National Evaluation of the *Medicare & You* 2000 Handbook

Final Report

Submitted to:
Sherry Terrell, Ph.D.
Health Care Financing Administration
OSP, R&EG, DPR
7500 Security Boulevard
M/S 3C-19-26
Baltimore, MD 21244-1850

Submitted by:
Research Triangle Institute
3040 Cornwallis Road
Research Triangle Park, NC 27709-2194

HCFA 500-96-0010T004
RTI Project Number 6613-004

October 15, 2001

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Authors:
Lauren McCormack, Ph.D.
Wayne Anderson, Ph.D.
Sarah Daugherty, M.P.H.
Kevin Ross, M.S.P.H.
May Kuo, Ph.D.
Judy Lynch, B.A.
Scott Scheffler, M.Ap.Stat.
Steven Garfinkel, Ph.D.

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Acknowledgments

The authors would like to gratefully acknowledge the roles of Judy Hibbard, Dr.P.H., Shoshanna Sofaer, Dr.P.H., and Ute Bayen, Ph.D. who served as consultants on this project.

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Abstract

The purpose of this evaluation was to measure the effect of the *Medicare & You* 2000 handbook on various outcomes within the context of the National Medicare Education Program (NMEP). Data were collected during 1999 and 2000 using a mail survey with telephone follow-up of a random sample of nearly 4,000 Medicare beneficiaries. Beneficiaries were randomly assigned to either a control group who received no information as part of the study or a treatment group who received a copy of the handbook as part of a HCFA mailing. One-half of the treatment group was re-mailed a second copy of the handbook along with their survey instrument. Exposure to the handbook had small to modest effects on some of the outcomes we studied. It was significantly associated with increases in beneficiary knowledge of the Medicare program, awareness of different plan options, and thinking about or deciding to switch health plans. Being in the treatment group was not significantly associated with beneficiary satisfaction with or confidence in one's health plan, or the degree to which beneficiaries trust information from the Medicare program. Two-thirds of treatment group members remembered seeing a copy of the handbook with those in the re-mail group being significantly more likely to remember seeing it.

EXECUTIVE SUMMARY

Background

The national mailing of the *Medicare & You* 2000 handbook in the fall of 1999 was a significant undertaking by the Health Care Financing Administration (HCFA). Although the former version of the handbook, known as *The Medicare Handbook,* was available nationally for many years and had been mailed to beneficiaries on selected occasions, the 2000 version of the handbook was revised and significantly expanded. It includes more information about Medicare costs and benefits, new managed-care options, patient rights, and multiple informational resources. It was also the first time that quality of care information comparing local health plans was sent to all beneficiaries. The national mailing offered beneficiaries an opportunity to access information about the Medicare program they may not have been able to obtain otherwise. Theoretically, beneficiaries who report having enough information to make their health insurance decisions should make more informed decisions than persons who report having an inadequate amount of information. The goal of this evaluation was to measure the effect of the year 2000 handbook on various outcomes within the broader context of the National Medicare Education Program (NMEP) and its goals (i.e., access, awareness, understanding, and use/impact).

Study Design

Data were collected using a mail survey with telephone follow-up of a random national sample of Medicare beneficiaries drawn from HCFA's 1998 Enrollment Data Base. The sample was drawn proportional to the 26 geographic regions to which the *Medicare & You* handbook was customized with information about local health plans. Beneficiaries were randomly assigned to a control group who received no information as part of the study or to a treatment group. One half of the treatment group members were re-mailed a copy of the handbook along with their survey instrument (and are referred to as the "re-mail" group) to explore whether re-mailing affected readership. The other half of treatment group members received a single copy of the handbook as part of the national mailing (and are referred to as the "no re-mail" group). In addition, we randomly assigned beneficiaries to receive a $10 participation incentive to explore the use of financial incentives in the Medicare population. A separate report has been prepared detailing the results of this incentive experiment.

The survey instrument was developed to measure beneficiary knowledge of the Medicare program and related health insurance options, use of Medicare information sources, and attitudes about health plan choice and decision-making. It also asked treatment group beneficiaries to provide feedback on the *Medicare & You* handbook. We conducted data collection activities with the control group from July 7 through October 6, 1999, just before HCFA's national mailing of the handbook, and with the treatment group from October 25, 1999, through February 5, 2000, which was immediately after the national mailing. The overall response rate for the survey was 76 percent. The data set contains 1,175 control group cases and 2,563 treatment group cases for a total of 3,738 observations. The data were weighted for the probability of selection and non-response.

We conducted a follow-up survey with the control group after the national mailing. Results from that survey, which primarily focused on beneficiary knowledge, will be reported at a later date. We also conducted three focus groups with Medicare beneficiaries during a 4-week period from late April to mid-May 2000 to augment the quantitative data collected in the evaluation survey. Results of the focus groups are discussed in this report.

Methods

In addition to descriptive analyses on most questions, we performed a multivariate regression analysis on the survey data to examine the effect of receiving the Medicare & You handbook on eight different outcomes spanning the four NMEP goals. Of the eight regression models, one reflects the NMEP goal of access (i.e., whether beneficiaries have access to an adequate amount of information about Medicare); one reflects awareness (i.e., whether beneficiaries are aware of different types of Medicare plan options currently available); one reflects understanding (i.e., a 22-item Medicare knowledge index); and five were categorized under the use/impact category. These latter five outcomes are the tendency of beneficiaries to switch health plans, their level of satisfaction with their current health insurance arrangement, their confidence in that health insurance arrangement, the degree to which they trust information received from the Medicare program, and whether the treatment group read the Medicare & You 2000 handbook.

For the knowledge and awareness indices, we used ordinary least squares (OLS) regression. The remaining six models had categorical dependent variables; therefore, maximum likelihood estimation methods (logistic regression and ordered logistic models) were employed. We included independent variables in each regression model drawn from a range of beneficiary characteristics to serve as controls. After performing each regression, we predicted the mean value of the outcome for the re-mail, no re-mail, and control groups to determine the predicted effect of the intervention after controlling for factors that may influence the outcomes.

Findings

Providing beneficiaries with access to accurate and reliable information is an important objective of the NMEP. After controlling for other factors that may have affected access to information, we predicted that 59 percent of beneficiaries in the re-mail group reported having enough Medicare-related information, compared to only 51 percent in the control group. About 56 percent of beneficiaries in the no re-mail group reported having enough information based on predicted probabilities. Because treatment group members were less likely to report a lack of information, this suggests that the handbook had a positive effect on beneficiaries' access to information.

Treatment group members were also more likely to be aware of different health insurance options available to fill in gaps in Medicare coverage. However, many beneficiaries lacked specific information about the different options and were not able to compare and contrast the key features. For example, only about 3 in 5 beneficiaries knew which type of health insurance option gives the most freedom to choose certain providers. They were also confused about what Medicare covers and does not cover. Only about one-half of beneficiaries knew which type of insurance option was least likely to pay for prescription drugs. Only a small proportion of beneficiaries used existing information services. Although a lack of interest or motivation might be reasons for the low level of use, more outreach efforts could be used to inform beneficiaries about available services. HCFA may want to consider increased marketing of the new web-site, although some older consumers are not inclined to use computer-based resources according to both our quantitative and qualitative results.

Exposure to the handbook increased awareness of plan options as measured by our 3-item awareness index. On this 3-point scale, our model predicted that treatment group members scored 2.3 compared to control group members who scored 2.1 on the scale. This difference in predicted scores is attributable to the handbook. The findings also suggest that the handbook had a significant positive effect on beneficiary knowledge, although the absolute gain in knowledge appears to be modest. The re-mail treatment group had a mean score of 49 (out of 100) on the 22-item knowledge index, whereas the no re-mail treatment group members scored 45, and control group members scored 42. In a multivariate framework controlling for other factors, individuals in the treatment group were 12 percentage points more knowledgeable than control group members as measured by the knowledge index.

Findings related to beneficiary knowledge were generally consistent with the precursor evaluation in Kansas City in which we evaluated the Medicare & You 1999 handbook. The knowledge findings have educational policy implications for vulnerable sub-populations that did not gain as much from the intervention including those of lower education and income levels, nonwhites, Hispanic beneficiaries, and those without supplemental insurance. Simplifying the handbook and/or alternative transmission strategies (including those not dependent on print) to reach these populations should be considered.

It is possible that beneficiaries may only glean a limited amount of information from the handbook, consulting it only when questions arise as suggested by the qualitative interviewing, in which we found that gains in knowledge seemed to be associated with perceived relevance of an issue. As a result, we concluded that interest in the information is an important predisposing variable to information exposure and gains in knowledge. How large gains in knowledge should or need to be is an important policy question. Given the complexity of the Medicare program, small gains in knowledge may be all that can be realistically expected. Perhaps it is sufficient if beneficiaries are able to locate the information they need when they need it and not necessarily retain it in their memory.

From this study we are unable to conclude with certainty that repeated exposure will result in increasing knowledge over time; however, the data suggest that this is the case. This is also consistent with communication and marketing principles of message reinforcement. Our analysis showed additional gains in knowledge of between 3 and 5 percentage points among those who were exposed to both the 1999 and 2000 versions of the handbook (relative to those who only saw only one or neither of the handbooks). Thus, we may see increases in beneficiary knowledge over consecutive years with the annual dissemination of the handbook. Additional analysis using different Medicare data sets and other modeling approaches should be pursued to investigate this further.

Several important policy questions arise from our analysis. What amount of information and at what interval is appropriate? Should all beneficiaries receive the handbook every year, every other year, or every few years? Would shorter, more frequent messages be more effective at reaching beneficiaries? Since we have learned that beneficiaries use the handbook as a reference tool, an argument could be made that annual dissemination may not be necessary. However, because the Medicare program has recently experienced unprecedented changes and because of the withdrawal of several Medicare health maintenance organizations (HMOs) from the market, it may be worthwhile to invest resources in sending the handbook out annually to all beneficiaries for the next several years. Thereafter, other options could be considered. For example, an abbreviated version of the handbook like the eight-page Medicare & You 1999 bulletin that provided a summary of key messages and major changes in Medicare program could be created and mailed for less expense. A shorter document is likely to be less intimidating and may increase the chances of it being used.

We examined the effect of the handbook on the probability of changing health plans and found that beneficiaries in the treatment group were more likely than control group members to switch plans or think about switching plans. Our model predicted that 5 percent of treatment group members had decided to switch health insurance plans during the prior month compared to 3 percent of control group members. Overall, only 13 percent of beneficiaries had thought about switching. This is the opposite result that we found in the Kansas City evaluation. However, we attributed the Kansas City results to the strong message found in the 1999 version of the handbook that beneficiaries did not need to change plans if they were happy with their current plan. This message was largely withdrawn from the 2000 handbook, and its removal may have reversed the effect of the intervention. Despite the significant difference between the control and treatment groups, the overall proportion of beneficiaries who changed plans was less than 5 percent. In general, beneficiaries are satisfied with the insurance arrangement they have and are not inclined to change plans despite the new options made available as a result of the Balanced Budget Act of 1997.

Being in the treatment group was not significantly associated with beneficiary satisfaction with or confidence in one's current health plan or the degree to which beneficiaries trust information they receive from the Medicare program. The predicted values from our models showed that a little more than 90 percent of all beneficiaries were satisfied with their current health plan, that half of all beneficiaries were extremely or very confident in their current health plan, and that approximately 90 percent of beneficiaries trusted information from the Medicare programs. Although being in the treatment group did not have a significant effect on these attitudinal measures, the opposite was true for more concrete or observable measures of knowledge, such as whether one thought about or decided to switch health plans, and whether beneficiaries had access to or were aware of information concerning health plan choice. In a recent analysis of the Medicare Current Beneficiary Survey, we also observed that the 1999 version of the handbook did not have a demonstrated effect on attitudinal measures of satisfaction and confidence. Although these attitudinal measures may have some effect on the more observable measures, it may be prudent to focus future evaluations on increasing these more observable outcomes where the handbook seems to have a more demonstrated effect.

Two-thirds of treatment group participants remembered seeing a copy of the handbook, with those in the re-mail group being significantly more likely to remember seeing it. As a test of our re-mail experiment, we modeled whether being in the re-mail treatment group increased the odds that beneficiaries would read the handbook and found that those who received a second copy were more likely to read at least some of it. Interestingly, the monetary incentive had a negligible effect on the probability of reading the handbook. The predicted mean value for the probability of reading the handbook after controlling for other factors was 49 percent, meaning that only about half of the beneficiaries who were mailed the handbook read it. Among beneficiaries who read at least part of the handbook, 55 percent spent at least 30 minutes reading it, including 23 percent who spent more than 1 hour.

Focus group participants appeared proficient at navigating within the handbook. The Medicare phone line was cited by survey respondents as the most useful piece of information in the handbook and was supported by the focus group data. Beneficiaries displayed mild enthusiasm for the tables and graphs in the handbook. Nearly all beneficiaries correctly understood the purpose of the handbook and felt that it was useful. Most kept it for future reference.

In summary, the Medicare & You handbook had small to modest significant effects on some of the outcomes we studied. Receiving the handbook was significantly associated with increases in beneficiary knowledge, awareness of plan choices, and thinking about or deciding to switch health plans. Only the re-mail treatment group was more satisfied with the amount of information they had about Medicare; this may have been related to being sent a second copy of the intervention as opposed to simply being in the treatment group. In other words, re-sending the intervention may have had an effect independent of the content of the intervention.

Because we focused the evaluation on the effect of the handbook mailing (using treatment group status as the key policy variable of interest), we did not explicitly measure the effect of reading the handbook on these outcomes. Future evaluations may want to take this approach. Additional analyses could also explore whether repeated exposure is truly associated with increased effectiveness or whether our re-mail results were simply due to a more recent exposure of the handbook or having the handbook available at the time beneficiaries were interviewed. Continued monitoring of the handbook and the NMEP as a whole could address this issue as well as explore changes in the outcomes over time.

1.0 INTRODUCTION

1.1 Background on the National Medicare Education Program

The Balanced Budget Act (BBA) of 1997 made some of the most significant changes to the Medicare program since its inception over 30 years earlier. The BBA legislated that several new health insurance options could be made available to Medicare beneficiaries as part of the Medicare + Choice program. Congress also required that information be provided to Medicare beneficiaries about their health insurance options. In response to the BBA, the Health Care Financing Administration (HCFA) initiated the National Medicare Education Program (NMEP). The NMEP is a multifaceted communication program with the ultimate goal of educating Medicare beneficiaries so that they can make more informed health plan decisions. The specific objectives of the program are to ensure that beneficiaries have ***access*** to accurate and reliable information, that they are ***aware*** of the different health plan choices available to them**,** that they ***understand*** the consequences of choosing different plans, and they are able to ***use*** the information provided to them when making decisions. HCFA would also like beneficiaries to view the Medicare program and its private-sector partners as trusted and credible sources of information (Goldstein, 1999; Cronin, 2000).

In addition to several newly created print materials, the NMEP includes telephone help lines, an Internet information data base, training and support for information intermediaries, enhanced beneficiary insurance counseling services, and state and community-based outreach and education efforts. The *Medicare & You* handbook is the primary print medium that HCFA has developed. The 1999 version of the handbook was pilot tested in five states (Arizona, Florida, Ohio, Oregon, and Washington) and the Kansas City metropolitan statistical area (MSA) in fall of 1998. The *Medicare & You* 2000 version was mailed to 33 million beneficiary households in the United States during September and October 1999. The 2000 version of the handbook was the first to provide quality of care information at the health plan level to beneficiaries. Although the core of the handbook is the same for all regions of the country, the section on quality of care was tailored to 26 different geographic areas. Both technical and interpersonal measures of quality of care were provided using measures from HEDIS® (Health Plan Data Information Set) and CAHPS® (Consumer Assessments of Health Plans), respectively. The core of the handbook contains an overview of the Medicare program and basic benefits, a description of the different Medicare plan choices, information on how to get assistance and Medicare rights and protections, a question-and-answer section, and definitions of important terms used in the handbook.

1.2 Study Design

The goal of this evaluation was to measure the effect of the *Medicare & You* 2000 handbook on various outcomes within the broader construct of the NMEP. We focused on the effect of the handbook on beneficiary knowledge, use of Medicare information sources, and attitudes about health plan choice and decision making. We also obtained direct feedback from beneficiaries about the handbook in terms of comprehension and usefulness. Preliminary results from this evaluation were made available earlier this year (McCormack, et al., 2000a).

The study was largely a quantitative evaluation based on a national survey of Medicare beneficiaries. However, we also conducted three focus groups in various locations to augment the survey data. We describe the evaluation survey in detail in the following sections and conclude this chapter with a brief overview of the qualitative component of the study.

1.2.1 Survey Sample

The target population for the national evaluation survey included all Medicare beneficiaries who are eligible for Medicare because of their age and who have both Medicare

Part A (hospital insurance) and Medicare Part B. Beneficiaries excluded from the sampling frame included those with the following characteristics:

- were dually eligible for Medicare and Medicaid,
- lived outside the 50 states and Washington, DC,
- had end-stage renal disease (ESRD),
- were institutionalized in skilled nursing or long-term care facilities,
- were receiving hospice care, and/or
- were originally eligible for Medicare because of a disability.

The 1998 version of HCFA's national 1 percent Enrollment Data Base (EDB) file was used as the sampling frame for this study. This file contained a random selection of 1 percent of all Medicare beneficiaries (314,256 beneficiaries met the criteria above), making it representative of the entire Medicare population.

