

**Do Changes in Item Formatting and Question Placement
Help Older Survey Respondents Provide Better Data?**

**Improving Data Quality
on the Medicare CAHPS® Disenrollment Reasons Survey**

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ABSTRACT: The Medicare CAHPS® Disenrollment Reasons Survey collects data from Medicare beneficiaries about the reasons they disenroll from their Medicare managed care health plan. In the survey, beneficiaries are first asked a series of 34 closed-ended items about reasons they disenrolled from their plan, after which they are asked to report their one “most important reason” for leaving their plan in an item that uses an open-ended response format. Responses from the open-ended “most important reason” item are coded to general categories related to quality of care and costs and benefits. The “most important reason” item is one of the most critical analytic items in the survey. The survey results are used to help explicate disenrollment rates, which the Centers for Medicare & Medicaid Services (CMS) is required to provide to Medicare beneficiaries. Survey results are also used by Medicare managed care organizations for use in their quality improvement initiatives and by CMS to monitor plan performance.

In this paper, we examine whether formatting and placement changes to the survey items using an open-ended response format improve the quality of the data collected in this survey of elderly respondents. We compare data collected in two survey years before and after these formatting and placement changes were made. We examine rates of missing data, interactions between the “most important reason” and the “other reasons for leaving” items, ability of older respondents to provide a single reason versus multiple reasons as their most important reason for leaving the plan, and the percentage of narrative responses that are uncodable. Our hypothesis is that making some targeted changes to open-ended survey items will improve the quality of the data collected from older respondents, leading to better information being available for beneficiaries making health plan choices.

The Current Medicare CAHPS® Disenrollment Reasons Survey

The Medicare CAHPS® Disenrollment Reasons Survey, hereafter referred to as the “Reasons Survey,” is one of four in a coordinated family of surveys of Medicare beneficiaries developed from 1997 through 1999 as part of the CAHPS® I grant sponsored by the Agency for

Healthcare Research and Quality (AHRQ) and the Centers for Medicare & Medicaid Services (CMS). Results from the four Medicare CAHPS[®] surveys are used by CMS to partially fulfill the Balanced Budget Amendment (BBA) of 1997 requirement that CMS provide comparable information on the performance of Medicare health plans to assist beneficiaries in choosing among the various health plan options offered by the Medicare program. Specifically, the results from the Reasons Survey are designed to provide information to three major constituents:

- CMS, to aid in fulfillment of its legislative mandate to present disenrollment rates to Medicare beneficiaries and to enhance CMS' ability to monitor the quality of the care and performance of Medicare Advantage (MA) health plans;
- Medicare beneficiaries, to help explicate disenrollment rates and thus help them make more informed health plan choices; and
- MA health care plans, for use in their quality improvement initiatives.

The Reasons Survey was first implemented in 2000. Each calendar quarter, the Reasons Survey project team selects a sample of approximately 15,000 beneficiaries who voluntarily¹ disenrolled from an MA health plan the preceding quarter. The quarterly samples are surveyed in the quarter following the “sampling quarter” via a mail survey with telephone follow-up of nonrespondents. Although the survey is conducted on a quarterly basis, data are analyzed and results reported on an annual basis. The overall response rates for the Reasons Surveys conducted in survey years 2000-2003 ranged from 63.8% to 67.8% (AAPOR Standard Response Rate Definition 1). In addition to questions about reasons for leaving their former Medicare managed care plan or Medicare Advantage (MA) as they are now known, respondents are asked about other experiences with the plan, including health care utilization, ratings of the health plan, and health care received while enrolled in the plan. Health status and demographic characteristics data are also collected.

Background/History of Development

The Reasons Survey was the last in the family of Medicare CAHPS[®] surveys to be developed. It was designed to adhere to best practices included in the Total Design Method (Dillman, 1978; Dillman, Clark, and Sinclair, 1995). In addition, it also followed guidelines set forth by CMS (required by the American Disabilities Act) for written communications with the disabled – that is, 12 point or higher Universal or Times Roman font size, at 6th grade reading level, and so forth. Most of the questionnaire items use a closed-ended response format, but the most critical item, which asks respondents for their most important reason for leaving their MA plan, uses an open-ended response format.

