
Under 45	35.4	32.5	33.9

45-64	38.3	38.5	38.4
65-69	36.8	39.7	38.3
70-74	36.5	38.0	37.2
75-79	36.4	39.8	38.1
80-84*	36.5	38.8	37.7
85 and over	35.1	36.1	35.6
<i>Race/Ethnicity</i>			
Hispanic	35.4	38.5	36.5
White non-Hispanic	37.4	38.1	37.8
Black non-Hispanic	36.8	38.9	37.9
Asian/NHOPI*	19.7	28.8	24.2
AIAN	25.0	22.9	23.9
Other	33.3	36.7	34.9
Unknown/Missing	35.6	50.0	42.9

\* Indicates a statistically significant difference ( $p < 0.05$ ) in completion rate between the two advance letter type groups at the 95 percent level.

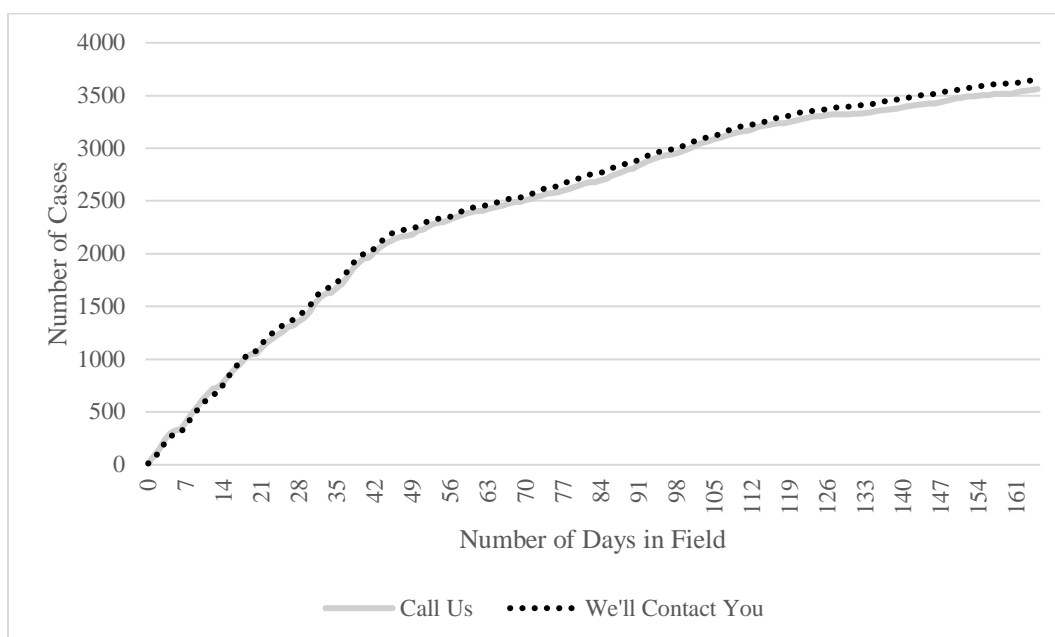
As an additional mechanism for assessing the impact on interviewer effort, the required contacts necessary by an interviewer was analyzed in two ways. First, the number of days until the first successful contact with the sample case was compared between advance letter types. Successful contact included outcomes like a call to the toll-free number from the sampled case, a scheduled appointment, a breakoff or refusal, or a completed interview. The mean number of days to the first successful contact among those who received the “call us” letter was 50.8, while the mean was slightly, but not statistically significantly, higher, at 51.2 days for those who received the “we’ll contact you letter” (Table 5).

Secondly, the number of interviewer contacts was compared between advance letter types. The mean number of contacts required by an interviewer was the same across advance letter conditions at 12.8. Fewer contacts were required among complete cases, but counts were consistent with a mean of 11.3 contacts between the two advance letter type groups (see Table 5). A multivariate model controlling for demographic and interviewer characteristics was run to test for a significant relationship between the number of days until the first successful contact and the advance letter type. After controlling for demographic and interviewer characteristics, there was no statistically significant relationship found between the number of interviewer contacts required and the advance letter type.

**Table 5.** Interviewer Effort, (Standard Deviations)

	<i>Days Before First Successful Contact</i>	<i>Days to Complete</i>	<i>Contacts Required by Interviewers</i>	
			<i>All Cases</i>	<i>Completes</i>
“We’ll Contact You”	51.2 (42.7)	56.7 (44.9)	12.8 (9.4)	11.3 (7.6)
“Call Us”	50.8 (42.5)	57.4 (45.1)	12.8 (9.1)	11.3 (7.6)

Figure 4 shows the cumulative number of cases who were successfully contacted throughout the data collection period and illustrates the same trend among cases receiving both advance letter types. Again, a multivariate model controlling for the same demographic and interviewer characteristics was run and no significant relationship was found between the number of days until the first successful contact and the advance letter type.



**Figure 4.** Cumulative Number of Cases Successfully Contacted by Advance Letter Type

## 5. Discussion and Summary

The results of this experiment reveal that changing the language of an advance letter appeal to encourage potential respondents to call a survey toll-free number did not lead to meaningful differences in completion or level of effort required. We identified only two statistically significant, but operationally minor, findings. First, an increase in inbound toll-free calls was found with the “call us” appeal. Additionally, those calling the toll-free number from the “call us” letter were more likely to go on to complete an interview. However, as the overall project cooperation rate did not differ between groups, we do not find these differences to be meaningful for the MCBS. Furthermore, we did not identify any differences in level of effort required, indicating that the increase in calls from the “call us” letter did not have a meaningful impact on interviewer resources either.

We conclude that the limited significant findings are minor and should not drive decision-making. In fact, the project noted that increased calls to the toll-free number in a short period of time may be burdensome for field staff, potentially driving decision-making away from the revised advance letter, depending on project priorities. Based on this analysis, the appeal and language chosen for an advance letter can be based on project needs and preference.

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