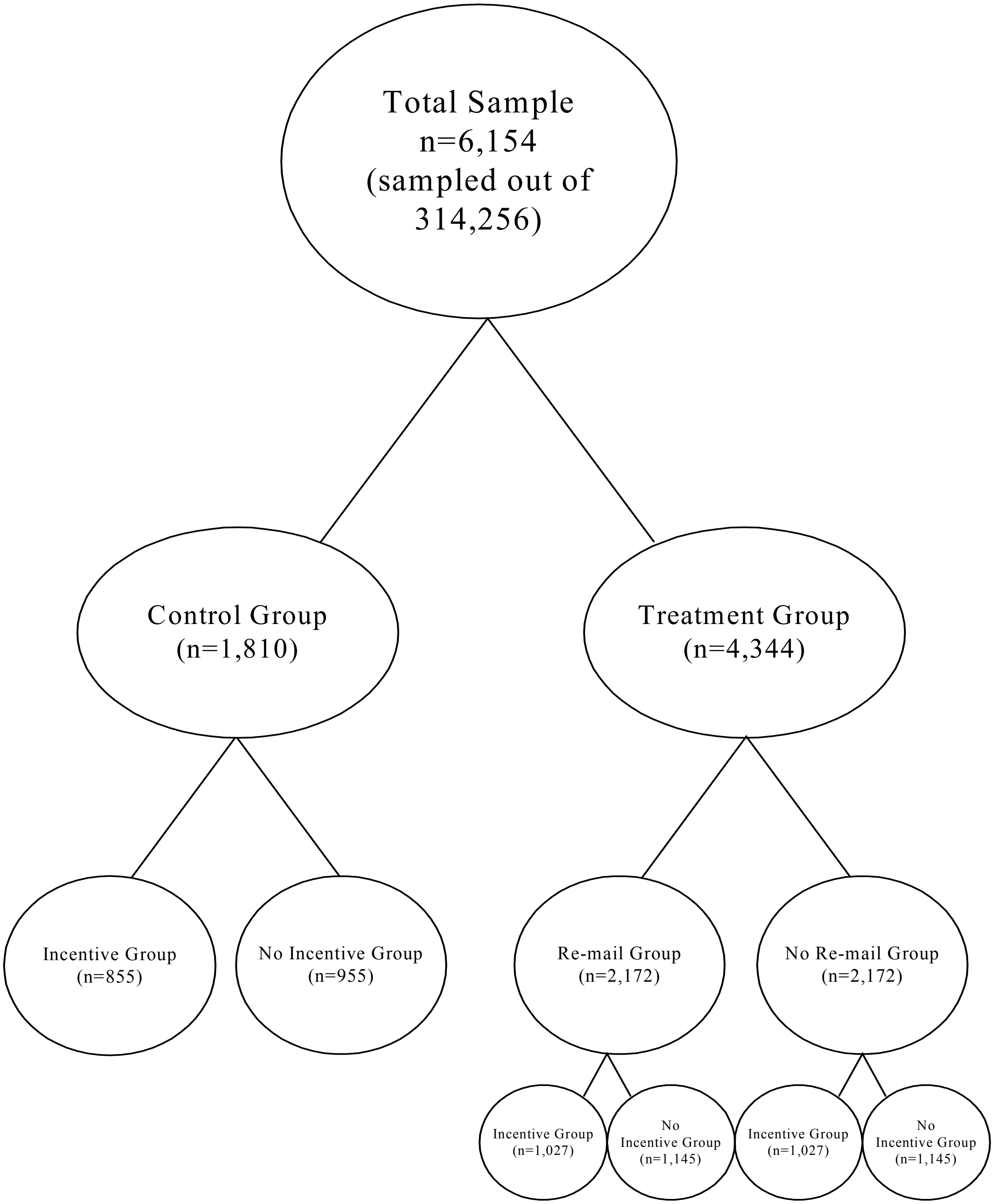
A sample of 6,154 Medicare beneficiaries was randomly selected for this study (see ***Exhibit 1-1***). The sampled beneficiaries were assigned to one of three study groups:

- the control group who received no information as part of the study,
- a treatment group who received a *Medicare & You* handbook from HCFA, and a re-mailing of the handbook from the study (re-mail group), and
- a second treatment group who received only a handbook from the HCFA national mailing but no additional handbook as part of the study (no re-mail group).

Incentive and no incentive cases were randomly assigned within the control and treatment groups.

Besides the re-mailing, there was no difference in the approaches used during data collection for the re-mail and no re-mail groups. It is important to note that although the control group received no information as part of the study, they could have received Medicare information from other sources. Because the *Medicare & You* handbook is customized for a particular geographic region, we drew the samples within these three groups proportionally to the size of the region (see ***Exhibit 1-2***). The proportion of demographic subgroups (age, gender, and race) was also maintained across these groups and regions.

Exhibit 1-1
National *Medicare & You* 2000 Handbook:
Evaluation Sample Frame



Note: Sample acquired from HCFA's Enrollment Data Base.

Exhibit 1-2

Number of Medicare Beneficiaries in Universe and Sample, by 26 Geographic Strata Used by the *Medicare & You* 2000 Handbook

Geographic Strata	Number in Medicare Universe[1]	Number in Control Group	Number in Treatment Re-mail	Number in Treatment No Re-mail
Nation	**40,337,000**	**1,810**	**2,172**	**2,172**
Northern New England	486,000	22	26	26
Southern New England	1,627,000	73	87	87
New Jersey, Puerto Rico & Virgin Islands, Atlantic/Euro Military	1,773,000	80	95	95
Upstate New York	1,114,000	50	60	60
New York City Vicinity	1,696,000	76	91	91
Pennsylvania	2,179,000	98	117	117
Washington, DC, Delaware, Maryland, Virginia, West Virginia	2,103,000	95	114	114
North Carolina, South Carolina	1,727,000	78	93	93
Alabama, Mississippi, Georgia	2,070,000	93	112	112
Northern Florida	1,564,000	70	84	84
Southern Florida	1,316,000	59	71	71
Kentucky, Tennessee	1,497,000	67	80	80
Illinois, Indiana	2,593,000	116	140	140
Minnesota, Michigan, Wisconsin	2,939,000	128	160	160
Western & Southern Ohio	980,000	44	53	53
Eastern Ohio	792,000	36	42	42
Arkansas, Louisiana, Oklahoma, New Mexico	1,847,000	83	99	99
Eastern & Southern Texas	1,265,000	57	68	68
Northern & Western Texas	1,046,000	47	57	57
Kansas, Nebraska, Iowa, Missouri	2,062,000	93	111	111
Colorado, Utah, Wyoming, Montana, North Dakota, South Dakota	1,124,000	51	61	61
Arizona, Nevada, Hawaii, Pacific Territories, Pacific Military	1,072,000	48	57	57
Northern & Central California	1,692,000	76	91	91
Southern California	2,309,000	104	125	125
Washington, Alaska	791,000	36	42	42
Oregon, Idaho	673,000	30	36	36

[1] No survey eligibility exclusions have been applied.

Exhibit 1-3

Number of Beneficiaries Sampled and Expected and Actual Completed Surveys

Beneficiaries	Sampled	Expected Completions	Actual Completions
Control Group with Incentive	855	625	671
Control Group with No Incentive	955	625	676
Re-Mail Group with Incentive	1,027	750	732
Re-Mail Group with No Incentive	1,145	750	732
No Re-Mail Group with Incentive	1,027	750	736
No Re-Mail Group with No Incentive	1,145	750	748

After beneficiaries were assigned to a study group, they were then randomly assigned to either a $10 financial incentive group or a no incentive group. We anticipated that the incentive group would have a higher response rate; thus, fewer cases needed to be sampled to get the number of completed questionnaires needed for analysis. Therefore, the sample assignments were not equally split among the incentive and no incentive groups. Rather, they were assigned such that the *expected number of completed interviews* would support the research goals of the study as indicated in a power analysis (see ***Exhibit 1-3***). A separate report documents the effect of the incentive on survey response rates (Lynch et al., 2000).

1.2.2 Materials Development and Testing

We developed and cognitively tested two survey instruments for the evaluation—one for the control group and one for the treatment group (Office of Management and Budget [OMB] No. 0938-0771). They were developed by a multidisciplinary team of RTI and HCFA staff members and consultants after careful review of the study intervention, the *Medicare & You* 2000 handbook, to ensure that they reflect information provided in the handbook and some of the key messages that HCFA was trying to convey to beneficiaries at the time. Both subjective and objective questions were included in the survey. The subjective questions were employed to obtain beneficiaries' perceptions of varying aspects of the Medicare program and of their decision-making processes. The purpose of the objective questions was to measure beneficiary knowledge of the Medicare program. Several questions in the instrument were taken from the pilot study of the *Medicare & You* 1999 handbook that we conducted in the Kansas City MSA.

The control group questionnaire contained 88 questions that were divided into seven sections:

A. How the Medicare Program Works (questions to assess knowledge of the Medicare Program),
B. Information About the Medicare Program (questions about information sources and access to information),
C. Choosing a Health Insurance Option (questions about insurance decision making),

D. Your Current Health Insurance (questions about the types of insurance the respondent has),
E. Your Health (15 health status questions),
F. Reading and Memory (6 questions to assess the beneficiaries' cognitive status), and
G. About You (11 sociodemographic questions).

The treatment group questionnaire contained an additional section titled "Your Opinions About the *Medicare & You* Handbook," which increased the number of questions to 113. A copy of the treatment group questionnaire is in ***Appendix A***. Unless otherwise noted, all references to survey questions in this report adhere to the treatment group instrument. The questions in the survey instruments were crafted such that they were amenable to mail or telephone administration, and a very limited number of skip patterns were used. The telephone version of the questionnaire included introductory statements/scripts for the telephone interviewers to read to the respondent as well as informed consent statements and concluding statements. Once these statements were developed, the questionnaire was developed as a computer-assisted telephone interviewing (CATI) instrument.

We conducted a limited number of cognitive testing interviews in the summer of 1999 to evaluate the instrument in terms of content, comprehension, navigation, and decision processes. Based on the results of cognitive testing interviews, the research team decided to use the terminology "health insurance options" throughout the instrument when referring to the choices of plans a beneficiary could make.

All of the materials that were used in the mail survey employed some of the design principles suggested by Jenkins and Dillman (1997) and lessons learned from other surveys of Medicare beneficiaries to ensure high rates of cooperation. We used:

- materials written at no higher than the 5th- or 6th-grade literacy level in order to minimize the burden on respondents,
- a prenotification letter signed by the HCFA Administrator briefly describing the survey and emphasizing its importance; each subsequent cover letter addressed these points in stronger language than in the previous mailing,

- mail survey cover letters assuring the confidential nature of the survey and disclosing the voluntary nature of participation,
- personalized correspondence and first class mail except the third questionnaire mailing was overnight mail,
- simple print style for the letters and questionnaires with limited mixture of fonts,
- large typeface (size 13) to facilitate participation among sample members with poor vision,
- a side-by-side, two-column format in the questionnaire, which has proven to be user friendly for the Medicare population in prior research,
- questionnaire shading of boxes to help respondents determine where to mark their answers and how to navigate through the instrument,
- simple, easy-to-follow routing and skip instructions,
- an attractive graphic for the cover of the questionnaire that appealed to older Americans, and
- a toll-free telephone number in all correspondence that sample members could call for information about the survey.

In an effort to bolster the legitimacy of the survey, we sent a letter about the survey to the national headquarters of the Social security Administration who alerted all local Social Security District Officers about this study. Information about the purpose and the sponsorship of the survey was provided to each of these offices, along with the name of the contractor, the survey manager's name and contact information, and the dates that data collection would take place. As data collection progressed on this survey, this alert proved successful as many of our sample members called their local Social security Office to verify the legitimacy of the project.

1.2.3 Data Collection

We conducted data collection activities for the control group from July 7 through October 6, 1999, before HCFA's national mailing of the *Medicare & You* 2000 handbook. Treatment group members were interviewed from October 25, 1999, through February 5, 2000. The greatest threat to internal validity resulting from this type of study design is the possibility that something may have occurred historically during late fall of 2000, informing beneficiaries about the Medicare program. However, since the likelihood of this occurring was small, this design was selected. We conducted a survey with the control group after they received the copy of the handbook as part of the national mailing. Results from that survey, which primarily focused on beneficiary knowledge, will be reported at a later date.

Mail Survey Activities. The mail survey consisted of sending to each sample member the following types of mailings all of which were first class except the third mailing:

- A prenotification letter, signed by the HCFA Administrator, described the sponsorship and purpose of the survey, contained informed consent statements, and alerted the sample member that he/she would receive the questionnaire in about a week.
- An initial questionnaire package was sent to sample members 7 days after the prenotification was mailed. This package contained a cover letter, the questionnaire, and a preaddressed, stamped return envelope. The incentive check for $10.00 was included in the package sent to those in the incentive group. None of the follow-up mailings included additional incentives.
- A Thank You/Reminder letter was sent to all sample members 7 days after the initial questionnaire package was mailed. The purpose of this letter was to thank those who had completed and returned the questionnaire and to remind those who had not to do so.
- A second questionnaire package was sent to all sample members who had not returned a completed questionnaire within 3 weeks after the initial questionnaire was mailed. The cover letter included in this package contained a stronger appeal for the sample members' help with this survey.

- A third questionnaire was sent by Federal Express to mail survey nonrespondents for whom we could not obtain a telephone number and to those for whom we could not contact by phone after repeated calls.

With the exception of an expanded version of the questionnaire, the contents of the mailings to the treatment groups were the same as those sent to the control group sample members. The questionnaire package sent to the two treatment groups was the same, except a copy of the *Medicare & You* handbook was included with the questionnaire sent to those in the re-mail group. Cover letters used in the survey contained a brief description of the sponsorship and purpose of the survey and contained informed consent statements. The text of the cover letters was essentially the same, except that the letter included with the initial questionnaire mailing sent to those in the incentive groups contained the statement: "As a token of our appreciation for your help, we have enclosed a check in the amount of $10.00." The letters sent to those in the re-mail and no re-mail treatment groups were the same, except that sample members in the re-mail group were told in the prenotification letter that "within the next week you will receive the new *Medicare & You* 2000 handbook and a questionnaire in the mail."

Telephone Follow-Up with Nonrespondents. Sample members who did not respond to the mail survey within 3 weeks after the second questionnaire package was mailed were assigned to RTI's Telephone Survey Unit for follow-up. Because HCFA does not provide telephone numbers for Medicare beneficiaries, it was necessary to conduct some preliminary tracing activities prior to starting telephone data collection activities. A combination of three sources was used to obtain a current telephone number for each mail survey nonrespondent. These included obtaining telephone numbers from a commercial phone number lookup service, calls to directory assistance, and tracing activities performed by RTI's in-house Telephone Tracing Operations Unit (TOPS). Through these sources, we were able to obtain telephone numbers for approximately 85 percent of the control group cases and 70 percent of treatment group cases that were assigned for phone follow-up.

1.2.4 Survey Response Rates

After data collection activities were completed, project staff determined the average phone interview completion times for each sample group (the CATI system automatically clocks interview start and end times). The average interview administration time was 32.8 minutes for the control group and 36.3 minutes for the treatment groups. We achieved an overall response rate of 76.2 percent (see ***Exhibit 1-4***). The response rate was 75.0 percent for the treatment group and 78.8 percent for the control group. Those who were offered the incentive were significantly more likely to respond to the survey compared to those who were not offered the incentive. The response rate was 79.9 percent for the incentive group and 72.8 percent for the no incentive group, a difference of 7.1 percentage points. Using a response propensity model, we found that the incentive increased the statistical odds of responding to the survey by 25 percent, controlling for other factors. ***Exhibit 1-4*** provides more details about the sample sizes for each group.

1.2.5 Sample Weights

Following administration of the survey, the data were weighted for the probability of selection and differential nonresponse. Logistic regression was used to develop response propensity models to adjust for differential nonresponse.

Exhibit 1-4
Sampling, Response, and Eligibility Rates

	No Re-Mail Group			Re-Mail Group			Total
	Incentive	**No Incentive**	**Total**	**Incentive**	**No Incentive**	**Total**	
Control Group							
# sampled	855	955	1,810	NA			1,810
# responses	680	679	1,359				1,359
# eligible	819	890	1,709				1,709
Adjusted Response Rate	83.0%	76.3%	79.5%				79.5%
Treatment Group							
# sampled	1,027	1,145	2,172	1,027	1,145	2,172	4,344
# responses	738	751	1,489	736	734	1,470	2,959
# eligible	938	1,044	1,982	926	1,032	1,958	3,940
Adjusted Response Rate	78.7%	71.9%	75.1%	79.5%	71.1%	75.1%	75.1%

NA = not applicable.

The response propensity is defined as

$$Y_i = \begin{cases} 1, \text{if a beneficiary completes a survey or indicates that he/she is ineligible} \\ 0, \text{if a beneficiary does not respond or does not complete a survey} \end{cases}$$

From this, we developed a model to estimate the probability that the beneficiary responded:

$$\begin{aligned} \hat{\gamma}_i = \quad & P[Y_i = 1 \mid X_i, \hat{\beta}] \\ & = [1 + \exp(-X_i\hat{\beta})]^{-1} \end{aligned}$$

where $\hat{\beta}$ = a vector of beneficiary characteristics, and X_i = a vector of predictor variables.

Explanatory variables in the model were obtained from the EDB and included beneficiary age, race, gender, length of time to a response, geographic information, health maintenance organization (HMO) enrollment status, experimental treatment status (re-mail, no re-mail, or control), and incentive status. Geographic information is a rich and frequently underutilized source of data. Beneficiaries were classified into 26 different regions of the country based on the *Medicare & You* print regions. We also used the beneficiaries' address fields to create several geographic indicator variables.

We included a variable reflecting the number of days that elapsed from when the survey was mailed a beneficiary until a response was obtained under the assumption that the more time that elapsed, the higher the likelihood that a completed survey would be obtained. Finally, HMO enrollment information was used to create two explanatory variables. The first indicated whether the sample member had ever been in an HMO. The second indicated whether the sample member belonged to the HMO at the time the sample was drawn. These variables were included in the model because association with an HMO may have increased beneficiaries' likelihood to respond to the survey, especially if they believed the survey was from their health plan.

Although response propensity modeling provides a formal statistical approach for exploring factors related to a response, its conclusions are limited by the need for data for both respondents and nonrespondents. In this case, even though no *survey* data are available for nonrespondents, data from the sampling frame provided a rich source of data on both respondents and nonrespondents that was used to create explanatory variables. Because the data were limited, it is possible that some explanatory variables are confounded or intercorrelated with other factors that are not in the model and achieve statistical significance by acting as a surrogate for an omitted variable.

1.2.6 Focus Groups

We also conducted three focus groups with Medicare beneficiaries during a 4-week period from late April to mid-May 2000 to augment the quantitative data collected in the evaluation survey. One focus group was conducted in each of three locations: Boston, Memphis, and Denver. These locations were chosen to represent populations with varying levels of managed care experience. Memphis has less than 1 percent Medicare HMO penetration while Boston has 26 percent and Denver has 49 percent. The topics addressed in the focus groups were beneficiaries' information sources, their self-reported knowledge level, areas of the Medicare program that beneficiaries find difficult to understand, and their impressions of the handbook. A separate report has been prepared summarizing the focus group results (Roussel et al., 2000). Where relevant, the results are highlighted in this report.

2.0 ANALYTIC METHODS

Both descriptive and multivariate methods were used to analyze the survey data. In this chapter, we describe the methods employed after providing an overview of the analytic variables that were constructed.

2.1 Variable Construction

We constructed six different types of analytic variables using the survey data and administrative records. These include (1) dependent variables for modeling, (2) the study group variable, (3) characteristics of the beneficiary, (4) beneficiary knowledge, (5) other independent control variables, and (6) beneficiary feedback on the *Medicare & You* 2000 handbook.

2.1.1 Dependent Variables

The eight outcomes we selected to serve as dependent variables in the analyses are shown in ***Exhibit 2-1*** along with the respective modeling approach. Of the eight models, one reflects the NMEP goal of access (i.e., whether beneficiaries have an adequate amount of information about Medicare), one reflects awareness (i.e., a 3-item index reflecting whether beneficiaries are aware of different types of Medicare options), one reflects understanding (i.e., a 22-item index reflecting beneficiaries' knowledge of the Medicare program and related health insurance options), and five were categorized under the use/impact category. These five outcomes include the tendency of beneficiaries to switch health plans, their level of satisfaction with their current health insurance arrangement, their confidence in their current health insurance arrangement, the degree to which they trust the Medicare information they receive, and whether the treatment group read the *Medicare & You* 2000 handbook.

Exhibit 2-1

Outcome Measures Used to Evaluate the *Medicare & You* 2000 Handbook

NMEP Goal	Outcome Variable	Survey Questions Used to Develop Dependent Variable	Modeling Approach
Access	Amount of information	C&T26	Logistic regression
Awareness	Awareness of health insurance options (3-item index)	C&T3-5	Weighted linear regression
Understanding	Medicare knowledge (22-item index)	C&T 3-5, 7-23, 32, 34	Weighted linear regression
Use/Impact	1. Switching health plans 2. Satisfaction with health insurance 3. Confidence in current health insurance arrangement 4. Trust in information received 5. Read Handbook	1. C44+C45,……1 T51+T52 2. C40, T47…….2 3. C50, T57…….3 4. C&T28………4 5. T65…………..5	1. Ordered logistic regression 2. Logistic regression 3. Ordered logistic regression 4. Ordered logistic regression 5. Logistic regression

C = control group survey question.
T = treatment group survey question.

Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Access Indicator. To measure beneficiary access to information in a multivariate framework, we used the survey question about the amount of information beneficiaries had about Medicare (question 26). We grouped responses dichotomously according to whether the amount of information beneficiaries reported having was "just about right" or "more than I need" (coded as 1) versus whether they reported having "less than I need" (coded as 0). Responses of "don't know" and "I have never received any information" were excluded from the analysis.

Awareness Indicator. Beneficiaries were asked a series of questions (questions 3 to 5) concerning their awareness of certain types of health insurance options (e.g., Medigap, or Medicare managed care plans). From these questions, we developed a "Have you heard of…" index ranging from 0 to 3 in which a higher score indicated that a beneficiary was more informed about his/her health plan options. This index is a subcomponent of the 22-item knowledge index, which also served as a dependent variable and is discussed below.

Satisfaction Indicator. Beneficiary satisfaction and confidence and trust of Medicare information shape beneficiary behavior regarding health plan choices. We drew our satisfaction variable from question 47 that asks respondents how satisfied they are with their current health insurance. Responses of “somewhat, very, or extremely” satisfied were coded as 1, while responses of “not very satisfied” or “not at all satisfied” were coded as 0.

Confidence Indicator. We used question 57 about confidence, which raises the issue in the context of whether beneficiaries have made the best insurance plan choice. Response categories were “extremely confident,” “very confident,” “somewhat confident,” and “not at all confident.” Each response option was coded as a category in the dependent variable.

Trust Indicator. We used question 28 concerning how much beneficiaries trusted the information they received from the Medicare program to create a categorical dependent variable with “a lot,” “some,” “a little,” and “not at all” as the response options.

Switching Indicator. For the multivariate analyses we used a combination of two questions in the survey about beneficiary switching to form a single categorical measure of switching. Question 51 asked beneficiaries to indicate whether they decided to change their health insurance “in the last month or so.” Question 52 asked beneficiaries how much they *thought about* changing their health insurance during “the last month or so.” When combined, these two questions, though limited to only the prior month, form a continuum of contemplation for switching, beginning with “did not think and did not change,” followed by “thought about changing,” and ending with “decided to change” health plans.

Read Medicare & You Handbook Indicator. The final bivariate dependent variable reflected whether a treatment group beneficiary had read the *Medicare & You* handbook using questions 65 and 67. It was coded 1 if a beneficiary indicated that he/she read parts, most, or all of the handbook in question 65 or that he/she spent some amount of time reading it in question 67 if the response to question 65 was missing. Given the resources HCFA invests in the handbook, it is important to understand differences between beneficiaries who do and do not read it.

2.1.2 Study Group Variable

The key independent variable—whether a beneficiary was a member of the treatment or control group—reflects the principal effect of the *Medicare & You* handbook on each of the dependent variables. The treatment group variable was stratified by whether a beneficiary was in the re-mail or no re-mail group so that effects could be measured separately relative to the control group. For the regression model on whether a beneficiary read parts or all of the handbook, the control group was excluded because its members had not received the handbook. In this case, the omitted category, or reference group, is the no re-mail group. In effect, this model serves as an explicit test of the re-mail experiment by assessing the effect of re-mailing the handbook to a random subsample of the treatment group.

2.1.3 Beneficiary Characteristics Variables

Variables reflecting beneficiary characteristics include sociodemographic factors, health and cognitive status, utilization of health services, and type of supplemental insurance.

Sociodemographic Characteristics, Insurance, and Health Status. The sociodemographic variables include beneficiary age, gender, race, ethnicity, education, marital status, and income. Health-related variables reflect the number of outpatient visits that beneficiaries reported in the last month, the number of hospitalizations in the last year, whether a beneficiary had a regular source of health care, and self-reported health status as measured by the Standard Form-12© (SF-12). The SF-12 questions were used to create a physical and a mental health index score. We created variables reflecting the type of health insurance coverage that beneficiaries have beyond Medicare, if any, and another indicating whether a respondent makes health insurance decisions independently or with assistance.

Beneficiaries were evenly distributed among four age categories, with the highest proportion of beneficiaries (31 percent) between 70 and 74 years of age (see ***Exhibit 2-2***). More of the survey participants were female (59 percent) than male (41 percent), and the majority of beneficiaries were white (92 percent) and non-Hispanic (93 percent). Sixty percent of

Exhibit 2-2
Sociodemographic, Insurance, and Health Characteristics of Survey Participants

Characteristics	
Age Group	
65-69	25.9%
70-74	30.6%
75-79	23.9%
80+	19.5%
Gender	
Male	41.4%
Female	58.6%
Race	
White	92.4%
Nonwhite	7.6%
Ethnicity	
Hispanic	3.4%
Non-Hispanic	93.1%
Unknown	3.5%
Education	
Less than high school	27.3%
High school or GED	32.5%
Some college or technical degree	22.6%
College graduate	17.6%
Imputed Income	
<$15,000	33.7%
$15,000-$30,000	35.0%
>$30,000	31.3%
Marital Status	
Married	58.7%
Not married	41.3%
Supplemental Insurance	
Employer	35.6%
Individual	27.3%
None	28.5%
Type unknown	1.3%
Don’t know	7.3%
Have a Regular Doctor	
Yes	95.2%
No	4.8%
Number of Doctor Visits in Last Month	
No visits	31.5%
1 visit	31.4%
2 visits	18.7%
3 or more visits	18.4%

See notes at end of exhibit.

(continued)

Exhibit 2-2 (continued)

Hospitalization	
Yes	20.6%
No	79.4%
Physical Health Score	40.5
Mental Health Score	53.7
Memory Index Score	0.50
Reading Index Score	2.0
Read Medicare & You Handbook	
Read part/most	32.4%
Did not read it/receive it/control group	67.6%
Decision Regarding Insurance	
By self alone	45.3%
Needs help	54.7%
Satisfaction with Current Insurance	
Not very/at all satisfied	8.2%
Somewhat satisfied	38.1%
Very/extremely satisfied	53.7%
Received Information on Doctor Communication	
A lot/some	20.0%
A little	17.2%
Not at all	51.4%
Don’t know	11.4%
Received Information on Cancer Care	
A lot/some	10.3%
A little	10.4%
Not at all	64.2%
Don’t know	15.1%
Has Amount of Information Needed	
Just right/more than needed	56.5%
Less than needed	43.5%
Satisfaction with Current Health Insurance	
Somewhat/very/extremely	91.8%
Not at all/not very	8.2%
Confident that Current Insurance is the Best for Them	
Extremely	9.9%
Very	41.4%
Somewhat	41.7%
Not at all	7.0%
Propensity to Switch Health Insurance	
Switched	4.6%
Thought about switching	12.8%
Did not switch or did not think about it	82.6%
Trust in Information from the Medicare Program	
A lot	50.5%
Some	37.7%
Not at all/a little	11.8%

Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

beneficiaries had only a high school education or less. Beneficiaries were evenly distributed among the three income categories (less than $15,000, $15,000 to $30,000, and more than $30,000). Fifty-nine percent of the beneficiaries were married. One third of the beneficiaries had made more than one visit to the doctor in the last month. Over the prior year, a fifth of the beneficiary population had been hospitalized overnight. Mean SF-12 scores were 41 on the physical health scale and 54 on the mental health scale out of a possible score of 100. The majority of beneficiaries (95 percent) had a regular source of care. The largest percentage of beneficiaries (36 percent) had employer-sponsored supplemental insurance, while 27 percent of beneficiaries had individually sponsored supplemental insurance and 29 percent reported having no supplemental insurance. This proportion with no supplemental insurance seems high in comparison to national estimates produced by the Medicare Current Beneficiary Survey. It is possible that beneficiaries misunderstood the survey questions regarding insurance because the term "Original Medicare" was used in the questions (see questions 58 and 59 and Section 3.3.1 for more information). If the estimate is incorrect, this may introduce some measurement error.

Cognitive Status. We created two four-level indices reflecting beneficiaries' cognitive abilities. Cognitive indices were constructed based on six questions that asked about reading (survey questions 95, 96, and 97) and memory (survey questions 98, 99, and 100). The first two questions asked about the number of books read and the number of hours spent reading other materials. The responses to these questions were numerical ranges (e.g., six to nine books in the last 3 months). Because most people were in the lower ends of these ranges, we used geometric averaging to assign a numeric value to each response. For example, the category "six to nine" was assigned the value 7.35 (the square root of the product of six and nine). The remaining four questions asked for subjects' opinions about their own reading and memory abilities. We transformed these questions to have a meaningful 0 category (e.g., "never" or "neither agree nor disagree" was assigned a value of 0 on the scale), and signs were reversed so that a higher score corresponded to increased cognitive skills.

Using factor analysis, we determined that there were two factors. The first factor, which can be considered a reading factor, was mostly based on question 95 (how many books do you read). The second factor, the memory factor, was mostly based on question 99 (agree/disagree: "I am good at remembering the content of news articles and broadcasts"). Beneficiaries had a mean score of 2.0 (range – 0.7 to 11.9) on the reading index and a 0.5 (range – 2.3 to 2.5) on the memory index.

2.1.4 Beneficiary Knowledge Variables

We evaluated beneficiary knowledge of the Medicare program and related health insurance options through a series of 22 survey questions[1] that addressed the following areas:

- Awareness of Medicare Options (n = 3),
- Access to Traditional Medicare (n = 2),
- Cost Implications of Insurance Choices (n = 2),
- Coverage/Benefits (n = 6),
- Plan Rules/Restrictions (n = 3),
- Availability of Information (n = 3), and
- Beneficiary Rights (n = 3).

We created a knowledge index based on responses to the 22 questions regarding beneficiaries' knowledge of Medicare and the Medicare + Choice program. The knowledge index is defined as the *percentage* of correct answers to all 22 knowledge questions. Each question had only one correct answer, and missing responses or responses of "don't know" were counted as incorrect, which is the approach taken in previous studies (Hibbard et al., 1998). Although alternative weighting mechanisms were considered, each of the 22 questions was equally weighted in the knowledge index. The index served as one of the dependent variables in our analyses and also was entered into some of the regression models as a control variable.

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[1] Survey question 6, which was included in the preliminary knowledge index analysis, was excluded from the index analysis in the final report due to concerns about the wording of the question.

The knowledge index was validated by assessing the relationship between self-reported understanding of Medicare (question 37) and a beneficiary's knowledge index score. A high correlation between the score and other measures of the same attribute provides evidence of its validity. A general linear model was used to investigate the relationship between the five levels of self-reported understanding and the calculated index score ($p < 0.0001$). Self-rated understanding of Medicare was positively related the knowledge index, and the ordering of the means by self-rated knowledge was monotonic with one exception—those respondents who identified themselves as having an excellent understanding of Medicare had a lower average index score than those who identified themselves as having a very good understanding of Medicare.[2]

2.1.5 Other Independent Variables

We identified additional factors that may influence the outcome variables. Although the variables in the preceding section were considered to be part of a core set and were included in every multivariate regression, the following variables were included in only those regressions where it seemed theoretically appropriate.

We created a continuous variable reflecting the market penetration rate of Medicare HMOs at the county level. This was included in the knowledge and awareness index models and the switching health insurance model. We also included a dichotomous variable derived from question 61 (concerning whether a beneficiary had ever been in an HMO) in all models except for those measuring satisfaction, confidence, and trust. Similarly, we included a categorical variable derived from question 62 (regarding whether a beneficiary thought that care from a managed care plan was worse, about the same, or better than care received from non-managed care options) in all regression models except for those measuring satisfaction and confidence.

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[2] A Duncan's multiple range test (Duncan, 1975) found that the mean knowledge index was significantly higher for those whose self-reported knowledge was "fair" than for those who reported it was "poor," for "good" compared to "fair," and for "very good" compared to "good," but "excellent" was significantly lower than "very good" and not significantly different from "fair" or "good."

Given the importance of beneficiary knowledge and attitudes about insurance, we created several categorical variables from the questionnaire to capture this information. We included a variable reflecting how satisfied beneficiaries were with their insurance on the right-hand side of the awareness and knowledge index models and the models for how much information beneficiaries had about health insurance options and whether they read the handbook. We also included a variable derived from question 38 (concerning how hard or easy it was to understand the different types of health insurance options) in regressions on satisfaction, confidence, and switching. Similarly, we created a variable derived from question 49 (concerning how important beneficiaries think the health insurance decision is) in regressions on switching and whether they read the handbook. Finally, we created a variable using question 52 (regarding beneficiary interest in changing health insurance) in the awareness and knowledge index models and in the model on whether they had read the handbook.

Because knowledge could also be a determinant in some of the regressions, we included it in the regressions on satisfaction, confidence, switching, and trust. Variables reflecting access to information about doctor communication and cancer care based on questions 24 and 25 were included in the awareness and knowledge index models. A measure for whether a beneficiary used the Medicare web site was derived from question 42 was included in the knowledge index model, and a variable (concerning whether beneficiaries had seen a copy of the handbook) was included in the regression on whether a beneficiary had the right amount of information.

Finally, we used some of the other dependent variables as independent variables. These include the trust measure in the regressions on satisfaction, confidence, and switching, and the confidence variable in the regression on switching health insurance. A variable derived from question 63 (on beneficiaries' assessment of whether the quality of health care received depends on their chosen health insurance) was included in the regressions on satisfaction, confidence, trust, and switching health insurance.

2.1.6 Variables Concerning Beneficiary Feedback on the Handbook

We created variables from questions 64 to 80 that asked for beneficiaries' opinions about the handbook and how they used it. Four questions concerned whether beneficiaries had actually seen or read some or all of the handbook. Fifteen questions explored whether beneficiaries had used the handbook, whether they learned anything from it, and how helpful it was, including which sections were most and least helpful. Two remaining questions asked about whether beneficiaries still had the handbook and whether they used it to answer questions in the survey.

We also looked at two additional measures of self-reported knowledge by asking beneficiaries to indicate how well they understand the different types of options. The questions about self-reported knowledge were asked *after* beneficiaries completed the series of factual knowledge questions. This could have resulted in lower self-reported knowledge because beneficiaries found it difficult to answer many of the questions.

2.2 Descriptive Analyses

We conducted several types of descriptive analyses. First, we performed frequency distributions for questions that were specifically related to the four NMEP goals and for the independent variables used in our multivariate analyses. To examine the effect of the handbook in a bivariate framework, we cross-tabulated many of the survey questions with the study group variable indicating whether a beneficiary was a member of the control or one of the treatment groups. Selected analyses were made to assess whether there were differences in the re-mail and no re-mail treatment groups. However, most results are presented with the re-mail and no re-mail groups combined because differences across the two subgroups were small.

Beneficiary knowledge was first evaluated descriptively by comparing the percentage of control versus treatment group members who answered each question correctly. We also calculated mean knowledge index scores for several subgroups to explore how knowledge varies by beneficiary characteristics, as previous studies have demonstrated that such differences exist. We then tested for significant differences within these subgroups using t-tests

2.3 Multivariate Analyses

We performed multivariate regression analyses to examine the effect of the *Medicare & You* handbook on the eight different outcomes discussed previously. For the knowledge and awareness indices, we used ordinary least squares (OLS) regression. The remaining six models had categorical dependent variables; therefore, maximum likelihood estimation methods (logistic regression and ordered logit models) were necessary. Frequency distributions of the categorical dependent variables are presented in bar charts along with related bar charts for each NMEP goal. As a test of our re-mail experiment, we developed a regression including only those beneficiaries in the two treatment groups—either the re-mail or the no re-mail group—to determine if re-mailing the handbook increased the chances of reading the handbook.

Given our randomized design, we were interested in whether there was an independent and significant association between being in the treatment group and the respective outcomes. We included independent variables in each regression model drawn from a range of beneficiary characteristics to serve as controls. After performing each regression, we predicted the mean value of the outcome for the re-mail, no re-mail, and control groups. It is expressed as the percentage of beneficiaries in each respective study group who were associated with the different categories of the outcome variables, controlling for other factors that may affect the outcome. For example, if an outcome had three different levels—low, medium, and high—the predicted mean value would show the percentage of persons in the re-mail, no re-mail, and control groups who gave responses of low, medium, or high. For comparison, we combined the two treatment groups and obtained predicted values for the combined treatment group and the control group for each dependent variable. The predicted value for the combined treatment group is not the average of the two groups separately as the number of beneficiaries in the two treatment groups is not equal in any regression. Predicted values will differ from the actual survey percentages in each category as the regression controls for all the factors influencing the outcome, allowing one to see the independent effect of the treatment and control groups on the outcome.

Predicted values are better measures than odds ratios that only show a relative difference. If the magnitude of the outcome is small for both treatment and control groups (as is sometimes the case in evaluation studies), a large odds ratio may be meaningless. For example, if 6 percent of the treatment group and 3 percent of the control group had the desired outcome of interest, the odds ratio would be two. But given such small numbers, there would be very little difference between the control and treatment groups in practical terms.

We performed all analyses using the sampling weights and SudAAN software, which takes into account the complex survey design and corrects for the design effect.

Limitations of the Methodology. We evaluated the effect of the handbook in a randomized, treatment/control design. We included those persons who may have been in the treatment group but who did not read or use the handbook. As such, this research design provides an unbiased measure of the effect of being in the treatment group (having been sent the handbook), but does not necessarily measure the effect of reading or using the handbook per se. Other research designs could have been used to measure the effect attributed to actually reading and using the handbook, but they would not have shown the true effect of distributing the handbook to a large population.

In all of our dependent variables used in regression models, we had some missing data. We explored several ways of dealing with missing data, including imputation and simply dropping those observations. However, we did not find a satisfactory solution that would not introduce measurement error or reduce the variance in each dependent variable. Therefore, we allowed observations with missing data in the dependent variable to drop from respective regressions. For the categorical regression models in which we calculated predicted probability, we did not perform any tests to assess whether the differences in probabilities were statistically significant.

Finally, endogeneity may be present in some or all of the multivariate analyses performed if a beneficiary performs the activity being measured prior to reading the handbook rather than after reading it. As traditional corrections for endogeneity result in larger variance estimates, no corrections for it were made in these analyses. We did, however, re-run the final regression models without potentially endogenous variables and the results were largely unchanged.

3.0 RESULTS

In this chapter, we present results of the analyses organized by the NMEP goals. Within each section on each goal, descriptive statistics are discussed first, followed by multivariate results. Graphic exhibits labeled in this chapter with a "B" are in ***Appendix B***.

3.1 Access to Information Sources

Some questions in the evaluation survey were designed to determine beneficiaries' access to information, including the amount of information they have about Medicare-related health insurance options, the extent to which beneficiaries receive information on quality of care differences between health plans, and more specific questions directed only at the treatment group about the information provided in the *Medicare & You* handbook.

3.1.1 Descriptive Analysis

Overall, about one third of beneficiaries did not feel that they have enough information about their Medicare health insurance options, and 12 percent had never received any information (an additional 16 percent did not know whether they had or not). The *Medicare & You* handbook may have helped address the need for information, however, as significantly more beneficiaries in the treatment group (45 percent) felt that they had more than enough or just the right amount of information about their health insurance options in comparison to control group members (35 percent) (who had not yet received their copy of the handbook when they were surveyed) (see ***Exhibit B-1***, question 26).