The project team originally intended to develop the “most important reason for leaving” question (hereafter referred to as the MIR) as a closed-ended question based on ease of data

¹ Medicare beneficiaries who disenroll from their MA health plans because they moved out of the plan's service area and those whose former plan stopped serving them are considered “involuntary disenrollees” and therefore are not eligible to participate in the survey.

processing and analysis; however, before the first implementation of the survey, the project team decided to use an open-ended format after considering the advantages and disadvantages of an open-ended response format. A major disadvantage of using open-ended response formats noted in the research literature is that post-data-collection processing and analysis are far more problematic than for items using closed-ended formats. For responses to be tabulated and analyzed, open-ended responses (text entries) must be coded, thereby adding another step to data processing. The project team gave this factor serious consideration when deciding whether to continue using an open-ended response format for the MIR after the 1999 pilot survey was conducted. However, after considering the advantages and disadvantages of using an open-ended format for the MIR, we decided to use it in the national survey.

As the research literature suggests (Fowler, 1995; Dillman, 1978), there are several advantages to using an open-ended format: it does not limit answers to those already known; the list of possible answers greatly exceeds what can be provided or what is known; and it does not require visual aids, so it works in telephone interviews. Dillman also suggests that open-ended formats are used to elicit a precise piece of information when there are a large number of possible answers and listing them all would increase the difficulty of answering the question.

Some of these advantages are also noted by other researchers. Kalton and Schuman (1982:49) indicated that open-ended response formats are “used extensively when the potential responses are both nominal in nature and sizable in number” and that the types of questions for which this response format is applicable include motivation questions, asking for the principal or all reasons for an occurrence, and questions asking for the choice of the most or several most important factors involved in an issue.” Job et al. (1982) noted that open-ended or unstructured formats are particularly suitable in surveys of older respondents, indicating that this format should be used with the elderly population to “obtain maximum flexibility” (Gibson and Aitkenhead, 1983, in references therein). Probably the most important of the advantages to the Reasons Survey, as stated by Fowler (1995:178), is that “narrative answers give researchers a much more direct window into what people are thinking.” This is especially important for a survey about Medicare health plan options, which have changed dramatically over the past decade and which are currently undergoing large-scale changes as a result of the 2003 Medicare Modernization Act (MMA).

Among the advantages that contributed to the project team’s decision to continue using an open-ended format was the ability to identify and capture reasons for leaving MA plans that are precipitated by changes in MA health plan options, coverage, and operations. These “unknown” reasons would not be captured in the survey if a closed-ended response format were used for the MIR item. Changes in Medicare health plan options, including covered benefits and beneficiary perceptions of quality of care received, may add to Medicare beneficiaries’ level of satisfaction or dissatisfaction with a Medicare health plan option. All of these factors can affect beneficiaries’ decision to leave an MA plan. Using a closed-ended set of response options on the Reasons Survey would not allow us to capture beneficiaries’ understanding of and reaction to these changes. For example, “lock-in,” in which Medicare beneficiaries would be required to choose a Medicare health plan option and remain in that option until the next open-enrollment period, was due to go into effect in 2002 (it was later postponed until 2006). In the 2001 survey year, some respondents reported that their most important reason for leaving the plan was that

they wanted to change their health plan option before they were “locked in to” their current plan. In another example, some respondents reported that their most important reason for leaving the plan was that they heard (usually through an unofficial source) that their MA plan was going to stop serving the area in which they lived. In both of these examples, we would not have captured these reasons for leaving with a closed-ended set of response options.

While the advantages of using an open-ended response format are particularly applicable to the Reasons Survey, the disadvantages are also very applicable. According to Dillman (1978), open-ended response formats require that respondents recall a past experience, reorganize their thoughts about that experience, and then find the words or terms with which to describe the experience. This response task, according to Dillman (1978:88), is difficult for most respondents, especially those “with low educational attainment or who lack experience in communicating ideas to other people.” These observations are especially salient for the Reasons Survey, in which the majority² of the target population is elderly (age 65 or older). Even though the sample for the Reasons Survey is a representative sample of beneficiaries who disenroll from an MA health plan (with no stratification of oversampling by educational attainment level), the primary response task is to think about and report actions/events that may have occurred weeks or months prior to the actual decision to leave the plan and which later influenced and led to the decision to disenroll.³ The response task is made even more difficult by the fact that survey items are about Medicare, Medicare health plan (insurance) coverage, and reasons for leaving an MA health plan, which are generally considered by most people to be very complex topics. Despite this, as noted by Fowler (1995:178), sometimes an open-ended response format “can be the simplest way to gather systematic information about a potentially complicated situation.”