Two questions in the survey assessed how much information beneficiaries had received on the quality of care measures that were introduced in the handbook: (1) how well doctors communicate with patients, and (2) cancer prevention testing (mammography) for women. As expected, significantly more beneficiaries in the treatment group (39 percent) reported receiving information on how well doctors communicate with patients in different plans than did beneficiaries from the control group (31 percent), suggesting that the handbook may have helped beneficiaries compare insurance options based on quality of care measures (see ***Exhibit B-2***, question 24). However, no significant difference existed between treatment (20 percent) and control (19 percent) beneficiaries who received information about cancer testing in different plans (see ***Exhibit B-3***, question 25). This may be because the survey question referred to cancer in general, but the quality of care information in the handbook was specific to mammography. Eighty-six percent of beneficiaries were satisfied or very satisfied with the availability of Medicare information when they needed it (see ***Exhibit B-4***, question 30), suggesting that beneficiaries have access to information when they want it.

Several questions concerning access to information were asked of treatment group members only. Overall, two thirds of the treatment beneficiaries had recently seen the *Medicare & You* 2000 handbook; significantly more beneficiaries in the re-mail group reported seeing it compared to the no re-mail group (see ***Exhibit B-5***, question 64). Of those who looked at the handbook, 45 percent of the beneficiaries were able to find the information they were looking for in the handbook, while 6 percent said they were unable to find the specific information they needed (see ***Exhibit B-6***, question 69). The other half of the beneficiary population said they were not looking for any specific information in the handbook. These results complement results we found in our focus groups concerning two utilization strategies employed by beneficiaries: (1) using the handbook as a reference guide to look up specific information, and (2) using it as a tool for acquiring background knowledge and thus approaching the book in a more general manner. The results are also consistent with focus groups we conducted for the Kansas City evaluation (Harris-Kojetin et al., 1999).

3.1.2 Multivariate Analysis

As shown in ***Exhibit 3-1***, we modeled the probability that a beneficiary had enough Medicare-related information and found that only beneficiaries in the re-mail group were significantly more likely than those in the control group to report having enough information.

Exhibit 3-1
Predicted Probability Values for Models with Categorical Dependent Values and Mean Values for Models with Continuous Variables

	Control Group	Re-Mail Group	No Re-Mail Group	Combined Treatment Group
Access				
Having at Least the Right Amount of Medicare Information	**51%**	**59%**	**56%**	**56%**
Awareness				
3-Item Awareness Index Score	**2.1**	**2.3**	**2.3**	**2.3**
Understanding				
22-Item Knowledge Index Score	**42%**	**51%**	**48%**	**47%**
Use/Trust/Impact				
Being Satisfied with One's Current Health Plan	**91%**	**93%**	**91%**	**92%**
Being Confident in One's Current Health Plan				
Extremely confident	**10%**	**10%**	**10%**	**10%**
Very confident	**40%**	**41%**	**41%**	**41%**
Somewhat confident	**42%**	**42%**	**42%**	**42%**
Not at all confident	**8%**	**7%**	**7%**	**7%**
Changing Health Plans				
Did not think about switching	**87%**	**80%**	**81%**	**82%**
Thought about switching	**10%**	**15%**	**14%**	**13%**
Decided to switch	**3%**	**5%**	**5%**	**5%**
Trusting Information from Medicare				
Trusted info from Medicare a lot	**48%**	**56%**	**50%**	**52%**
Trusted info from Medicare some	**40%**	**35%**	**38%**	**37%**
Trusted info a little or none at all	**12%**	**9%**	**11%**	**11%**
Reading Medicare & You Handbook	**N/A**	**58%**	**40%**	**49%**

N/A = not applicable
Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

The difference between the no re-mail and control groups was not significant in the logistic regression model (see ***Exhibit 3-2***). ***Exhibit 3-1*** shows the predicted mean value for each study group. Fifty-nine percent of beneficiaries in the re-mail group reported having at least the right amount of information compared to 56 percent of beneficiaries in the no re-mail group and 51 percent of beneficiaries in the control group. When the prediction was made with the two treatment groups combined, the value was 56 percent.

Other subgroups of beneficiaries significantly more likely to have reported having at least the right amount of information were those aged 65 to 74, women, those with higher SF-12 physical health scores, and those who were somewhat, very, or extremely satisfied with their insurance (see ***Exhibit 3-2***). Given their better health, younger age, and satisfaction with insurance, these beneficiaries may need less information about health plan options.

3.2 Beneficiary Awareness

We examined the degree to which beneficiaries were aware of the different Medicare health plan choices available to them as part of the awareness goal.

3.2.1 Descriptive Analyses

Although most beneficiaries in the treatment (79 percent) and control (73 percent) groups knew that different Medicare health insurance options existed (see ***Exhibit B-7***, question 3), fewer knew about the specific types of options. Significantly more beneficiaries in the treatment group (72 percent) had heard of a Medigap plan compared to the control group members (66 percent) (See ***Exhibit B-7***, question 4). Seventy-three percent of treatment beneficiaries and 68 percent of control group beneficiaries had heard of Medicare managed care plans.

Exhibit 3-2
Logistic Regression Predicting the Probability of Having at Least the Right Amount of Medicare Information

Variables	
Intercept	—
Study Group	
Re-mail	+
No re-mail	ns
Control	ϕ
Age Group	
65-74	+
75+	ns
Gender	
Male	ϕ
Female	+
Race	
White	ϕ
Nonwhite	ns
Ethnicity	
Hispanic	ns
Non-Hispanic	ϕ
Education	
Less than high school	ϕ
High school or GED	ns
Some college or technical degree	ns
College graduate	ns
Income	
<$15,000	ϕ
$15,000-$30,000	ns
>$30,000	ns
Marital Status	
Married	ns
Not married	ϕ
Supplemental Insurance	
Employer-sponsored	ns
Individually purchased	ns
No supplemental insurance	ϕ
Unknown what type	ns
Don't know	ns
Have a Regular Source of Care	
Yes	ns
No	ϕ
Number of Doctor Visits in Last Month	
No visits	ϕ
1 visit	ns
2 visits	ns
3 or more visits	ns

See notes at end of exhibit.

(continued)

Exhibit 3-2 (continued)

Variables	
Any Hospitalization in Last Year	
Yes	ns
No	ɸ
Physical Health Score	+
Mental Health Score	ns
Memory Index Score	ns
Reading Index Score	ns
Decision About Insurance	
Needs help	ns
By self alone	ɸ
Satisfaction with Insurance	
Not very/at all satisfied	ɸ
Somewhat satisfied	+
Very/extremely satisfied	+
Ever in an HMO	
Yes	ns
No	ɸ
Don’t know	ns
Degree of HMO Bias	
Worse	ɸ
About the same	ns
Better	ns
Don’t know	+

n=2313
+ = positive coefficient.
— = negative coefficient.
ns = not significant.
ɸ= comparison group.

Note: Omitted categories are the control group; beneficiaries who are male, white, non-Hispanic; and those who have less than a high school education, less than $15,000 annual income, are not married, have no supplemental insurance, no regular source of care, no health care utilization, make health insurance decisions alone, are not satisfied with current insurance, have never been in an HMO before, and think that care in an HMO is worse than other care.

Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

3.2.2 Multivariate Analyses

We modeled the three-item "Have you heard of…" index (questions 3-5) and found that persons in both treatment groups were significantly more aware of their health plan options than persons in the control group. According to predicted mean index values, treatment group beneficiaries scored approximately two tenths of a point higher (on the index ranging from 0 to 3) than persons in the control group (see ***Exhibit 3-1***). Beneficiaries in both treatment groups had a predicted mean value of 2.3 (out of 3), whereas beneficiaries in the control group had a predicted mean value of 2.1.

Beneficiaries who finished high school or more or made at least $15,000 annually in income had significantly higher awareness index scores than beneficiaries who had not finished high school or made less than $15,000 a year (see ***Exhibit 3-3***). Those who were older, non-white and of Hispanic origin had lower scores. Beneficiaries who had higher mental health scores on the SF-12 also had significantly higher awareness index scores. In general, persons from higher socioeconomic status tended to be more informed than those of lower socioeconomic status.

3.3 Beneficiary Understanding

The 22-item knowledge index was used to evaluate beneficiary knowledge of the Medicare program and related health insurance options.

3.3.1 Descriptive Analyses

Percentage of Beneficiaries Correctly Answering the Survey's Knowledge Questions. ***Exhibit 3-4*** compares the control and treatment groups with respect to the percentage of questions in the 22-item knowledge index that were answered correctly by each group. Possible response options follow each question with the correct response shown in bold surrounded by a box. Exhibits in ***Appendix B*** provide a graphic display and more detailed information

Exhibit 3-3
OLS Regression on the Three-Item Awareness Index (Questions 3, 4, and 5)

Variables		
	Beta	**(s.e.)**
Intercept	1.1832	(.1932)
Study Group		
Re-mail	0.1870**	(0.0436)
No re-mail	0.2063**	(0.0446)
Control	0.0000	(0.0000)
Age Group		
65-74	0.01262	(0.0070)
75+	-0.0121*	(0.0056)
Gender		
Male	0.0000	(0.0000)
Female	-0.0457	(0.0388)
Race		
White	0.0000	(0.0000)
Nonwhite	-0.2136**	(0.0817)
Ethnicity		
Hispanic	-0.2457*	(0.1136)
Non-Hispanic	0.0000	(0.0000)
Education		
Less than high school	0.0000	(0.0000)
High school or GED	0.1360*	(0.0543)
Some college or technical degree	0.3261**	(0.0550)
College graduate	0.3848**	(0.0617)
Income		
<$15,000	0.0000	(0.0000)
$15,000-$30,000	0.1948**	(0.0496)
>$30,000	0.2794**	(0.0554)
Marital Status		
Married	0.0200	(0.0477)
Not married	0.0000	(0.0000)
Supplemental Insurance		
Employer-sponsored	0.0672	(0.0483)
Individually purchased	0.1772**	(0.0480)
No supplemental insurance	0.0000	(0.0000)
Unknown what type	-0.2132	(0.1814)
Don't know	-0.0880	(0.0862)
Have a Regular Doctor		
Yes	0.1238	(0.0969)
No	0.0000	(0.0000)
Number of Doctor Visits in Last Month		
No visits	0.0000	(0.0000)
1 visit	0.0356	(0.0449)
2 visits	0.0706	(0.0533)
3 or more visits	0.0072	(0.0578)
Any Hospitalizations in Last Year		
Yes	-0.0146	(0.0479)
No	0.0000	(0.0000)

See notes at end of exhibit. (continued)

Exhibit 3-3 (continued)

Variables		
Physical Health Score	0.0001	(0.0017)
Mental Health Score	0.0058**	(0.0021)
Memory Index Score	-0.0187	(0.0266)
Reading Index Score	0.0007	(0.0073)
Penetration of Medicare HMO Enrollment	0.0022	(0.0012)
Info on Doctor Communication		
A lot/some	0.0947	(0.0490)
A little	0.0642	(0.0491)
Don't know	-0.1970*	(0.0782)
None at all	0.0000	(0.0000)
Info on Cancer Care		
A lot/some	0.0372	(0.0629)
A little	-0.0148	(0.0599)
Don't know	-0.0724	(0.0635)
None at all	0.0000	(0.0000)
Decision About Insurance		
Needs help	-0.0029	(0.0414)
By self alone	0.0000	(0.0000)
Satisfaction with Insurance		
Not very/at all satisfied	0.0000	(0.0000)
Somewhat satisfied	0.0023	(0.0786)
Very/extremely satisfied	0.1422	(0.0792)
Thinking About Switching		
Not at all	0.0000	(0.0000)
A little	0.1429*	(0.0565)
A fair amount	0.1164	(0.0974)
A lot	0.2069	(0.1090)
Ever in HMO		
Yes	0.0223	(0.0435)
No	0.0000	(0.0000)
Don't know	-0.3041**	(0.1175)
Degree of HMO Bias		
Worse	0.0000	(0.0000)
About the same	-0.0260	(0.0498)
Better	0.0152	(0.0792)
Don't know	-0.2089**	(0.0432)

Note: Omitted categories are those that are male, white, and non-Hispanic; those with less than high school education and less than $15,000 income; those who are not married; those with no supplemental insurance, no regular source of care, no health care utilization; and those who make health insurance decisions alone, are not satisfied with current insurance, are not thinking about switching at all, have never been in an HMO before, and think that care in an HMO is worse than other care.

n=2826

* = $p < 0.05$.

** = $p < 0.01$.

Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Exhibit 3-4
Percentage of Beneficiaries Who Correctly Answered the Knowledge Questions, by Study Group

Survey Question	Percent Correct	
	Control Group	**Treatment Group**
Awareness of Medicare Options		
Q3 As far as you know, are there different types of health insurance options that people with Medicare can get? (**Yes**/No)	73% (70-76%)	79%* (77-80%)
Q4 Have you ever heard of a Medicare supplemental health insurance plan, which is also sometimes called a “Medigap” policy? (**Yes**/No)	66% (63-69%)	72%* (70-73%)
Q5 Have you ever heard of a Medicare managed care plan, for example, a health maintenance organization or HMO? (**Yes**/No)	68% (65-71%)	73%* (71-75%)
Access to Traditional Medicare		
Q7 If a person signs up for any of these—Medigap, Medicare Managed Care, or an Inclusive Provider Organization—do they still have Medicare? (**Yes**/No)	42% (39-45%)	48%* (45-50%)
Q8 As far as you know, can you still get the Original Medicare Plan today? (**Yes**/No)	71% (68-74%)	75%* (73-77%)
Cost Implications of Insurance Choices		
Q10 As far as you know, will out-of-pocket costs differ depending on which health insurance option a person signs up for? (**Yes**/No)	63% (60-67%)	68%* (66-70%)
Q14 Which one of the following is likely to happen when you go to a doctor who “accepts assignment”? (**Save money**/Pay more money/Save money only on services not normally covered)	61% (58-65%)	65%* (63-67%)

See notes at end of exhibit.

(continued)

Exhibit 3-4 (continued)

Survey Question	Percent Correct	
	Control Group	Treatment Group
Coverage/Benefits		
Q11 Which one of the following statements is true about what the Original Medicare Plan pays for? (All health care costs/**Some health care costs**/Only emergency health care/Only prescription drugs)	80% (78-83%)	83%* (82-85%)
Q15 Which one of the following is paid for if you only have the Original Medicare Plan? (Yearly dental exams/**Pneumonia shot**/Medical care outside US/Long-term care)	49% (45-52%)	52% (50-54%)
Q17 Which type of health insurance option is least likely to pay for prescription drugs? (**Original Medicare Plan**/Medicare Managed Care Plan/Medigap policy/All about the same)	51% (48-54%)	54% (52-56%)
Q19 Which type of health insurance option will cover a 6-month stay in a nursing home? (Original Medicare/Medicare Plan/Medicare Managed Care Plan/Both/**Neither**)	20% (17-23%)	20% (18-22%)
Q20 Emergency health care is paid for wherever you are in the United States under which type of insurance option? (Original Medicare Plan/Medicare Managed Care Plan/**Both**/Neither)	15% (12-17%)	20%* (19-22%)
Q22 The Original Medicare Plan now pays for more preventive health care services like breast x-rays and diabetes monitoring. Is this also true for all, some, or none of the other different types of health insurance options? (**All**/Some/None)	12% (10-14%)	14% (13-16%)
Plan Rules/Restrictions		
Q16 Which type of health insurance option gives you more freedom to choose the doctors or hospitals you want to go to? (**Original Medicare Plan**/Medicare Managed Care Plan/Inclusive Provider Organization/All about the same)	57% (54-60%)	61%* (59-63%)
Q18 Which type of health insurance option can refuse to sell you a policy after age 65 and a half because of poor health (Original Medicare Plan/Medicare Managed Care Plan/**Medigap** policy/ None of the above)	9% (7-11%)	12%* (11-14%)
Q23 If you had a Medigap policy and dropped it, when could you get it back? (Any time/**Only under some conditions**/Never)	14% (11-16%)	24%* (22-25%)

Exhibit 3-4 (continued)

Survey Question	Percent Correct	
	Control Group	Treatment Group
Availability of Information		
Q9 Would you say that the following is true or false? "The Medicare program has recently begun to offer more information and help in order to answer questions about the Medicare program?" (**True**/False)	50% (46-53%)	70%* (68-72%)
Q39 As far as you know, is there an information and counseling service that people with Medicare can use to get help understanding and comparing health insurance options? (**Yes**/No)	26% (23-29%)	34%* (32-36%)
Q41 As far as you know, does the Medicare program have its own Internet website? (**Yes**/No)	12% (10-15%)	18%* (16-19%)
Beneficiary Rights		
Q12 If you were enrolled in a Medicare Managed Care Plan and wanted to leave it, which one of the following statements is true? You can… (Leave the plan, but you will not be covered by Original Medicare Plan/Leave the plan, but only under special circumstances/**Leave the plan at any time for any reason**)	26% (23-29%)	32%* (31-34%)
Q13 Which one of the following is a reason for contacting your state's Peer Review Organization (PRO)? (Find a support group of your peers/**Complaint about quality of Medicare care**/Change health insurance option/None of the above)	25% (22-28%)	36%* (34-38%)
Q21 The following is true for which type of health insurance option? "Medicare gives you the right to appeal decisions about what a Medicare Plan pays for." (Original Medicare Plan/Managed Care Plan/**Both**/Neither)	14% (12-17%)	22%* (20-23%)

Notes: Response options are shown in parentheses following each question, with the correct response shown in bold and in a box. A "don't know" response was considered incorrect. The 95% confidence intervals are shown in parentheses following each statistic.

*Indicates a significant difference at the 0.05 level in the percentage correct between control and treatment group members.

Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

about the actual distribution of responses for each knowledge question, including the sometimes striking proportions of beneficiaries who gave a “don’t know” response.

Knowledge scores were higher in the following areas:

- Awareness of Medicare Options,
- Access to Traditional Medicare, and
- Cost Implications of Choices.

Fewer respondents were able to answer knowledge questions correctly related to:

- Coverage/Benefits,
- Plan Rules/Restrictions,
- Availability of Information, and
- Beneficiary Rights.

With the exception of one knowledge question (question 19 regarding which plan option covers a 6-month stay in a nursing home), a higher proportion of beneficiaries in the treatment group answered the questions correctly compared to control group members.

As noted in Section 3.2 on beneficiary awareness, significantly more beneficiaries in the treatment group were aware that different types of options are available to people on Medicare (see ***Exhibit B-****7*, question 3) compared to the beneficiaries in the control group (79 versus 73 percent). Awareness of Medigap and Medicare managed care (see ***Exhibit B-****7*, questions 4 and 5) was also significantly higher among the beneficiaries in the treatment group than in the control group.

Although three fourths of the treatment group beneficiaries knew that Original Medicare was available as a health care plan option today (see ***Exhibit B-8***, question 8), significantly fewer control group members knew that Original Medicare was an option for them (71 percent). This question may serve as an indicator of beneficiaries’ awareness of traditional Medicare; however, some confusion may have occurred because of the term “Original Medicare.” Based on anecdotal feedback from telephone interview staff, some beneficiary respondents were confused by use of the term "Original Medicare" and were uncertain whether that was what they had. Question 7, which asks whether people still have Original Medicare if they sign up for a Medigap plan, a Medicare Managed care plan, or Inclusive Provider Organization (IPO - a fictitious plan designed to check awareness of viable plan options), had a significantly lower correct percentage among treatment and control beneficiaries compared to the other questions in this series. Nearly 50 percent of the individuals responding to this question marked a "don't know" response. Because of the inclusion of the fictitious plan in the question, it is difficult to evaluate beneficiaries' understanding of the relationships between Medicare, Medigap, and Medicare managed care. Some of the focus group participants also expressed confusion about the term "Original Medicare" and its frame of reference. As one pointed out, "*You don't have a comparison: Original as opposed to what?*" (Roussell et al., 2000).

Beneficiaries in the treatment group were significantly more informed about the cost implications of their Medicare choices than were beneficiaries in the control group. Slightly less than two thirds of beneficiaries in the treatment group knew that their out-of-pocket costs would be lower when they go to a doctor who accepts assignment compared to 61 percent of control group members (see ***Exhibit B-9***, question 14). The significantly higher proportion of treatment beneficiaries who correctly answered question 14 suggests a stronger understanding of health care terminology and provider networks. However, about a third of all beneficiaries did not know whether their out-of-pocket expenditures would vary depending on which health insurance option they chose (question 10), suggesting that a sizable proportion of beneficiaries were unaware of the basic cost implications of various plan choices.

General knowledge about Medicare coverage and benefits was relatively high among beneficiaries, but knowledge about specific benefits was much lower. Most but not all (83 percent of treatment group and 80 percent of control group) beneficiaries correctly reported that Medicare does not cover all of their health care costs (see ***Exhibit B-10***, question 11). Although beneficiaries in the treatment group were significantly more informed about what Medicare covers in general, about half of the beneficiaries in both groups did not realize that Original Medicare would pay for a pneumonia immunization (question 15). Moreover, only slightly more than half of the beneficiaries in the treatment group (54 percent) knew that Original Medicare was the option least likely to pay for prescription drugs (question 17). Being in the treatment group did not appear to significantly increase knowledge about coverage of specific benefits.

Three questions (19, 20, and 22) requiring respondents to differentiate between Medicare managed care and Original Medicare benefits and coverage indicate the need among beneficiaries for further information and education. Although true emergency care is paid for by both Medicare managed care and Original Medicare, only 15 percent of control beneficiaries and 20 percent of treatment beneficiaries correctly answered this question (see ***Exhibit B-11***, question 20). More beneficiaries knew that Original Medicare covered emergency care than those who knew that Medicare managed care also covered it (not shown). Interestingly, beneficiaries who said that they were ever enrolled in an HMO before becoming eligible for Medicare performed better on both questions 20 and 22 (not shown), suggesting that part of the reason for the low level of knowledge is lack of previous exposure to HMOs.

Further evidence of an information gap is provided in question 19, where over three quarters of beneficiaries in both the treatment group and the control groups did not know that Original Medicare and Medicare managed care would not cover a 6-month stay in a nursing home. Again, more respondents thought that a 6-month stay was covered by Original Medicare than by Medicare managed care.[3] This result highlights the lack of knowledge not only about managed care, but also about basic Medicare coverage, such as long-term care services. Focus group discussions suggested that the lack of awareness may be a function of lack of interest or perceived relevance of the issue. Participants not interested in managed care did not pay close attention to those portions of the handbook addressing managed care

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[3] Because Medicare pays for some care in a skilled nursing facility, this question may be open to interpretation.

issues. One beneficiary summed it up, "*I'm not interested. I choose not to learn more*" (Roussell et al., 2000).

Beneficiary knowledge about Medicare plan rules and restrictions was lower than most of the other Medicare topics. Compared to the control group, significantly more beneficiaries in the treatment group identified Original Medicare as the plan that would give more freedom of choice related to a selection of doctors or hospitals (61 vs. 57 percent) (see ***Exhibit B-12***, question 16). However, only 12 percent of treatment and 9 percent of control group beneficiaries were aware of the one time 6-month open enrollment period rule for Medigap that enables all beneficiaries to enroll in a supplemental plan regardless of their health status (question 18). Although significantly more beneficiaries in the treatment group recognized the implications of dropping Medigap coverage, more than three- quarters of the treatment beneficiaries did not know about the restrictions on obtaining a Medigap policy after dropping one (question 23). Ten percent mistakenly believed that they could get a Medigap policy back at any time (although the exact regulations may vary in some states making this a possibility).

Recent NMEP dissemination efforts were noted among treatment beneficiaries; 70 percent of treatment group members were aware that the Medicare program has recently made more information available to beneficiaries (see ***Exhibit B-13***, question 9). A third of the treatment beneficiaries were aware of an information and counseling service for people to access help on understanding and comparing Medicare options, which was significantly greater than the one fourth of control group members who were aware of such services (question 39). Only 12 percent of the control beneficiaries and 18 percent of the treatment beneficiaries were aware of the Medicare program's Internet website (question 41). These results show a lack of knowledge about available resources among beneficiaries; this lack of knowledge may be addressed through time and maturity in the NMEP campaign as outreach efforts continue.

The final set of knowledge questions addresses beneficiary rights. As with the majority of knowledge questions, the treatment group performed significantly better than the control group. However, only 32 percent of the treatment group and 26 percent of control group beneficiaries were aware that plan members are free to leave a Medicare managed care plan at any time (see ***Exhibit B-14***, question 12). Slightly more than a third of the treatment beneficiary population identified the appropriate use of Peer Review Organizations or PROs (question 13), and slightly less than a quarter of the treatment population knew they had the right to appeal decisions made about what a Medicare plan pays for, regardless of the plan option chosen (question 21).

There was a broad range of difficulty in the knowledge questions, with some being quite easy to others being fairly difficult. It is unreasonable to assume that beneficiaries would know correct answers to all of the knowledge questions, but scores on some questions were quite low. We asked beneficiaries how well they thought that they understood their Medicare health insurance options. Thirty-six percent of control group members rated their understanding of insurance options as poor, another 39 percent rated their understanding as fair, and only 4 percent rated their understanding as very good or excellent (see ***Exhibit B-15***, question 37). Self-rated understanding of Medicare was positively related to the knowledge index with one exception. Those respondents who identified themselves as having an excellent understanding of Medicare had a lower average index score than those who identified themselves as having a very good understanding of Medicare [4] (see ***Exhibit B-16*** and Section 2.2 for more information). In addition, half of the control group found it hard to understand their options, and only 17 percent found it easy (see ***Exhibit B-17***, question 38). Although beneficiaries in the treatment group still found it difficult to understand their Medicare options, they reported significantly better understanding, suggesting that the handbook helped to guide beneficiaries.

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[4] A Duncan's multiple range test (Duncan, 1975) found that the mean knowledge index was significantly higher for those whose self-reported knowledge was "fair" than for those who reported it was "poor," for "good" compared to "fair," and for "very good" compared to "good," but "excellent" was significantly lower than "very good" and not significantly different from "fair" or "good."

Mean Knowledge Score for Selected Subgroups. Overall, beneficiaries correctly answered 9.9 of the 22 (45 percent) knowledge index questions correctly (see ***Exhibit 3-5***). The treatment group correctly answered significantly more questions than the control group (10.3 questions vs. 9.0) and, as a result, had a higher knowledge index score than the control group (47 vs. 41 percent). Among treatment group members, the re-mail treatment group performed significantly better, correctly answering 10.7 (49 percent) of the questions compared to 10.0 (45 percent) for the no re-mail treatment group, although this difference seemed to be accounted for by the tendency of those in the re-mail group to consult the handbook when answering the survey.

Exhibit 3-5 also presents the mean knowledge index score for all categorical variables for which there were significant differences among subgroups. Younger beneficiaries scored higher than older beneficiaries, although this effect did not become pronounced until age 80. Nonwhite beneficiaries had an eight percentage point lower knowledge index score, suggesting that education efforts may not be reaching these groups as effectively. Similarly, knowledge index scores for Hispanics were an average of nine percentage points lower than for non-Hispanics, although this may be partly because the questionnaire was only given in English. Beneficiaries with more education answered substantially more questions correctly than those with less education, as did those with larger incomes.

Mean knowledge index scores were slightly higher among beneficiaries who were married, who had employer-sponsored or individually purchased insurance compared to those with no supplemental insurance, and who were more satisfied with their insurance. Better self-reported health status was positively associated with increased knowledge index scores, as was having access to a regular source of care. Finally, respondents who said that they had received more information on doctor communication had higher knowledge index scores, although information on cancer testing did not have such a clear association with knowledge index scores. Knowledge index scores were also examined by geographic regions (not shown), but scores were nearly identical across the four U.S. census regions and the 10 HCFA regions.

After subsetting the data to only treatment group members, we compared the knowledge index scores of those who consulted the handbook while answering the questions versus those who did not. Knowledge index scores were significantly higher for those who consulted the handbook while completing the survey (59 vs. 42 percent). This may be more of a reflection of people's ability to find the information they need as opposed to their ability to retain the information; it also reflects the usefulness of the handbook as a reference tool.

Exhibit 3-5
Mean Knowledge Index Scores for Selected Subgroups

	Knowledge Index	Number of Correctly Answered Questions		
	Mean	**Mean (s.d.)**	**Median**	**Range**
Overall	45%	9.9 (0.08)	10	0-21
Control Group	41%	9.0 (0.13)	9	0-21
Treatment Group	47%	10.3 (0.09)	10	0-21
Re-mail subset	49%	10.7 (0.13)	11	0-21
No re-mail subset	45%	10.0 (0.13)	10	0-21
Age Group				
65-69	47%	10.4 (0.15)	10	0-20
70-74	47%	10.3 (0.14)	10	0-21
75-79	45%	9.8 (0.16)	10	0-21
80+	40%	8.8 (0.17)	9	0-20
Gender				
Female	44%	9.6 (0.10)	10	0-21
Male	47%	10.3 (0.12)	10	0-21
Race				
White	46%	10.0 (0.08)	10	0-21
Nonwhite	38%	8.3 (0.28)	8	0-20
Ethnicity				
Hispanic	37%	8.1 (0.43)	8	0-19
Non-Hispanic	46%	10.1 (0.08)	10	0-21
Education				
Less than high school	37%	8.1 (0.14)	8	0-20
High school graduate	44%	9.8 (0.13)	10	0-21
Some college	51%	11.1 (0.16)	11	1-21
College graduate	53%	11.7 (0.18)	12	0-21
Marital Status				
Married	48%	10.5 (0.10)	10	0-21
Unmarried	41%	9.1 (0.12)	9	0-21
Income				
<$15,000	38%	8.3 (0.13)	8	0-21
$15,000-$30,000	46%	10.2 (0.13)	10	0-21
>$30,000	51%	11.3 (0.13)	11	0-21

See notes at end of exhibit. (continued)

Exhibit 3-5 (continued)

	Knowledge Index	Number of Correctly Answered Questions		
	Mean	**Mean (s.d.)**	**Median**	**Range**
Supplemental Insurance				
Employer-sponsored	47%	10.4 (0.13)	10	0-21
Individually purchased	50%	10.9 (0.15)	11	0-20
No supplemental insurance	41%	9.1 (0.14)	9	0-21
Decision About Insurance				
By self alone	44%	9.7 (0.11)	10	0-21
Not by self alone	46%	10.2 (0.11)	10	0-21
Satisfaction with insurance				
Not very/not at all satisfied	39%	8.6 (0.27)	9	0-20
Somewhat satisfied	43%	9.5 (0.12)	9	0-20
Very/extremely satisfied	48%	10.6 (0.10)	10	0-21
Self-Reported Health Status				
Excellent	51%	11.3 (0.30)	12	1-20
Very good	49%	10.7 (0.17)	11	0-21
Good	46%	10.2 (0.13)	10	0-21
Fair/poor	41%	9.0 (0.13)	9	0-20
Regular Source of Care				
Yes	46%	10.0 (0.08)	10	0-21
No	38%	8.3 (0.37)	8	0-21
Info on Doctor Communication				
A lot/some	50%	11.0 (0.18)	11	0-21
A little	48%	10.6 (0.18)	10	0-21
None	46%	10.1 (0.10)	10	0-21
Info on Cancer Care				
A lot/some	47%	10.5 (0.24)	10	0-21
A little	51%	11.2 (0.25)	11	1-21
None	46%	10.2 (0.09)	10	0-21
Used Handbook to Help Answer Survey Questions				
Yes	59%	12.9 (0.18)	14	0-21
No	42%	9.3 (0.08)	9	0-21

Notes: The knowledge index is the percentage of the 22 knowledge questions, (i.e., questions 3 to 23, 39, and 41) that were correctly answered. Means were calculated for levels of all categorical variables, but only variables where the differences between levels was significant at the 0.05 level are shown.

Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

3.3.2 Multivariate Analyses

3.3.2.1 Effects of Receiving the *Medicare & You* 2000 Handbook

Sociodemographic, health status and utilization, and insurance-related variables were entered into a weighted linear regression model to investigate the degree to which they predict the 22-item knowledge index, the dependent variable (see ***Exhibit 3-6***). The multivariate results support the descriptive findings. The model explains 31 percent of the variation in the dependent variable. The results were generally consistent with the knowledge index model that used the Kansas City *Medicare & You* 1999 handbook evaluation data[5] (McCormack et al., 2000b).

Treatment group status was significantly associated with the level of knowledge even with the other variables held constant. Overall, individuals in the treatment group were 12 percentage points more knowledgeable than the control group members as measured by the knowledge index (not shown). When the treatment group was stratified by whether they were re-mailed a second copy of the handbook, knowledge index scores were 12 percentage points higher for those in the re-mail group and 13 percentage points higher for those in the no re-mail group. The difference between the re-mail and no re-mail groups was small and nonsignificant. According to predicted mean index values, treatment group beneficiaries in the re-mail group had a knowledge score of 51 percent (out of 100) compared to 48 percent for those in the no re-mail group and 42 percent for those in the control group (see ***Exhibit 3-1***).

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[5] Three variables were found to be significant in the Kansas City study but not in the current study at the 0.05 percent significance level: age, gender, and having employer-sponsored supplemental insurance. Outpatient utilization was significant in the national survey regression model but not in the Kansas City model.

Exhibit 3-6
OLS Regression on the 22-Item Knowledge Index

Variables		
	Beta	**(s.e.)**
Intercept	0.1900	(.0406)
Study Group		
Re-mail	0.1221**	(0.0436)
No re-mail	0.1296**	(0.0451)
Control	0.0000	(0.0000)
Age Group		
65-74	0.0014	(0.0013)
75+	-0.0015	(0.0009)
Gender		
Male	0.0000	(0.0000)
Female	-0.0036	(0.0070)
Race		
White	0.0000	(0.0000)
Nonwhite	-0.0354**	(0.0138)
Ethnicity		
Hispanic	-0.0488*	(0.0195)
Non-Hispanic	0.0000	(0.0000)
Unknown		
Education		
Less than high school	0.0000	(0.0000)
High school or GED	0.0197*	(0.0085)
Some college or technical degree	0.0536**	(0.0098)
College graduate	0.0569**	(0.0113)
Income		
<$15,000	0.0000	(0.0000)
$15,000-$30,000	0.0376**	(0.0083)
>$30,000	0.0469**	(0.0098)
Marital Status		
Married	0.0164*	(0.0081)
Not married	0.0000	(0.0000)
Supplemental Insurance		
Employer-sponsored	0.0030	(0.0085)
Individually purchased	0.0339**	(0.0086)
No supplemental insurance	0.0000	(0.0000)
Unknown what type	-0.0421	(0.0237)
Don’t know	-0.0518**	(0.0144)
Have a Regular Doctor		
Yes	0.0142	(0.0167)
No	0.0000	(0.0000)
Number of Doctor Visits in Last Month		
No visits	0.0000	(0.0000)
1 visit	0.0161	(0.0083)
2 visits	0.0296**	(0.0097)
3 or more visits	0.0171	(0.0103)

See notes at end of exhibit.

(continued)

Exhibit 3-6 (continued)

Variables		
Any Hospitalizations in Last Year		
Yes	-0.0036	(0.0084)
No	0.0000	(0.0000)
Physical Health Score	0.0003	(0.0002)
Mental Health Score	0.0016**	(0.0006)
Memory Index Score	0.0065	(0.0046)
Reading Index Score	0.0040**	(0.0014)
Penetration of Medicare HMO Enrollment	0.0005*	(0.0002)
Info on Doctor Communication		
A lot/some	0.0378**	(0.0096)
A little	0.0216*	(0.0089)
Don’t know	-0.0679**	(0.0122)
None at all	0.0000	(0.0000)
Info on Cancer Care		
A lot/some	0.0049	(0.0116)
A little	0.0271*	(0.0116)
Don’t know	-0.0471**	(0.0111)
None at all	0.0000	(0.0000)
Decision About Insurance		
Not by self alone	0.0030	(0.0072)
By self alone	0.0000	(0.0000)
Satisfaction with Insurance		
Not very/at all satisfied	0.0000	(0.0000)
Somewhat satisfied	0.0170	(0.0133)
Very/extremely satisfied	0.0557**	(0.0134)
Use of Medicare Web Site		
Not very likely	0.0000	(0.0000)
Somewhat likely	0.0406**	(0.0097)
Very likely	0.0148	(0.0104)
Don’t know	-0.0508**	(0.0112)
Thinking About Switching		
Not at all	0.0000	(0.0000)
A little	0.0243*	(0.0123)
A fair amount	0.0052	(0.0204)
A lot	0.0025	(0.0217)
Ever in HMO		
Yes	-0.0093	(0.0084)
No	0.0000	(0.0000)
Don’t know	-0.0546**	(0.0180)
Degree of HMO Bias		
Worse	0.0000	(0.0000)
About the same	0.0007	(0.0093)
Better	-0.0122	(0.0145)
Don’t know	-0.0693**	(0.0078)

See notes at end of exhibit. (continued)

Exhibit 3-6 (continued)

Variables		
Interaction Term for Study Group x Mean Mental Health Score		
Re-mail	-0.0008	(0.0008)
No re-mail	-0.0014	(0.0008)
Control	0.0000	(0.0000)

Note: Omitted categories are the control group; beneficiaries who are male, white, and non-Hispanic; those who have less than a high school education, earn less than $15,000 annual income, are not married, have no supplemental insurance, have no regular source of care, have no health care utilization, have not received any quality of care information, make health insurance decisions alone, are not satisfied with current insurance, are not very likely to use computers, are not thinking about switching at all, have never been in an HMO before, and think that care in an HMO is worse than other care.

n=2800

R-squared for regression equals .31

* = $p < 0.05$.

** = $p < 0.01$.

Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Age splines were defined as two continuous variables—age 65 to 74 and 75 or older.[6] No significant linear relationship was observed with either age category at the 0.05 level. Nonwhite racial status was associated with a four percentage point lower score on the knowledge index than whites. Hispanic ethnicity was associated with a five percentage point lower knowledge index score compared to those who were non-Hispanic. A positive association was observed between education and the knowledge index; knowledge increased between two and six percentage points as education level increased beyond high school. Income was also significantly associated with the knowledge index, and the relationship was monotonic. Married individuals also had higher knowledge index scores than unmarried respondents.

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[6] Age splines were used to allow for possible non-linear effects of age to assess whether knowledge varies for certain segments of the population. Because age splines are continuous (as opposed to categorical) variables within a particular age range (e.g., 65 to 74), they can be interpreted as a *percent change* in the dependent variable for a one unit (e.g., a year) change in age. In particular, we were allowing for the possibility that knowledge may have little or no association with age among younger beneficiaries, but may start to decline with age among older beneficiaries.