Dillman and other researchers (Fowler, 1995; Gibson and Aitkenhead, 1983) also note that open-ended formats can be used successfully in interviewer-administered interviews but require “persistent probing” by the interviewer. Dillman further states that without probing by the interviewer, answers for open-ended items may be “incomplete, uninterpretable, or irrelevant.” We have found this to be true on the Reasons Survey, where the quality of the MIR entries collected during the telephone follow-up is far superior to that collected via the mail survey.

Fowler(1995:178) noted that the “diversity and complexity” of responses resulting from open-ended items can make analysis more problematic than using closed-ended response options, but the result “can be a better reflection of what respondents have to say.” Considering this factor, project staff developed a coding scheme and process to quantify the narrative

² The Reasons Survey also includes a representative sample of Medicare beneficiaries who are between 18 and 64 years of age and are eligible for Medicare due to a disability.

³ The Medicare CAHPS® Disenrollment Survey was originally designed to be implemented on an annual basis, with data collection activities taking place from September through December each year. However, project staff changed the periodicity of sampling and data collection to calendar quarters based on the results of early development and testing activities. One of the main findings from both cognitive testing of the survey items and the full-scale pilot survey (conducted in 1998-1999) was that Medicare beneficiaries had extreme difficulty recalling their experience with the sample MA plan, especially those who had disenrolled from more than one plan since they left the sample MA plan (Guess et al., 2000; Harris-Kojetin et al., 1998)

responses provided in the Reasons Survey for meaningful statistical analyses. To code and analyze the narrative MIR responses, project staff used responses from the 1999 pilot survey to construct an initial “starting” code list, first grouping responses into major categories or domains of interest to CMS. Coders, who received extensive training on possible reasons beneficiaries leave their plan, then reviewed and coded the narrative MIR responses. The initial code list was expanded as project staff began the coding process. Each new reason identified was vetted by the project staff and added to the code list only if it was reported frequently by respondents.

The Code List used on this survey now contains more than 60 different reasons for leaving an MA plan. When reporting data from the MIR to the public (e.g., Medicare beneficiaries), individual reasons codes are “rolled up” into one of two main reasons domains (“Problems with Care or Service” and “Concerns about Costs”). These two domains are further subset so that beneficiaries can drill down to reasons that fall into three subcategories for Problems with Care or Service and two related to Concerns about Costs, which early research showed were far more manageable for consumers to understand than if 60+ categories were reported. Reasons are also rolled up and reported to MA plans; however, they are rolled up to one of seven domains: five subcategories for Problems with Care or Service and two for Concerns about Costs. More detailed information (frequency of responses) is also provided to the MA plans for all 60+ individual reasons that are coded.

Problem(S) That Led to This Research

In the Reasons Survey, respondents are first asked whether one or more of 34 preprinted reasons described in items using a close-ended format was a reason they left their MA health plan. They are also asked to record the *one most important reason* for leaving the health plan as well as any *other* reasons (not already marked or indicated in the set of preprinted reasons items). Both the MIR and Other Reasons for Leaving items are open-ended. Prior to the 2004 survey, the Other Reasons item (Q40) was asked first, followed by the MIR item (Q41). Figure 1 displays the format of these open-ended questions, as they appeared in the 2000-2003 surveys.

Figure 1
Format of Other Reasons (Q40) and MIR (Q41) in the 2000 - 2003 Surveys

<p>38. Did you leave [HEALTH PLAN NAME] because you or your spouse, another family member, or a friend <u>had a bad experience</u> with that plan?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>	<p>39. Besides the reasons already asked about in Questions 2-38, are there <u>any other reasons</u> you left [HEALTH PLAN NAME]?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No → If no, go to Question 41 below</p>
<p>40. On the lines below, please describe your other reasons for leaving [HEALTH PLAN NAME]. <i>(Please print.)</i></p> <hr/> <hr/> <hr/>	
<p>41. What was the <u>one most important reason</u> you left [HEALTH PLAN NAME]? <i>(Please print.)</i></p> <hr/> <hr/> <hr/>	

Although the quality of the responses to the MIR and Other Reasons For Leaving items are generally good and can be used in the analysis, we consistently found in each survey year that we could not use data from a fair number of the respondent cases because either no reason for leaving the plan was reported, or the responses to the MIR and/or Other Reasons items were unrelated to reasons for leaving the plan. There are several recurring problems that impact the usability of some of the data reported in these open-ended items.

- Respondents often provided lengthy answers for both the MIR and the Other Reasons items, sometimes using the Other Reasons item to record their MIR. Some respondents also used the MIR item to expand upon or clarify a reason reported in the Other Reasons item.
- Some responses to the MIR and Other Reasons items did not describe a reason for leaving (e.g. the response described a health condition, situation or some other issue), thus were not usable for analysis. Project staff considered these entries “uncodable” and assigned a code indicating that the response was unrelated to a reason for leaving the plan.

- Some respondents cited more than one reason as their MIR when the item asks for the *one* most important reason for leaving their MA plan.
- Respondents often replicated their answers in both of the open-ended items.
- Some respondents did not provide a MIR, leaving *both* the MIR and Other Reasons items blank.

This last situation was particularly problematic in that the MIR is a critical analysis and reporting item, reflecting the one most important reason for leaving, whether that is a pre-printed reason or a reason not already asked about in the questionnaire. The Other Reasons item, by contrast, is intended to capture any “other” reasons that are not specifically asked about in the questionnaire.

Since results are analyzed and reported to consumers and health plans rolled up to the major domains described earlier, in the first survey year the project team decided to impute a MIR using the certain rules for imputation in order to retain and use as many cases as possible, especially in those instances in which the respondent did not report a MIR or the response provided for the MIR was uncodable. As shown in Table 1, about 12% of the cases in each of three survey years did not report a MIR. We could not impute a MIR for approximately 8% of the cases in those survey years.

Table 1. Cases Missing a MIR

Problem	Survey Year		
	2001	2002	2003
Did not Report a MIR	11.4%	12.8%	12.5%
Could Impute a MIR	4.4%	4.4%	4.4%
Could Not Impute a MIR (no MIR to analyze)	7.0%	8.4%	8.1%

As a result of these observations, the project team conducted a qualitative assessment to better understand the ease or difficulty that beneficiaries have in citing a most important reason. Using a combined mail survey and telephone follow-up approach, project staff interviewed a sample of respondents to the 2003 survey about the thought processes and ability to provide a MIR. Focusing on the MIR in these in-depth interviews gave project staff a deeper understanding of how beneficiaries interpret and respond to both the MIR and the Other Reasons items. In our interviews with individuals who did not report a most important reason, we realized that in some cases, respondent were confused by the purpose of the MIR and Other Reasons items. Most of these respondents indicated that they unintentionally left the MIR blank, while writing text that described their most important reason in the Other Reasons item. Further, we learned that for some respondents, providing just “one” most important reason is a difficult task, as the “reason” that they left was due to a number of factors which in their mind, reflect a single reason. For example, “I left because the premiums and copayments were too high” reflects an overall reason to a respondent of “it cost too much,” but at a detailed level, CMS and MA health plans are interested in knowing which of the two –premiums or copayments—was most important to the respondent.

As a result of this earlier qualitative work, we decided to implement some relatively simple and cost-effective formatting changes in the 2004 Survey to help respondents better understand the intent of the MIR and its importance, as well as to help them differentiate between the MIR and Other Reasons items. Therefore we made the following changes to the questionnaire used in the 2004 Reasons Survey, which are reflected in Figure 2.

- Inverted the order of the MIR and Other Reasons items. Respondents are asked to record their one most important reason *first*, followed by the question asking them to record any *other* reasons for leaving their health plan. We anticipated that this change would reduce or eliminate any unintentional recording of the most important reason in the Other Reasons item.
- Made better use of visual (graphic) queues. Previous research strongly suggests visual cues and formatting are important but often neglected factors in respondent interpretation and judgment of questionnaire items (Christian and Dillman 2004, Sanchez 1992). In an assessment of five interpretive heuristics in questionnaire formatting, Tourangeau et. al. (2004) found that “respondents make quick interpretive judgments about questions based on the visual cues in the questionnaire.” We hypothesized that better differentiation between the MIR and the Other Reasons items would help respondents understand the difference between these two open-ended items and reinforce the importance of the MIR item. As shown in Figure 2, we placed a box around the most important reason item and moved the Other Reasons item to a separate column.
- Reduced the amount of space available for recording text in both the MIR and Other Reasons items. We anticipated that this change would reduce extraneous information provided by respondents (or at least reduce the amount of explanatory text offered) because as noted by Smith (1998) “the amount of open-ended material... apparently depends in part on the amount of physical space allotted.” Specifically, for the MIR, we hoped that this change would encourage respondents to record only their one most important reason for leaving and reduce their recording of unrelated text.

In summary, we expected to achieve the following as a result of making these formatting changes:

- Reduce the number of cases missing a response for the MIR item
- Reduce the number of respondents citing an Other Reason that duplicates a reason already reported via marking yes to one of the pre-printed reasons items
- Reduce the number of Other Reasons responses that duplicate the response given as the MIR
- Reduce the amount of uncodable or extraneous information provided in the MIR
- Reduce the number of multiple reasons cited as the respondent’s MIR

Overall, our goal was to encourage more focused and concise reporting of the MIR and other reasons for leaving the MA plan.