Those with individually purchased supplemental insurance (i.e., not group insurance) had a higher knowledge score than those with no supplemental insurance. It is possible that their knowledge was gained as a result of their search for insurance. Higher knowledge was associated with greater managed care penetration in an area, but the magnitude of the increase was very small. More frequent use of outpatient health services appeared to be significantly related to beneficiary knowledge, but only for those with two outpatient visits. Better mental health status was significantly associated with a slightly higher knowledge score. Satisfaction with insurance was also related to knowledge, but only for those who were very or extremely satisfied relative to those who were not satisfied with their current insurance.

Individuals who reported receiving a lot, some, or a little information comparing plans on doctor communication had higher knowledge index scores (two to four percentage points higher) than those individuals who reported receiving no such information. Moreover, those who reported receiving a little information on cancer care had a three percentage point higher knowledge index score compared to those individuals who did not receive any information on cancer care at all. These associations highlight the benefit of accessing comparative information and the positive effect this can have on knowledge. The exception was a nonsignificant relationship for those who said they received a lot or some information on cancer care.

On average, those beneficiaries who felt it was somewhat likely that they would use the Medicare program's Internet website to get information about Medicare had a four percentage point higher knowledge score compared to those who felt it was unlikely that they would use the website to garner information. This may suggest that those who are more technologically advanced may be more assertive in accessing and thus using information than those who do not use such services. However, this pattern did not hold for those who felt use of the website was "very likely." Similarly, individuals who had thought about switching their health care option a little had a higher knowledge score compared to those who did not think about switching at all. This increase in knowledge may be due to beneficiaries who think about switching having a stronger awareness of alternative options than those who have never considered switching at all, but this pattern did not hold for those who thought about switching "a lot" or "a fair amount."[7]

The memory and reading indices were included in the model to examine the effect of cognition on beneficiary knowledge. Only the reading index was a significant predictor of beneficiary knowledge. A higher self-reported frequency of reading was associated with higher knowledge scores, indicating that it is important to control for reading habits above and beyond education level. Because survey question 95 (regarding the number of whole books read) loaded the highest on the reading factor, this means that the number of books read is a better predictor of knowledge then time spent reading other material.

3.3.2.2 Repeated Exposure to the *Medicare* & *You* Handbook Over Successive Years

HCFA is very interested in understanding the effects of the *Medicare & You* handbook over time. Our national survey contains one question concerning whether beneficiaries saw the 1999 *Medicare & You* handbook. This question offers an opportunity to assess the effect of repeated exposure to the handbook over successive years—1999 and 2000. While this measure is limited by a beneficiary's recall of whether they really did see the 1999 handbook, it may approximate the effect on knowledge over time.

To assess the effect of repeated exposure to the handbook over successive years, we added a dichotomous variable to the previous OLS knowledge index regression indicating whether or not beneficiaries saw the 1999 handbook and then interacted this variable with our treatment group variables—the re-mail and no re-mail groups. If the coefficients on the first level of each interaction term (being in a year 2000 treatment group and having seen the 1999 handbook) are positive and significant, then beneficiaries who saw the handbook in both years

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[7] The "a little" parameter became insignificant when the model was computed using a 21-item index which excluded question 7. This question included the fictitious plan referred to in question 6 (which was removed from the index).

have higher knowledge scores than the other levels of each interaction term which serve as "controls" or comparison groups (beneficiaries who saw only one of the two books or neither of them).

As shown in the interactions terms in ***Exhibit 3-7***, members of both treatment groups who also saw the 1999 handbook had higher knowledge scores than beneficiaries who saw only one or neither of the handbooks. Beneficiaries in the re-mail group who saw the 1999 handbook scored 3 percentage points higher than those who saw only one or neither of the handbooks. Beneficiaries in the no re-mail group who saw both handbooks scored 6 percentage points higher than those who saw only one or neither of the handbooks. Thus repeated exposure to the *Medicare & You* handbooks over successive years appears to have had a positive and significant effect on beneficiary knowledge. Future analyses using different methods and other data sources such as the MCBS should be conducted to verify the gains in knowledge over successive years.

In summary, the handbook component of the NMEP initiative appears to have positively influenced beneficiary knowledge to a modest degree. Significant increases in knowledge in nearly all substantive areas were observed. In general, the results suggest that beneficiaries are currently more knowledgeable regarding the general limitations of Original Medicare as a health plan option and the basic terminology of the supplemental plans. The educational campaign seems to be achieving success with respect to increasing awareness of Medicare options. Knowledge about specific benefits, the cost implications of different plan choices, beneficiary rights, and plan rules that may vary depending on the health care option chosen are not fully understood by some beneficiaries. Areas of low knowledge could be emphasized more in future versions of the handbook. Additional challenges for the NMEP lie in reaching the subpopulations that are at greater risk including those who are nonwhite, Hispanic, and of low educational attainment and income.

Exhibit 3-7
OLS Knowledge Index Regression of Repeated Exposure to the *Medicare & You* 2000 Handbook

Variables		
	Beta	**(s.e.)**
Intercept	0.2398**	(.0318)
Study Group		
Re-mail	0.0316**	(0.0120)
No re-mail	-0.0008**	(0.0115)
Control	0.0000	(0.0000)
Saw 1999 Handbook		
Yes	0.0652**	(.0114)
No	0.0000	(.0000)
Age Group		
65-74	0.0011	(0.0013)
75+	-0.0016	(0.0009)
Gender		
Male	0.0000	(0.0000)
Female	-0.0082	(0.0068)
Race		
White	0.0000	(0.0000)
Nonwhite	-0.0382**	(0.0133)
Ethnicity		
Hispanic	-0.0400*	(0.0187)
Non-Hispanic	0.0000	(0.0000)
Unknown		
Education		
Less than high school	0.0000	(0.0000)
High school or GED	0.0169*	(0.0082)
Some college or technical degree	0.0508**	(0.0094)
College graduate	0.0532**	(0.0109)
Income		
<$15,000	0.0000	(0.0000)
$15,000-$30,000	0.0379**	(0.0079)
>$30,000	0.0450**	(0.0094)
Marital Status		
Married	0.0125*	(0.0079)
Not married	0.0000	(0.0000)
Supplemental Insurance		
Employer-sponsored	0.0017	(0.0081)
Individually purchased	0.0345**	(0.0084)
No supplemental insurance	0.0000	(0.0000)
Unknown what type	-0.0386	(0.0260)
Don’t know	-0.0419**	(0.0141)
Have a Regular Doctor		
Yes	0.0155	(0.0162)
No	0.0000	(0.0000)

See notes at end of exhibit.

(continued)

Exhibit 3-7 (continued)

Variables		
Number of Doctor Visits in Last Month		
No visits	0.0000	(0.0000)
1 visit	0.0095	(0.0080)
2 visits	0.0240**	(0.0094)
3 or more visits	0.0114	(0.0099)
Any Hospitalizations in Last Year		
Yes	-0.0023	(0.0080)
No	0.0000	(0.0000)
Physical Health Score	0.0003	(0.0003)
Mental Health Score	0.0006	(0.0003)
Memory Index Score	0.0036	(0.0044)
Reading Index Score	0.0034*	(0.0013)
Penetration of Medicare HMO Enrollment	0.0006**	(0.0002)
Info on Doctor Communication		
A lot/some	0.0253**	(0.0093)
A little	0.0149	(0.0086)
Don’t know	-0.0661**	(0.0118)
None at all	0.0000	(0.0000)
Info on Cancer Care		
A lot/some	-0.0004	(0.0114)
A little	0.0239*	(0.0113)
Don’t know	-0.0463**	(0.0105)
None at all	0.0000	(0.0000)
Decision About Insurance		
Not by self alone	0.0035	(0.0069)
By self alone	0.0000	(0.0000)
Satisfaction with Insurance		
Not very/at all satisfied	0.0000	(0.0000)
Somewhat satisfied	0.0073	(0.0131)
Very/extremely satisfied	0.0367**	(0.0132)
Use of Medicare Web Site		
Not very likely	0.0000	(0.0000)
Somewhat likely	0.0370**	(0.0094)
Very likely	0.0159	(0.0098)
Don’t know	-0.0483**	(0.0106)
Thinking About Switching		
Not at all	0.0000	(0.0000)
A little	0.0226	(0.0119)
A fair amount	0.0125	(0.0200)
A lot	-0.0064	(0.0204)
Ever in HMO		
Yes	-0.0128	(0.0082)
No	0.0000	(0.0000)
Don’t know	-0.0509**	(0.0162)
Degree of HMO Bias		
Worse	0.0000	(0.0000)
About the same	0.0045	(0.0091)
Better	-0.0018	(0.0141)
Don’t know	-0.0596**	(0.0076)

See notes at end of exhibit. (continued)

Exhibit 3-7 (continued)

Variables		
Re-mail Group and Whether Saw 1999 Handbook		
Re-mail and saw 1999 Handbook	0.0340*	(0.0160)
Re-mail and did not see 1999 Handbook	0.0000	(0.0000)
Control and saw 1999 Handbook	0.0000	(0.0000)
Control and did not see 1999 Handbook	0.0000	(0.0000)
No Re-mail Group and Whether Saw 1999 Handbook		
No Re-mail and saw 1999 Handbook	0.0548**	(0.0158)
No Re-mail and did not see 1999 Handbook	0.0000	(0.0000)
Control and saw 1999 Handbook	0.0000	(0.0000)
Control and did not see 1999 Handbook	0.0000	(0.0000)

Note: Omitted categories are the control group; beneficiaries who are male, white, and non-Hispanic; and those who have less than a high school education, earn less than $15,000 annual income, are not married, have no supplemental insurance, have no regular source of care, have no health care utilization, have not received any quality of care information, make health insurance decisions alone, are not satisfied with current insurance, are not very likely to use computers, are not thinking about switching at all, have never been in an HMO before, and think that care in an HMO is worse than other care.

n = 2800

R square for regression equals .36

* p less than or equal to .05

** p less than or equal to .01

3.4 Use/Impact on the *Medicare & You* 2000 Handbook

The survey included a handful of questions asking beneficiaries about their current health insurance, their interest in switching plans, and their perceptions of the decision-making process. Other questions measured past, current, and anticipated use of Medicare informational resources. Opinions about the *Medicare & You* handbook were assessed among the treatment beneficiaries on the basis of a series of questions regarding the use of the information found in the handbook.

3.4.1 Descriptive Analyses

Satisfaction and Confidence. Beneficiaries were generally satisfied with their current insurance (see ***Exhibit B-18***, question 47). More than half of the beneficiaries in the treatment and control groups were very or extremely satisfied with their current health insurance, although a sizable minority of close to 40 percent were only somewhat satisfied and about six percent were not very satisfied or not at all satisfied. Similarly, nearly half of the beneficiaries were very or extremely confident that their current insurance was the best choice for them, while nearly 40 percent were somewhat confident and about 7 percent were not at all confident (see ***Exhibit B-19***, question 57).

Changing Health Insurance. Perhaps as a result of the relatively high satisfaction and confidence in their health care plan choice, only 3 percent in the control group and 5 percent in the treatment group had decided to change their insurance (see ***Exhibit B-20***, question 51). A total of 89 percent of control group members and 85 percent of treatment group members had not thought at all about changing their insurance (see ***Exhibit B-21***, question 52). However, beneficiaries in the treatment group were significantly more likely than controls to have thought about or decided to change their insurance, suggesting that the handbook may have heightened beneficiaries' awareness about other insurance alternatives or simply raised the issue of changing or assessing one's current coverage.

The main reasons for switching or thinking about switching were not significantly different between treatment and control group beneficiaries presumably because the sample of switchers was quite small (see ***Exhibit B-22***, question 53). The most common reason for switching was that their health care plan cost too much; 35 percent of treatment group members and 33 percent of control group members reported this as the main reason for leaving or thinking about leaving their current health care plan. An additional nearly 22 percent left their plan because "covered benefits were not good enough." Together, these two responses total between 54 to 57 percent of beneficiaries who left their plan for either cost or benefit-related reasons.

Poor quality care was the least frequent reason with less than 5 percent of treatment beneficiaries reporting this as the main reason for leaving their plan.

Beneficiaries found choosing insurance to be both an important and difficult process. More than half of the beneficiaries felt that, if they were choosing health insurance today, the choice would be very important. Just over a third of beneficiaries felt that the choice would be extremely or critically important, while less than 10 percent thought it would be only somewhat or not very important (see ***Exhibit B-23***, question 49). Approximately 60 percent of beneficiaries felt that such a choice would be very or somewhat hard, however, and slightly less than one in four felt that the choice would be somewhat or very easy (see ***Exhibit B-24***, question 50). The combination of these two factors may also attribute to beneficiaries' reluctance to switch plans.

Trust in Medicare Information. The perceived level of trust regarding information received from the Medicare program can affect the extent to which beneficiaries use and rely on the handbook. In a bivariate framework, a significantly greater percentage of treatment beneficiaries trusted the information they got from the Medicare program compared with the control beneficiaries (see ***Exhibit B-25***, question 28). Beneficiaries' trust in the Medicare information is reflected by the large majority of those who use it as one source to help make decisions about health insurance.

Past Use of Medicare Resources. About one third of both treatment and control group members had ever used a toll-free (1-800) telephone number to get help with Medicare issues (see ***Exhibit B-26***, question 43). Fewer beneficiaries had contacted a person or organization for information about health insurance options for people with Medicare in the last month. Only 8 percent of treatment group beneficiaries and 6 percent of control group beneficiaries had used these informational services (see ***Exhibit B-27***, question 45). Although the percentages are small, the difference between treatment and control beneficiary use of informational services was significant, which implies that the handbook motivated some beneficiaries to contact the resources listed. However, the small proportion of both groups of beneficiaries was surprising, in light of the previously mentioned result that more than one third of the beneficiaries being aware of the informational counseling services. Although the time frame of the question was somewhat limiting (in the last month), lack of motivation, interest, or accessibility may serve as barriers to obtaining information. However, because nearly 90 percent of beneficiaries were not even considering changing plans, they may not have felt a need to seek information.

Future or Anticipated Use of Medicare Resources. Future use of informational resources provided by the Medicare program was also assessed in the survey. Although no significant differences existed between treatment and control beneficiary groups about preferred source, there were noticeable differences in preference between the type of informational resources that the beneficiaries anticipated using. Although less than 10 percent of all beneficiaries contacted an individual or organization (e.g., a counseling service) to help them understand and compare health insurance options in the past month, nearly 40 percent of beneficiaries said that they were very likely to do so in the future (see ***Exhibit B-28***, question 40). In contrast, 65 percent of beneficiaries said it was not very likely that they would use the Medicare web site to get information (see ***Exhibit B-29***, question 42). This preference was supported by the focus groups in which participants indicated that they prefer to have contact with other individuals when gathering information. Beneficiaries did not feel the Internet was easily accessible or available to them.

Medicare & You Specific Use. An estimated 45 percent of the treatment beneficiaries read at least part of the *Medicare & You* 2000 handbook, while 27 percent read most or all of it, and 28 percent never looked at it (see ***Exhibit B-30***, question 65). Among beneficiaries who read at least part of the handbook, 45 percent spent 1 to 30 minutes and the other 56 percent spent more than 30 minutes reading the handbook, including 23 percent who spent over 1 hour (see ***Exhibit B-31***, question 67).

Nearly all (96 percent) beneficiaries understood that the purpose of the handbook was to educate people about their insurance options (not shown). Some 63 percent of those who had read parts of the handbook said that they learned something new from it (see ***Exhibit B-32***, question 70). Among those who said that they learned something new, 37 percent of survey respondents said that they learned about phone numbers available to call for help with information, suggesting that the handbook highlights useful and important resources (see ***Exhibit B-33***, question 71). The Medicare 1-800 phone line was cited as the most useful piece of information in the handbook by focus group participants as well. Other popular areas were the different types of Medicare insurance options, as well as general information on the preventive services provided by Medicare.

An estimated 93 percent of the beneficiaries said that the information in the handbook was very or somewhat useful (see ***Exhibit B-34***, question 73). When asked to rate the information at helping them understand the advantages and disadvantages of insurance options, more than half of the beneficiaries rated the handbook as good (see ***Exhibit B-35***, question 72). Among the remaining respondents, more chose fair or poor than those who chose very good or excellent.

Beneficiaries displayed mild enthusiasm for the tables and graphs that displayed comparative quality of care and premium data. About half of the beneficiaries found the graphs comparing how well doctors communicate to be at least somewhat helpful (see ***Exhibit B-36***, question 76). The tables comparing health insurance premiums were judged to be slightly more helpful (question 77).

When asked which one section was the most useful (see ***Exhibit B-37***, question 74), 40 percent said all of the above. One in four selected “Medicare Benefits,” and 10 percent chose “Medicare and You Basics,” suggesting the need for basic information about Medicare. Twice as many respondents chose “Questions and Answers” as the least useful compared to those who chose it as the most useful (see ***Exhibit B-38***, questions 75). Quality of care information at the local level was commonly chosen as one of the least useful sections (by 16% of respondents) as was information about Medicare plan choices (chosen by 21% of respondents).

3.4.2 Multivariate Analyses

Satisfaction. We performed a logistic regression on the satisfaction measure and found no difference between the control and treatment groups in terms of their satisfaction with their current health insurance. Not surprisingly, the predicted mean values of satisfaction were nearly the same between the treatment and control groups (see ***Exhibit 3-1***). Approximately 93 percent of beneficiaries in the re-mail group were either somewhat, very, or extremely satisfied with their current health insurance compared to 91 percent of beneficiaries in the no re-mail and control groups.

Beneficiaries aged 65 to 74 were progressively more satisfied as they aged (see ***Exhibit 3-8***). High school graduates (compared to beneficiaries with less than a high school education) as well as beneficiaries with higher SF-12 mental health scores expressed greater satisfaction. Beneficiaries with employer-sponsored or individually purchased supplemental insurance were also more satisfied than beneficiaries with no additional insurance. Regarding beneficiaries' trust of information they receive from the Medicare program, those expressing "some" or "a lot" were more likely to be satisfied (compared to those who said "little/not at all"). In comparison to those who said it was very hard to understand the different types of health insurance options, those who found it easier were more likely to be satisfied. Finally, an interaction term was included for beneficiaries in the no re-mail group with the variable for being age 75 in the model; it showed a negligible effect on satisfaction.

Confidence. We found no significant difference between the treatment and control groups in their level of confidence in their current choice of health plan. Predicted mean values differed little between the re-mail, no re-mail, and control groups. About 10 percent of all three study groups said that they were extremely confident in their choice of health plan, and between 40 and 41 percent of all beneficiaries were very confident (see ***Exhibit 3-1***). Between 7 and 8 percent of all three groups said they were not at all confident.

Beneficiaries aged 65 to 74 had progressively higher levels of confidence as they aged (see ***Exhibit 3-8***). Women had higher levels of confidence than men. Beneficiaries with recent utilization experience—either inpatient or outpatient—expressed higher levels of confidence. Use of medical resources may help beneficiaries become more confident with their insurance

Exhibit 3-8
Maximum Likelihood Regressions on Dichotomous Measures of Use/Impact

Variables	**Satisfaction n=2980**	**Confidence n=2808**	**Switching n=2887**	**Trust n=2400**	**Read *M&Y* Handbook n=2569**
Intercept	–	–	–	–	–
Study Group					
Re-mail	ns	ns	+	ns	+
No re-mail	ns	ns	+	ns	ϕ
Control	ϕ	ϕ	ϕ	ϕ	N/A
Age Group					
65-74	+	+	ns	ns	+
75+	ns	ns	ns	+	ns
Gender					
Male	ϕ	ϕ	ϕ	ϕ	ϕ
Female	ns	+	ns	ns	ns
Race					
White	ϕ	ϕ	ϕ	ϕ	ϕ
Nonwhite	ns	ns	ns	ns	ns
Ethnicity					
Hispanic	ns	ns	ns	ns	ns
Non-Hispanic	ϕ	ϕ	ϕ	ϕ	ϕ
Education					
Less than high school	ϕ	ϕ	ϕ	ϕ	ϕ
High school or GED	+	ns	ns	ns	ns
Some college or technical degree	ns	ns	ns	+	ns
College graduate	ns	ns	ns	+	ns
Income					
<$15,000	ϕ	ϕ	ϕ	ϕ	ϕ
$15,000-$30,000	ns	ns	ns	ns	ns
>$30,000	ns	ns	ns	ns	ns
Marital Status					
Married	ns	ns	+	ns	+
Not married	ϕ	ϕ	ϕ	ϕ	ϕ
Insurance Sponsorship					
Employer-sponsored	+	+	–	ns	ns
Individually purchased	+	ns	+	ns	ns
No supplemental insurance	ϕ	ϕ	ϕ	ϕ	ϕ
Unknown what type	ns	ns	ns	ns	ns
Don’t know	ns	ns	+	–	ns
Have a Regular Source of Care					
Yes	ns	ns	ns	+	ns
No	ϕ	ϕ	ϕ	ϕ	ϕ
Number of Doctor Visits in Last Month					
No visits	ϕ	ϕ	ϕ	ϕ	ϕ
1 visit	ns	+	+	ns	ns
2 visits	ns	ns	ns	ns	ns
3 or more visits	ns	+	+	ns	+
Any Hospitalizations in Last Year					
Yes	ns	+	ns	+	ns
No	ϕ	ϕ	ϕ	ϕ	ϕ

See notes at end of exhibit. (continued)

Exhibit 3-8 (continued)

Variables	**Satisfaction n=2980**	**Confidence n=2808**	**Switching n=2887**	**Trust n=2400**	**Read *M&Y* Handbook n=2569**
Physical Health Score	ns	ns	ns	ns	+
Mental Health Score	+	ns	ns	ns	ns
Memory Index Score	ns	ns	ns	+	+
Reading Index Score	ns	ns	ns	ns	+
Decision about Insurance					
Needs help	ns	ns	ns	ns	–
By self alone	ϕ	ϕ	ϕ	ϕ	ϕ
Insurance Decision's Dependence on Quality					
None at all	ϕ	ϕ	ϕ	ϕ	
A little	ns	ns	ns	ns	
Some	ns	–	ns	ns	
A lot	ns	ns	ns	ns	
Don't know	ns	ns	ns	ns	
Satisfaction with Insurance					
Not very/at all satisfied					ns
Somewhat satisfied					ns
Very/extremely satisfied					ns
Knowledge Index Score	ns	ns	+	+	
Trust in Information from Medicare					
Not at all/little	ϕ	ϕ	ϕ		
Some	+	ns	ns		
A lot	+	+	–		
I have never received info	+	ns	ns		
Don't know	+	ns	ns		
Insurance Decision – Hard/Easy to Understand					
Very hard	ϕ	ϕ	ϕ		
Somewhat hard	+	+	ns		
Neither hard nor easy	+	+	ns		
Somewhat easy	+	+	ns		
Very easy	+	+	ns		
Importance of Decision					
Not very important			ϕ		ϕ
Somewhat important			ns		ns
Very important			ns		ns
Extremely important			+		ns
Critically important			ns		ns
Don't know			ns		ns
Confidence					
Not at all confident			ϕ		
Somewhat confident			–		
Very confident			–		
Extremely confident			–		
Don't know			–		

See notes at end of exhibit. (continued)

Exhibit 3-8 (continued)

Variables	Satisfaction n=2980	Confidence n=2808	Switching n=2887	Trust n=2400	Read *M&Y* Handbook n=2569
Ever in HMO					
Yes			ns		ns
No			ϕ		ϕ
Don't know			ns		ns
Managed Care/ HMO Bias					
Worse			ϕ	ϕ	ϕ
About the same			+	ns	ns
Better			ns	+	ns
Don't know			ns	ns	ns
Penetration of Medicare HMO Enrollment			+		
Received Incentive					
Yes					ns
No					ϕ
Thinking About Switching					
Not at all					ϕ
A little					ns
A fair amount					ns
A lot					ns
Interaction Term for Study Group x Age 75+					
Re-mail	–		ns		
No re-mail	ns		–		
Control	ϕ		ϕ		
Interaction Term for Study Group x Any Hospitalization					
Re-mail, yes		ns			
Re-mail, no		ϕ			
No re-mail, yes		–			
No re-mail, no		ϕ			
Control, yes		ϕ			
Control, no		ϕ			

+ = significant positive coefficient.
– = significant negative coefficient.
ns = not significant.
ϕ= comparison group.
N/A = not applicable.

Note: Omitted categories are the control group; beneficiaries who are male, white, and non-Hispanic; and those who have less than high school education, earn less than $30,000 income, are not married, have no supplemental insurance, have no regular source of care have no health care utilization, make health insurance decisions alone, are not satisfied with current insurance, do not trust information from Medicare, think the insurance decision is very hard and not very important, are not at all confident with their health plan choice, have never been in an HMO before, think that care in an HMO is worse than other care, and have not thought about switching plans.

Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

benefits. We also found that persons with employer-sponsored insurance had higher confidence levels than those who had no insurance beyond Medicare. The security that these additional benefits provide may contribute to higher confidence. In addition, beneficiaries who expressed a lot of trust (as opposed to no or little trust) in information they get from Medicare also had higher levels of confidence. Beneficiaries who said that it was very easy, somewhat easy, neither hard nor easy, or somewhat hard (compared to those who said it was very hard) to understand the different types of health insurance options were more confident. Beneficiaries who said that the quality of medical care received depends "some" (as opposed to "none at all") on their plan choice expressed lower levels of confidence. Finally, we included an interaction term for beneficiaries in the no re-mail group who have been recently hospitalized to see if such an experience would affect confidence in their choice and found a slightly negative effect.

Switching Health Plans. We found that treatment group beneficiaries had a significantly higher propensity to either change or think about changing health plans than beneficiaries in the control group (see ***Exhibit 3-8***). There was essentially no difference between the re-mail and the no re-mail groups in the distribution of predicted mean values across the three switching categories (see ***Exhibit 3-1***). Only 5 percent of treatment group members had decided to switch health insurance plans during the prior month compared to only 3 percent of control group members, controlling for other factors. Overall, only 13 percent of beneficiaries had thought about switching. These findings coincide with the satisfaction data, which showed that most beneficiaries were happy with their current insurance.

Beneficiaries who were married, had one or three doctor visits (compared to none), had individually purchased insurance or did not know what insurance they had, did not have a managed care bias, had a higher knowledge index score, and thought the insurance decision was extremely important (compared to not at all important) were more likely to decide to or think about switching (see ***Exhibit 3-8***). On the other hand, beneficiaries who had employer-sponsored insurance, trusted information they received from the Medicare program a lot (compared to trusting not at all), and were at least somewhat confident in their current health plan choice were less likely switch or think about switching. An interaction term for beneficiaries in the no re-mail group with the variable for those aged 75 and older showed a very small negative effect, meaning that persons aged 75 and older were less likely to switch.

Trust. Our analyses showed that there was no difference between the treatment and control group members regarding their level of trust in the information they received from the Medicare program (see ***Exhibit 3-8***). Based on predicted probabilities, about 56 percent of persons in the re-mail group said that they trusted the information from Medicare a lot compared to 50 percent of beneficiaries in the no re-mail group and 48 percent of those in the control group (see ***Exhibit 3-1***). Overall, 9 percent of those in the re-mail group said they trusted information from Medicare a little or not at all. Like the other attitudinal outcome measures examined in this section, being in the treatment group showed no difference in the level of trust in information from the Medicare program.

Beneficiaries aged 75 and older trusted information from Medicare progressively more with age (see ***Exhibit 3-8***). College graduates or those with some college (as compared to those with less than a high school education) had higher levels of trust, as did those with higher scores on the memory index. Beneficiaries with a hospitalization or a regular source of health care also expressed higher levels of trust in information from Medicare. Interestingly, those who did not know what type of insurance they had expressed lower levels of trust in information from Medicare. Finally, those who thought care provided by managed care plans was better (as opposed to worse) than that care provided by other types of health plans, and those who scored progressively higher on the knowledge index, had higher levels of trust in the information they received from the Medicare program.

Reading the* Medicare & You *Handbook*.** We estimated a model using only treatment group members to determine what factors affect the likelihood of reading the handbook and whether beneficiaries in the re-mail group were more likely to read it We found a significant and independent effect of being in the re-mail group on reading the handbook (see ***Exhibit 3-8). According to predicted probabilities, 58 percent of those in the re-mail group read the handbook compared to only 40 percent of beneficiaries in the no re-mail group (which was the comparison group in this model) (see ***Exhibit 3-1***). The predicted mean value for the treatment groups combined was 49 percent, meaning that only about half of the beneficiaries who were mailed the handbook read it.

The monetary incentive in the regression had a negligible effect on reading the handbook (see ***Exhibit 3-8***). The likelihood of reading the handbook was positively associated with age in the 65 to 74 age group, being married, and having higher memory and reading scores. Beneficiaries who had three or more physician visits and were in increasingly better physical health were also more likely to read the handbook. Those who need assistance with their health insurance decisions were less likely to read the handbook.

4.0 CONCLUSIONS AND POLICY IMPLICATIONS

The national mailing of the *Medicare & You* 2000 handbook in fall of 1999 was a significant undertaking by HCFA. Although the former version of the handbook, known as *The Medicare Handbook,* was available nationally for many years and had been mailed to beneficiaries on selected occasions, the 2000 version of the handbook was revised and significantly expanded. It includes more information about Medicare costs and benefits, new managed care options, patient rights, and multiple informational resources. It was also the first time that quality of care information comparing local health plans was sent to all beneficiaries. The national mailing offered beneficiaries an opportunity to access information about the Medicare program they may not have been able to obtain otherwise. Theoretically, beneficiaries who have more information should make more informed decisions.

Beneficiaries in both the treatment and control groups may have received Medicare-related information from various sources, but only treatment group members received the *Medicare & You* handbook. Interestingly, only treatment group members in the re-mail treatment group were statistically more likely to report having enough Medicare information, when compared to the control group. After controlling for other factors that may have affected access to information, our model predicted that 59 percent of beneficiaries in the re-mail group reported having enough information, compared to only 51 percent in the control group. Some 56 percent of beneficiaries in the no re-mail group had enough information based on predicted probabilities. This suggests that repeated exposure to the handbook increased access to information. Another plausible explanation for these findings, however, is that the re-mail group had their copy of the handbook with them at the time of the interview because it was re-mailed to them along with the survey instrument. The no re-mail group received the handbook as part of the national mailing only (which was up to 3 months prior to receipt of the survey for some respondents). Nonetheless, the repeated exposure did seem to have a positive effect.

“Information-related” outcomes such as this may be influenced more by the intervention process involved (i.e., having been sent the handbook a second time) than other outcomes we studied. Outcomes that are less information-related (e.g., satisfaction, confidence, and trust) may be influenced less by being a part of the study.

Awareness of Medicare information is another important aspect of becoming an informed Medicare consumer. Although informational resources may be accessible, the first step to accessing available resources is being aware of their existence. Without awareness, even the most accessible resources will not be used. The findings from our descriptive analyses suggest that beneficiaries are generally aware that different health insurance options are available to them to fill in gaps in Medicare coverage, particularly managed care options but Medigap coverage to a lesser degree. Approximately 73 percent of treatment group members and 68 percent of control group members were aware of managed care options, and 72 percent of treatment group members and 66 percent of control group members were aware of Medigap plans. However, beneficiaries seemed to lack details about the coverage options and were not able to compare and contrast the key features. They were confused about what Medicare covers and does not cover. Awareness of existing informational services was low, but it was higher among treatment group members. Consistent with previous research (McCormack et al., 1996), it appears that more outreach efforts are needed to inform beneficiaries about available services, particularly in-person counseling which they tend to favor. HCFA may want to consider increased marketing of its new web-site, although many older consumers are not inclined to use computer-based resources.

Exposure to the handbook increased awareness of plan options as measured by our 3-item awareness index. On this 3-point scale, our model predicted that treatment group members scored 2.3 compared to control group members who scored 2.1 on the scale. This difference in predicted scores is attributable to the handbook. The findings also suggest that the handbook had a significant positive effect on beneficiary knowledge, although the absolute difference in knowledge appears to be modest. The re-mail treatment group had a mean score of 49 (out of 100) on the 22-item knowledge index, whereas the no re-mail treatment group members scored

45 and control group members scored 42. In a multivariate framework controlling for other factors, individuals in the treatment group were 12 percentage points more knowledgeable than control group members as measured by the knowledge index.

Several other variables in the knowledge index model were significant as hypothesized, most notably education level. The knowledge findings also have educational policy implications for vulnerable sub-populations who did not gain as much from the intervention. Simplifying the handbook and/or alternative transmission strategies (including those not dependent on print media) to reach these populations should be considered. These national results are generally consistent with the precursor Kansas City *Medicare & You* 1999 evaluation. Because comparable effects were found in both evaluations and with both the re-mail and no re-mail groups, we are more confident that the increases in knowledge were not a result of being sensitized to the study experiment.

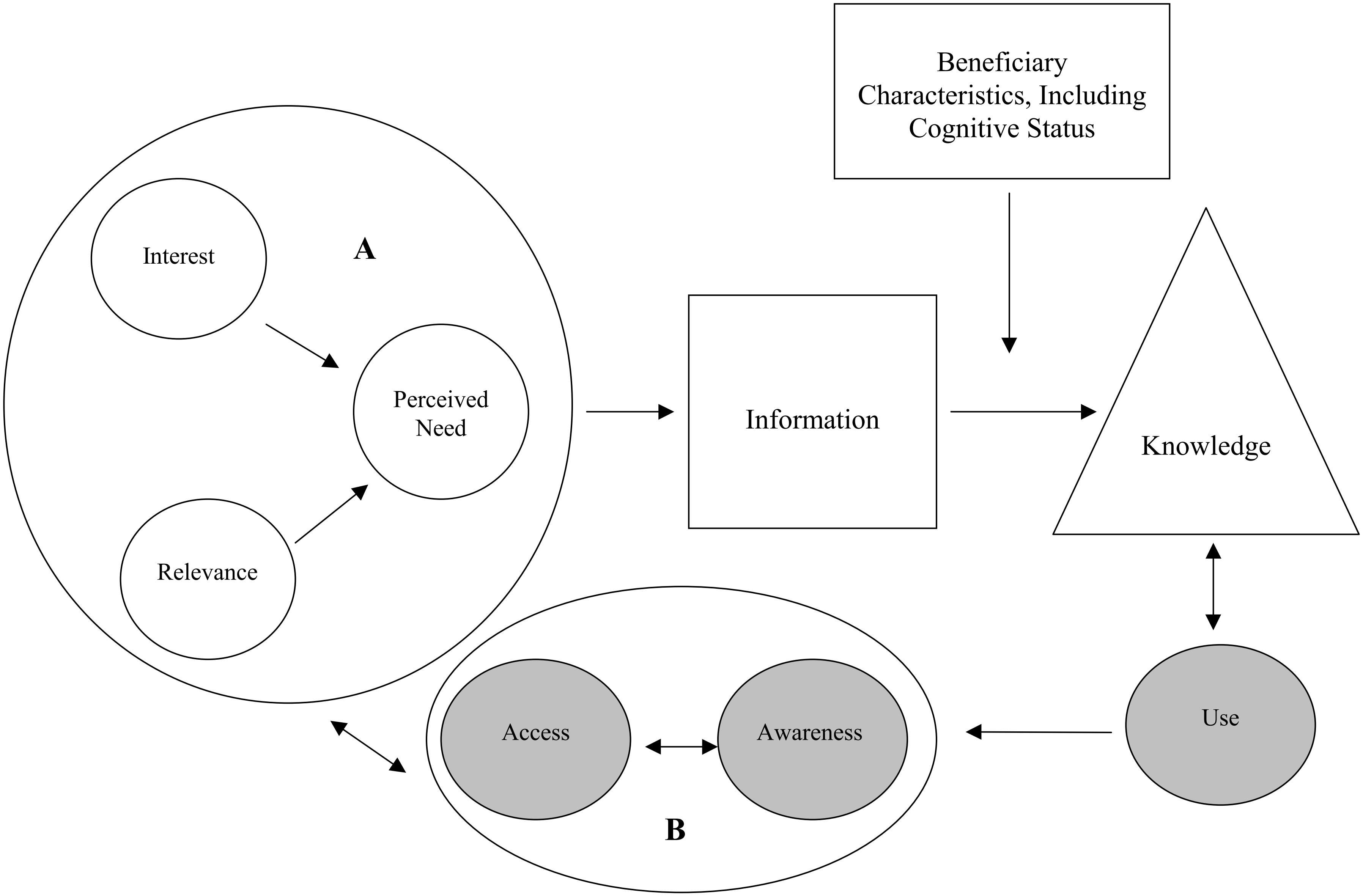
Learning about a complicated health insurance program and increasingly diverse plan options may take time and repeated exposure. From this study we are unable to conclude with certainty that repeated exposure will result in increasing knowledge over time, however, the data suggest that this is the case. This is also consistent with communication and marketing principles of message reinforcement. Our analysis showed additional gains in knowledge of between 3 and 5 percentage points among those who were exposed to *both* the 1999 and 2000 versions of the handbook (relative to those who only saw only one or neither of the handbooks). Thus, we may see increases in beneficiary knowledge over time with the annual dissemination of the handbook. Additional analysis using different Medicare data sets and other modeling approaches should be pursued to investigate this further.

How large gains in knowledge should or need to be is an important policy question. Given the complexity of the Medicare program, small gains in knowledge may be all that can be realistically expected. Perhaps it is sufficient if beneficiaries are able to locate the information they need when they need it and not necessarily retain it in their memory. Other important policy questions are: what amount of information should be conveyed and what interval of receipt is appropriate? Should all beneficiaries receive the handbook every year, every other year, or every few years? Would shorter, more frequent messages be more effective at reaching beneficiaries? Since we have learned that beneficiaries use the handbook as a reference tool, an argument could be made that annual dissemination may not be necessary. However, because of the potential for knowledge gains over time and because the Medicare program is currently experiencing unprecedented changes including the withdrawal of several Medicare HMOs from the market, it may be worthwhile to invest resources in sending the handbook out annually to all beneficiaries for the next several years. Thereafter, other options could be considered. For example, an abbreviated version of the handbook like the eight-page *Medicare & You* 1999 bulletin that provided a summary of HCFA's key messages and major changes in Medicare program could be created and mailed for less expense. A shorter document is likely to be less intimidating and may increase the chances of it being used.

The use of Medicare information resources, although crucial to helping beneficiaries understand and compare their health insurance options, depends on multiple factors, including beneficiary awareness and ability to access the information. Use of information may also depend on perceived information needs that can stem from dissatisfaction or lack of confidence with a current plan. Understanding appeared to be associated with the perceived relevance of and interest in the issues addressed, and thus these are important variables that affect exposure to information and, ultimately, gains in knowledge (see ***Exhibit 4-1***).

We examined the effect of the handbook on the probability of changing health plans given the health choices now available, and found that beneficiaries in the treatment group were more likely to switch. Our model predicted that 5 percent of treatment group members had decided to switch health insurance plans during the prior month compared to 3 percent of control.