Figure 2
Format of the MIR (Q39) and the Other Reasons Items (Q41) in the 2004 Survey

<p>38. Did you leave [HEALTH PLAN NAME] because you or your spouse, another family member, or a friend <u>had a bad experience</u> with that plan?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>40. Besides the reasons already asked about in Questions 2-39, are there <u>any other reasons</u> you left [HEALTH PLAN NAME]?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No → If no, go to Question 42 below</p>
<div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>39. What was the <u>one</u> most important reason you left [HEALTH PLAN NAME]? (Please print.)</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> </div>	<p>41. On the lines below, please describe your other reasons for leaving [HEALTH PLAN NAME].</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <div style="border: 1px solid black; background-color: #e0e0e0; padding: 2px; margin-top: 10px; text-align: center;"> <p>YOUR EXPERIENCE WITH [HEALTH PLAN NAME]</p> </div> <p>The next set of questions is about your experience with [HEALTH PLAN NAME].</p> <p>42. At the time that you left [HEALTH PLAN NAME], did this plan cover some or all of the costs of your prescription medicines?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>

METHODS

To evaluate the impact of making the formatting changes made to the MIR and Other Reasons items prior to implementing the 2004 survey, we compared mail survey data collected *before* the formatting and placement changes were made to mail survey data collected *after* changes were made. We used data from the first two quarters of the 2003 survey as our “before” sample and compared these data with respondent data from the first two quarters of the 2004 survey. As the reasons beneficiaries that beneficiaries disenroll from MA health plans can vary by the quarter in which they disenroll, it was important that we select the *same* two quarters within each survey year for our evaluation.

We compared the responses to the MIR and Other Reasons items from all mail survey respondents from the first two quarters of the 2003 survey those from all mail survey respondents in the first two quarters of the 2004 survey. For most of the measures of interest, we were able to simply compare the percentage of each measure across the two survey years. However, assessing the impact of the formatting changes on the number of reasons provided in

response to the MIR item required more work in that historically we do not count and document the number of reasons given as the MIR. We were faced with the task of potentially reviewing all of the narrative responses for the almost 9,000 cases from the first two quarters of the 2003 survey and over 10,000 cases from the first two quarters of the 2004 survey. As this was not practical from a cost or time standpoint, we instead selected a subsample of 1,638 cases – 819 cases per survey year- from our larger sample of respondents and counted the number of reasons cited in their most important reason text entries. The subsample was selected with the intent of detecting differences between proportions of 8% or more with 90% power. Project staff with experience coding the MIR and Other Reasons open-ended text entries reviewed the 1,638 cases and counted the number of reasons mentioned in each text entry.

To make our subsamples comparable between 2003 and 2004, we matched the samples on the following characteristics (using the collapsed response categories noted in parentheses):

- Age category (64 and under, 65-79, 80 years old and older)
- Race (White, African American, Other Race)
- Gender (Male, Female)
- Education (Less than HS, HS, More than HS)
- Health status compared to a year ago (About the same or worse, Better than before)

Ideally, we would have preferred a more expanded demographic listing (e.g. more categories on race), but it became problematic when matching across years because the n sizes were too small. Once the response categories were collapsed, we drew a random sample from respondents to the first two quarters in each survey year. Table 2 shows the key characteristics of the full and subsamples by survey year.

To determine whether differences observed in the selected measures were significant, we ran significance tests on each of the measures for both the 2003 and 2004 samples as a whole and for the subsample that we had drawn to investigate whether there were changes in the number of reasons provided for the MIR. We conducted the analysis in two stages. In the first stage, we built six univariate logistic regression models. The dependent variables in the analysis were the response to the most important reason (MIR) or Other Reasons items, coded by whether (1) the MIR was missing, (2) an Other Reason for leaving was cited, (3) the narrative text for the MIR was uncodable, (4) the Other Reason cited duplicated a reason already marked in one or more of the closed-ended reasons questions, (5) the Other Reason that was provided duplicated the reason given as the MIR, or (6) multiple reasons were given for the MIR. The independent variable was the survey year (2003 or 2004). The odds ratio was the preferred estimate in the analysis due to its ease of interpretation. We used it to compare whether the probability of a certain event (e.g., missing a MIR) was the same between the two years.

The second stage of our analysis considered the effects of four additional independent variables. These included three demographic variables (age, education, and race) and one health-related variable (self-reported health compared to one year ago). We collapsed the age variable to three levels (under age 65, 65-79, 80 years old and older) and treated those under age 65 as the reference group. We classified the education variable as less than high school, high school graduate, or some college or higher (the reference group). ‘White’ was the reference group in the

race variable, which also included African American and Other Race categories. We set the variable “Health compared to a year ago” as a dummy variable (same or better versus worse). To

Table 2
Key Characteristics of Full Sample and Subsample
Used to Assess the Impact of Formatting Changes in the 2004 Survey

Characteristic	2003		2004	
	Full Sample	Subsample	Full Sample	Subsample
N =	9,021	819	9970	819
Age	Percent	Percent	Percent	Percent
Under 65	11	11	10	10
65-79	71	71	72	71
80+	18	18	18	19
Education				
Less than HS	27	27	25	27
HS	33	33	33	33
Some college+	40	40	42	40
Race				
White	84	84	85	84
Black	11	10	10	10
Other	5	6	5	6
Health compared to a year ago				
Same or Better	78	79	79	79
Worse	22	21	21	21

use the same sample that we used in the first stage of the analysis, we imputed missing data for these four independent variables with their mode values, as needed.

FINDINGS/RESULTS

Table 3 shows the results of the six separate models and the percentage of each measure in the two survey years. Table 4 presents the results of our second-stage analysis which considered the effects of the four additional independent variables and the odds ratios and significance tests. The findings of our evaluation of the impact of formatting changes to the MIR and Other Reasons items in the 2004 Reasons Survey are summarized below.

Table 3
Summary of the Six Univariate Logistic Regression Results and Descriptive Analysis of Each Selected Measure

	Sample Size		Percent		Odds Ratio	p-value
	2003	2004	2003	2004		
Full Sample N =	9,021	10,789				
Reported a MIR	7,608	10,055				
Did not report a MIR	1,413	734	15.7%	6.8%	0.393	<.0001
Reported an Other Reason for leaving	5,103	2,926	56.6%	27.1%	0.286	<.0001
MIR was uncodable	271	419	3.6%	4.2%	1.177	0.0401
Other reason duplicated reason already reported in preprinted reasons	2,472	1,526	27.4%	14.1%	0.436	<.0001
Other reason duplicated the reason cited as the MIR	2,467	791	27.3%	7.3%	0.210	<.0001
Subsample N =	819	819	2003	2004		
Did not report a MIR	129	55				
Reported one reason as MIR	539	603	78.1%	78.9%		
Reported 2 or more reasons as the MIR	151	161	21.9%	21.1%	0.953	0.7067

Reduce Missing Data in the MIR Item

Two of the principal formatting changes made to the MIR item in the 2004 survey were the reduction of the amount of space allowed for recording the most important reason for leaving, as well as placing a box around the answer space. By making the MIR the only question with such a box, we hoped it would stand out as an important question and warrant more attention from the respondent. As can be seen in Table 3, respondents were significantly less likely to skip the MIR item in 2004 than in 2003. The percent of interview cases missing a response to the MIR item dropped from 15.7% in 2003 to 6.8% in 2004. The 8.9% drop in the percentage of missing MIR responses from 2003 to 2004 is compelling evidence that the formatting changes in the 2004 survey created a much more respondent-friendly item and suggests that it helped them understand the importance of the MIR.

Reduce Reporting of Other Reasons Already Reported in Preprinted Reasons Items

The intent of the Other Reasons item is to capture information about reasons that are not already reported in either the 34 closed-ended reasons items or in the MIR item. While duplication of a preprinted reason is a valid response for the MIR text entry if it is the respondent's most important reason for leaving, it is not a valid response to the Other Reasons item if it was already reported in one of the preceding closed-ended reasons questions. In the

Table 4
Summary of Statistics from Six Full Logistic Regression Models

Variables	Missing MIR (19,810 cases)		Citing other reason (19,810 cases)		Uncodable MIR (17,663 cases)		Other reason duplicated a preprinted Reason (19,810 cases)		Other reason duplicated the MIR (19,810 cases)		Multiple versus one Reason Cited As the MIR (1,454 cases)	
	Odds Ratio	p-value	Odds Ratio	p-value	Odds Ratio	p-value	Odds Ratio	p-value	Odds Ratio	p-value	Odds Ratio	p-value
Year		**		**		*		**		**		
2004 vs 2003 Survey	0.39		0.29		1.18		0.44		0.21		0.96	
Age		*		*		**		**		*		*
Age 65-79 vs Under age 65	1.19		0.89	**	0.8	**	0.83		0.97		0.61	
Age 80+ vs Under age 65	1.27	*	0.95		1.25	**	0.72	**	1.12	*	0.53	*
Education		**		**		**						
High School vs Some college+	0.93	**	0.96		1.1		0.99		0.95		1.00	
Less than High School vs Some college+	1.22	**	0.89	**	1.38	**	0.93		0.91		0.90	
Race		**				**						
Black vs White	1.56	**	0.93		1.62	*	0.99		1.06		0.78	
Other vs White	1.54	*	0.95		1.39		0.91		1.04		0.80	
Health compared to a year ago		**		**				**		*		
Same or Better vs Worse	1.31		0.84		1.15		0.81		0.89		0.96	

**Significant at the 99% level of confidence.

*Significant at the 95% level of confidence.

2004 Reasons Survey questionnaire, placing the Other Reasons item *after* the MIR reduced the number of responses to this item by almost 30%, from 56.6% in 2003 to 27.1% in 2004. Such a large reduction in the number of responses to this item suggests that respondents understood the intent of the Other Reasons item much more clearly, providing an answer only if they had a reason for leaving that was truly different from all of the reasons reported in the preceding questionnaire items.

Our findings also show that the formatting changes we made resulted in fewer duplicate entries between the Other Reasons item and the preprinted reasons asked in the questionnaire. The percentage of respondents duplicating a preprinted reason in their response to the Other Reasons item that had already been marked as being a reason in the preceding questions

decreased by almost 50%, dropping from 27.4% in 2003 to 14.1% in 2004. The percentage of respondents duplicating the MIR also decreased 20% from 2003 to 2004.

Reduction in the Number of Uncodable Responses

Another measure we focused in our evaluation was the number of responses given to the MIR that were uncodable, i.e., the response to the MIR item did not describe a reason for leaving the plan or contained text that could not clearly be assigned to a code. For this measure, we saw a marginally statistically significant *increase* in the number of uncodable responses given between 2003 and 2004, from 3.6% to 4.2% ($p=0.0401$). However, given the significant increase in the number of most important reasons cited in the 2004, this is perhaps not that surprising.

Reduction in the Number of Reasons Cited

One of the most perplexing problems that we have been faced with in this survey is respondent's ability to report a single reason as their most important reason. The MIR is intended to collect the one most important reason that the respondent left their Medicare Advantage health plan. Through various qualitative activities conducted over the past few years, we consistently found that some respondents have a very difficult time providing only one reason, considering their "reason" to be a collection of factors that led to their decision to leave the plan. In prior qualitative work we attempted to determine what changes to this item, if any, would help respondents understand the intent of this item. Even after repeated probing, however, we found that some respondents simply could not separate their reasons to give one reason that they considered to be the most important for leaving their MA plan. Nevertheless, we hoped that decreasing the amount of space allowed for the MIR might encourage respondents to think more carefully about their answer and thus give a more concise and clear reason for leaving their plan.

Table 5 shows the results of our comparison of the number of reasons reported as the in the 2003 and 2004 subsamples. In our evaluation of the impact of the formatting changes to the MIR item, we could not find any statistically significant difference in the number of reasons given. While it is encouraging to see that the majority of respondents answering the MIR in both the 2003 and 2004 subsamples cited only one reason, the number of respondents giving two, three or four or more distinct reasons is statistically the same.

Differences Among Demographic Subgroups

As can be seen in Table 4, after control variables of age, education, race and health were inserted into the model, the results for all selected measures between the two years are consistent. However, there are some differences across these demographic characteristics that are worth highlighting. These are noted below.

Table 5
Number of Reasons Cited as the Most Important Reason in the 2003 and 2004 Subsamples

Number of Reasons Cited	2003		2004	
No MIR Reported	129	15.8%	55	6.7%
Cited 1 Reason as the MIR	539	65.8%	603	73.6%
Cited 2 reasons as the MIR	118	14.4%	138	16.8%
Cited 3 reasons as the MIR	25	3.1%	16	2.0%
Cited 4 or more reasons as the MIR	8	1.0%	7	0.9%
Total	819	100%	819	100%

Age. The results suggest that older respondents are more likely to skip the MIR item and when they do provide a response to the MIR item, it is more likely to be uncodable. Also, the older the respondents are, the less likely they are to cite an Other Reason that duplicates a reason reported in a preceding question, however, the more likely they are to cite a reason in the Other Reasons item that duplicates the MIR. The results also suggest that older respondents are less likely to cite multiple reasons as their most important reason for leaving the MA plan. Respondents between the ages of 65 to 79 are less likely to cite an Other Reason and give an uncodable MIR than respondents in the other age groups.

Education. Similar to the findings about age, those respondents with less than a high school education are significantly more likely to skip the MIR item and when they do cite a MIR, it is more likely to be uncodable. Those with less than a high school education are also less likely report a reason for leaving in the Other Reasons item.

Health Status. Health status appears to be another important factor in the model. Those respondents with the same or better health compared to a year ago are significantly more likely to skip the MIR than those in worse health. By contrast, they are less likely to cite an Other Reason. They are also less likely to cite an Other Reason that duplicates a reason already reported in a preceding question than respondents who reported that their health is worse than a year ago.

Multiple Reasons Reported as the MIR. There was no significant factor in the model related to whether multiple reasons are reported as the MIR except age. While there was sufficient power to compare overall differences between responses to the 2003 and 2004 surveys in the subsample, there was probably insufficient power to detect differences among the subgroups within this sample except in cases where effects were strong.

DISCUSSION

With all of the changes that are occurring as a result of the Medicare Modernization Act, it is now even more important than ever to have a window into the quality of care that Medicare beneficiaries receive (from their perspective) and how these changes impact their choice of Medicare health plan options. It is also important to understand what factors influence their decisions to leave their MA plans. For this reason, the project team will continue to use an open-

ended response format for both the MIR and Other Reasons items. Although we have looked for ways to improve the quality of the data collected overall and for these items in particular with each successive implementation of the Reasons Survey, it is clear that there is room for further evaluation.

While our results show that we significantly reduced missing data for the MIR item and the number of “other reasons” that duplicate reasons reporting in preceding questions, we were less successful at reducing the number of multiple reasons cited or the number of reasons that were not codeable. As mentioned earlier, this former issue is perhaps driven more by how beneficiaries perceive their reason for leaving and whether they are able to “unbundle” what may be an array of reasons that contributed to their decision to leave the plan than by whether they understand the intent of the MIR item. Overall, we believe that by making graphical changes to the MIR item, we were able to limit the number of missing responses to the MIR, thus improving the quality of the data for this item.

Our findings also consistent with the research literature in that answers to self-administered questionnaires are influenced by the ways in which questions and answers are displayed on the page (Smith, 1993). They also are consistent with other researchers findings that formatting and visual queues are important factors in respondents’ interpretation and judgment of questionnaire items. However, it is important to note that there may be confounding and interaction issues in the logistic regression model we used in our evaluation. When we control for these effects using additional demographic variables, however, we did not see noticeable changes in the results. In the future, we will investigate some interaction effects in the model, for example looking further into the older and less educated respondents versus older respondents with more education.

More research is needed to confirm the findings from our evaluation – some additional research that may be undertaken in the future are described below.

- Conduct this same evaluation using a full year’s worth of survey data from each of two survey years. We will continue to assess the effectiveness of the formatting changes we made as we continue with the implementation of the 2004 survey. With a larger respondent sample, we expect that we will be able to determine whether the effects we observed in the first two quarters of 2004 are sustained.
- Conduct more qualitative research (focus groups and cognitive interviews) to examine respondent’s interpretation of the MIR and Other Reasons items. We believe that further qualitative work with Medicare beneficiaries is warranted, to both assess respondents’ interpretation and understanding of the item placement and other formatting changes as well as to continue to evaluate how well these items are working. An additional part of such a qualitative study needs to be directed at a continuing evaluation of whether and if respondents are able to provide a “single” versus “multiple” reasons for leaving.
- Conduct more qualitative research to examine the appropriateness of the reasons domains used to report survey results. Evaluate the current reporting category groups to determine whether these accurately reflect the way respondents think of

their MIR and are the best way of showing such data to beneficiaries in general. Our findings from this activity as well as from previous qualitative research suggest that more evaluation is needed about whether and how to incorporate “multiple” reasons into the single most important reason analysis variable.

In summary, by making some low-cost formatting changes to our mail survey questionnaire, we have seen a positive change in the quality of the data collected for this important item. With fewer missing most important reasons, the data that will be posted to CMS’s website will be more reflective of the Medicare beneficiary population surveyed. These findings suggest that relatively minor changes in formatting can improve the quality of data collected among Medicare beneficiaries and an older population in general, when open-ended text is required.

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