Exhibit 4-1
Factors Affecting Beneficiary Knowledge of Medicare



group members. Overall, only 13 percent of beneficiaries had thought about switching. This is the opposite result that we found in the Kansas City evaluation (McCormack et al., 2000c). However, we attributed the Kansas City results to the strong message found in the 1999 version of the handbook that beneficiaries did not need to change plans if they were happy with their current plan. This message was largely withdrawn from the 2000 handbook, and its removal appears to have reversed the effect of the intervention.

Three of the eight dependent variables in the regression analyses were the attitudinal measures of satisfaction, confidence, and trust. We did not find an effect of receiving the handbook on these outcomes. The predicted values from our models showed that a little more than 90 percent of all beneficiaries were satisfied with their current health plan, that half of all beneficiaries were extremely or very confident in their current health plan, and that approximately 90 percent of beneficiaries trusted information from the Medicare programs. It is interesting that being in the treatment group in these more qualitative regressions did not result in a significant effect, but the opposite was true for more concrete or observable measures, such as knowledge (which is objectively verifiable), whether one thought about or decided to switch health plans, and whether beneficiaries had access to or were aware of information concerning health plan choice. In previous work performed by RTI on the effect of reading the Medicare & You handbook on various outcomes derived from the Medicare Current Beneficiary Survey (Anderson et al., 2000), we also observed that the proposed intervention (the *Medicare & You* 1999 handbook in this case) did not have a demonstrated effect on attitudinal measures of satisfaction and confidence. Although these attitudinal measures could have some intervening effect on the more observable actions or behaviors, it may be prudent to focus on achieving results in the more observable outcomes in which the handbook seems to have a demonstrated effect.

Three factors of interest used as control variables in regression analyses —knowledge, trust, and various measures of managed care — had mixed effects on the outcome variables. The knowledge index was used as an explanatory factor to model satisfaction, confidence, trust, and switching. It demonstrated a significant effect only in the trust and switching models. Higher levels of knowledge were associated with more trust in information received from the Medicare program and a higher propensity to consider switching health plans. It was not significant in determining satisfaction or confidence. Increasing trust in information received from Medicare was a significant predictor of both satisfaction and confidence, and it also demonstrated a decreasing propensity for beneficiaries to consider switching health plans. Given the low levels of knowledge about specific elements of Medicare, any information about the program may be perceived as helpful, thereby increasing satisfaction levels and discouraging plan switching.

We included several forms of managed care participation as explanatory variables with few significant results. Although beneficiaries who thought that managed care was better than fee-for-service care were more likely to trust information received from the Medicare program, attitudes about managed care or prior experience with it were not significant predictors of any other outcomes we measured. When HMO penetration in the beneficiary's community was factored in as an explanatory variable, it showed a significant but very negligible effect in two of the three models in which it was included.

Some study limitations are worth noting despite the use of a randomized experiment. Social desirability and the Hawthorne effect may have generated upward bias in the treatment group effect. Beneficiaries responding to the survey who are influenced by social desirability want to be viewed in a positive way and therefore might respond more positively. The Hawthorne effect is a similar phenomenon in which persons perform tasks at a higher level if they know they are being observed. Beneficiaries participated voluntarily in this study and therefore may be at risk for these issues.

Overall, the handbook had small to modest significant effects on some of the outcomes we studied. Because we focused the evaluation on the effect of the handbook mailing (using treatment group status as the key policy variable of interest), we did not explicitly measure the effect of reading the handbook on these outcomes. Future evaluations may want to take this approach. Future evaluations may also want to examine further the effect of repeated exposure to the handbook as some results suggest a stronger effect associated with the re-mailing. This could be due to a second exposure, a more recent exposure, having the handbook with them at the time beneficiaries were interviewed, or some combination of these factors. Continued monitoring of the handbook and the NMEP as a whole could address this issue as well as exploring changes in the outcomes over time.

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APPENDIX A

Treatment Group Questionnaire

OMB No.: 0938-0771

MEDICARE • MEDICAID
Health Care Financing Administration

Medicare Survey

Form No.: 1C

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0938-0771. The time required to complete this information collection is estimated to average 20 minutes per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. If you have any comments concerning the accuracy of the time estimate(s) or suggestions for improving this form, please write to: HCFA, 7500 Security Boulevard, N2-14-26, Baltimore, Maryland 21244-1850 and to the Office of the Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

Instructions

Please read this before you begin . . . .

1. For **each** question:

   ‣ Be sure to read **all** the answer choices listed before checking your answer.

   ‣ Check the box to the left of your answer, like this:

   1☒ No
   2☐ Yes
   -1☐ Don't know

2. You will sometimes be instructed to skip some questions in this questionnaire. When this happens you will see an arrow with a note that tells you what question to answer next, like this:

   1☒ No ➜ **Go to Question 5**
   2☐ Yes
   -1☐ Don't know

   If there is no arrow with a note telling you where to go next, then continue with the next question.

3. If you see the instruction "**CHECK ALL THAT APPLY**,"you can check more than one answer to the question. If this instruction does not appear beside or below a question, please check only one answer to the question.

All information that would permit identification of any person who completes this questionnaire will be kept strictly confidential. This information will be used only for the purposes of this study and will not be disclosed or released for any other purposes without prior consent.

If you have any questions or want to know more about this study, please call Fred Licari at RTI toll-free at 1-800-334-8571 ext. 2062.

INTRODUCTION

This first set of questions makes sure you are eligible to take part in this survey.

Q1. **Medicare** is a health insurance program run by the Federal Government for most Americans who are age 65 and older. Are you covered by the Medicare program now?

- 1☐ Yes ➔ Go to Question 2.
- 2☐ No ➔ **If no, thank you for your time. Please return the survey in the postage-paid envelope.**

Q2. We also want to know if you are covered by **Medicaid**, the state medical assistance program. Medicaid is run by your state to help some lower-income people pay for medical care. Are you also covered by Medicaid?

- 1☐ Yes ➔ **If yes, thank you for your time. Please return the survey in the postage-paid envelope.**
- 2☐ No ➔ Go to Question 3.

A. HOW THE MEDICARE PROGRAM WORKS

The next set of questions asks if you have ever heard of certain types of health insurance options.

It is okay to say that you have not heard of something if that is the case.

Q3. As far as you know, are there different types of health insurance options that people with Medicare can get?

1☐ Yes
2☐ No
-1☐ Don't know

Q4. Have you ever heard of a **Medicare supplemental health insurance plan**, which is also sometimes called a "Medigap" policy?

1☐ Yes
2☐ No
-1☐ Don't know

Q5. Have you ever heard of a **Medicare managed care plan**, for example, a health maintenance organization or HMO?

1☐ Yes
2☐ No
3☐ I have heard of a managed care plan, but not for people with Medicare
-1☐ Don't know

Q6. Have you ever heard of an **Inclusive Provider Organization** for people with Medicare?

1☐ Yes
2☐ No
-1☐ Don't know

Q7. If a person signs up for any of these—Medigap, a Medicare Managed Care Plan, or an Inclusive Provider Organization—do they still have Medicare?

1☐ Yes
2☐ No
-1☐ Don't know

Q8. As far as you know, can you still get the Original Medicare Plan today?

1☐ Yes
2☐ No
-1☐ Don't know

You may feel that some of these questions in this section are easier to answer than others. Your answers to these questions, along with those from other people, will help us understand what type of information people with Medicare need and want.

It's okay to say that you don't know if that's the case.

Q9. Would you say that the following statement is true or false? "The Medicare program has recently begun to offer more information and help in order to answer questions about the Medicare program."

1☐ True
2☐ False
-1☐ Don't know

Q10. As far as you know, will out-of-pocket costs differ depending on which health insurance option a person signs up for?

1☐ Yes
2☐ No
-1☐ Don't know

Q11. Which **one** of the following statements is true about what the Original Medicare Plan pays for? It pays for...

1☐ All health care costs
2☐ Some health care costs
3☐ Only emergency health care
4☐ Only prescription drugs
-1☐ Don't know

Q12. If you were enrolled in a Medicare Managed Care Plan and wanted to leave it, which **one** of the following statements is true? You can...

1☐ Leave the plan, but you will not be covered by the Original Medicare Plan.
2☐ Leave the plan, but only under special circumstances.
3☐ Leave the plan at any time for any reason.
-1☐ Don't know

Q13. Which **one** of the following is a reason for contacting your state's Peer Review Organization (PRO)?

1☐ You want to find a support group of your peers
2☐ You have a complaint about the quality of the care you received under Medicare
3☐ You want to change your health insurance option
4☐ None of the above
-1☐ Don't know

Q14. Which **one** of the following is likely to happen when you go to a doctor who "accepts assignment"?

1☐ You save money
2☐ You pay more money
3☐ You save money, but only on services that are not normally covered
-1☐ Don't know

Q15. Which **one** of the following is paid for if you only have the Original Medicare Plan?

1☐ Yearly dental exams
2☐ A Pneumonia shot
3☐ Medical care outside of the United States
4☐ Long-term care
-1☐ Don't know

Q16. Which type of health insurance option gives you more freedom to choose the doctors or hospitals you want to go to?

1☐ The Original Medicare Plan
2☐ A Medicare Managed Care Plan
3☐ Inclusive Provider Organization
4☐ They are all about the same
-1☐ Don't know

Q17. Which type of health insurance option is **least** likely to pay for prescription drugs?

1☐ The Original Medicare Plan
2☐ A Medicare Managed Care Plan
3☐ A Medigap policy
4☐ They are all about the same
-1☐ Don't know

Q18. Which type of health insurance option can refuse to sell you a policy after age 65 and a half because of poor health?

1☐ The Original Medicare Plan
2☐ A Medicare Managed Care Plan
3☐ A Medigap policy
4☐ None of the above
-1☐ Don't know

Q19. Which type of health insurance option will cover a 6-month stay in a nursing home?

1☐ The Original Medicare Plan
2☐ A Medicare Managed Care Plan
3☐ Both
4☐ Neither
-1☐ Don't know

Q20. Emergency health care is paid for wherever you are in the United States under which type of health insurance option?

1☐ The Original Medicare Plan
2☐ A Medicare Managed Care Plan
3☐ Both
4☐ Neither
-1☐ Don't know

Q21. The following is true for which type of health insurance option? "Medicare gives you the right to appeal decisions about what a Medicare plan pays for."

1☐ The Original Medicare Plan
2☐ A Medicare Managed Care Plan
3☐ Both
4☐ Neither
-1☐ Don't know

Q22. The Original Medicare Plan now pays for more preventive health care services like breast x-rays and diabetes monitoring. Is this also true for all, some, or none of the other different types of health insurance options?

1☐ All
2☐ Some
3☐ None
-1☐ Don't know

Q23. **If you had a Medigap policy** and dropped it, when could you get it back?

1☐ At any time
2☐ Only under some conditions
3☐ Never
-1☐ Don't know

B. INFORMATION ABOUT THE MEDICARE PROGRAM

This next set of questions asks about information you may have seen or heard about the Medicare program.

Q24. How much printed information have you received **comparing** how well doctors in the different types of health insurance options communicate with their patients?

1☐ No information at all
2☐ A little information
3☐ Some information
4☐ A lot of information
-1☐ Don't know

Q25. How much printed information have you received **comparing** how often people in the different insurance options get tested for cancer?

1☐ No information at all
2☐ A little information
3☐ Some information
4☐ A lot of information
-1☐ Don't know

Q26. Is the amount of information you have now about health insurance options less than you need, just about right, or more than you need?

1☐ Less than I need
2☐ Just about right
3☐ More than I need
4☐ I have never received any information
-1☐ Don't know

Q27. Do you use the information you get about the Medicare program to make sure that the health insurance you have now is the best choice for you?

1☐ Yes
2☐ No
3☐ I have never received any information
-1☐ Don't know

Q28. How much do you trust the information you get from the Medicare program?

1☐ Not at all
2☐ A little
3☐ Some
4☐ A lot
5☐ I have never received any information
-1☐ Don't know

Q29. In general, do you think the Medicare program is understandable?

1☐ Yes
2☐ No
-1☐ Don't know

Q30. How satisfied are you in general with the availability of information about the Medicare program when you need it?

1☐ Very satisfied
2☐ Satisfied
3☐ Unsatisfied
4☐ Very unsatisfied
5☐ Not applicable
-1☐ Don't know

Q31. In the past year, have you tried to find information about what medical services Medicare covers and does not cover?

1☐ Yes
2☐ No
-8☐ Don't know

Q32. How much do you think you know about the Medicare program?

1☐ Just about everything you need to know

2☐ Most of what you need to know

3☐ Some of what you need to know

4☐ A little of what you need to know or

5☐ Almost none of what you need to know

-1☐ Don't know

Q33. How much do you feel you know about what medical services Medicare covers or does not cover?

1☐ Just about everything you need to know

2☐ Most of what you need to know

3☐ Some of what you need to know

4☐ A little of what you need to know or

5☐ Almost none of what you need to know

-8☐ Don't know

Q34. How much do you feel you know about the availability and benefits of HMOs?

- 1☐ Just about everything you need to know
- 2☐ Most of what you need to know
- 3☐ Some of what you need to know
- 4☐ A little of what you need to know or
- 5☐ Almost none of what you need to know
- -1☐ Don't know

Q35. How much do you feel you know about the availability and benefits of other health plan choices available under Medicare?

- 1☐ Just about everything you need to know
- 2☐ Most of what you need to know
- 3☐ Some of what you need to know
- 4☐ A little of what you need to know or
- 5☐ Almost none of what you need to know
- -1☐ Don't know

Q36. In the last year or so, have you seen a copy of the **Medicare & You Handbook** published by the Medicare program?

- 1☐ Yes
- 2☐ No
- -1☐ Don't know

Q37. How would you rate your understanding of the different types of health insurance options for people with Medicare?

- 1☐ Poor
- 2☐ Fair
- 3☐ Good
- 4☐ Very good
- 5☐ Excellent

Q38. How hard or easy is it for you to understand the different types of health insurance options for people with Medicare?

- 1☐ Very hard
- 2☐ Somewhat hard
- 3☐ Neither hard nor easy
- 4☐ Somewhat easy
- 5☐ Very easy
- -1☐ Don't know

Q39. As far as you know, is there an information and counseling service that people with Medicare can use to get help understanding and comparing health insurance options?

- 1☐ Yes
- 2☐ No
- -1☐ Don't know

Q40. How likely is it that you would use this kind of information and counseling service if you needed help in understanding and comparing health insurance options?

1☐ Not very likely
2☐ Somewhat likely
3☐ Very likely
-1☐ Don't know

Q41. As far as you know, does the Medicare program have its own Internet website?

1☐ Yes
2☐ No
-1☐ Don't know

Q42. If the Medicare program had its own Internet website, how likely is it that you would use it to get information about Medicare?

1☐ Not very likely
2☐ Somewhat likely
3☐ Very likely
-1☐ Don't know

Q43. Have you ever called a toll-free (1-800) telephone number to get help with Medicare issues?

1☐ Yes
2☐ No ➔ **Go to Question 45 Below**
3☐ I was not aware of toll-free numbers ➔ **Go to Question 45 Below**
-1☐ Don't know

Q44. How helpful was the toll-free (1-800) telephone number?

1☐ Not very helpful
2☐ Somewhat helpful
3☐ Very helpful
4☐ Never got through to toll-free telephone number
5☐ Never called toll-free telephone number
-1☐ Don't know

Q45. In the last month or so, have you contacted a person or organization for information about health insurance options for people with Medicare?

1☐ Yes
2☐ No ➔ **Go to Question 47**
-1☐ Don't know

Q46. Whom did you contact? **CHECK ALL THAT APPLY**

1☐ Doctor or other medical person
2☐ Health insurance counselor or information service
3☐ Health insurance company or insurance agent
4☐ Family or friends
5☐ Medicare program
6☐ American Association of Retired Persons (AARP)
7☐ Employer or former employer (of self or spouse)
8☐ Other, please specify: ______________________
9☐ Have not contacted anyone for information
-1☐ Don't know

Q47. Overall, how satisfied are you with your current health insurance?

1☐ Not at all satisfied
2☐ Not very satisfied
3☐ Somewhat satisfied
4☐ Very satisfied
5☐ Extremely satisfied
-1☐ Don't know

Q48. Did you look at any printed materials about the Medicare program when answering the questions in this survey?

1☐ Yes
2☐ No
-1☐ Don't know

C. CHOOSING A HEALTH INSURANCE OPTION

This next set of questions asks about choosing health insurance.

Q49. For some people, choosing a health insurance option is a very big or important decision and for others it is not as important. **If you were choosing** a Medicare health insurance option today, how important would the choice be?

1☐ Not very important
2☐ Somewhat important
3☐ Very important
4☐ Extremely important
5☐ Critically important
-1☐ Don't know

Q50. **If you were choosing** a health insurance option today, how hard or easy would it be to decide which option is best for you?

1☐ Very hard
2☐ Somewhat hard
3☐ Neither hard nor easy
4☐ Somewhat easy
5☐ Very easy
-1☐ Don't know

Q51. In the last month or so, did you decide to change your health insurance?

1☐ Yes ➔ **Go to Question 53 on Page 11**
2☐ No
-1☐ Don't know

Q52. In the last month or so, how much did you **think about** changing your health insurance?

1☐ Not at all ➔ **Go to Question 54 on Page 11**
2☐ A little
3☐ A fair amount
4☐ A lot
-1☐ Don't know

Q53. What was the **main reason** you changed or thought about changing health insurance?

- 1☐ Covered benefits not good enough
- 2☐ Did not like health plan rules
- 3☐ Poor quality care
- 4☐ Cost too much
- 5☐ Other, please specify: ______________________ ______________________
- -1☐ Don't know

Q54. In the last month or so, how much did you think about getting long-term care insurance?

- 1☐ Not at all
- 2☐ A little
- 3☐ A fair amount
- 4☐ A lot
- -1☐ Don't know

Q55. Who makes the decision about which Medicare health insurance option you will get?

- 1☐ You alone make the decision
- 2☐ You and a family member, friend, or insurance counselor make the decision together
- 3☐ Someone else makes the decision for you

D. YOUR CURRENT HEALTH INSURANCE

The next set of questions asks about your health insurance.

Q56. Overall, how would you rate your current health insurance?

- 1☐ Poor
- 2☐ Fair
- 3☐ Good
- 4☐ Very good
- 5☐ Excellent
- -1☐ Don't know

Q57. How confident are you that the health insurance you have now is the best choice for you?

- 1☐ Not at all confident
- 2☐ Somewhat confident
- 3☐ Very confident
- 4☐ Extremely confident
- -1☐ Don't know

Q58. Do you currently have any health insurance that pays for some things that the Original Medicare Plan does not pay for?

- 1☐ Yes
- 2☐ No ➔ **Go to Question 61 on Page 12**
- -1☐ Don't know

59. Do you get this health insurance through your or your spouse's current or former employer?

- 1☐ Yes
- 2☐ No
- 3☐ Do not have health insurance that pays for medical care that Medicare does not cover
- -1☐ Don't know

Q60. How much did your spouse's health insurance affect the health insurance you got?

1☐ None at all
2☐ A little
3☐ Some
4☐ A lot
5☐ My spouse does not have any health insurance
6☐ Never married/ Not applicable
-1☐ Don't know

Q61. Before you became eligible for Medicare, were you ever enrolled in a managed care plan or an HMO?

1☐ Yes
2☐ No
-1☐ Don't know

Q62. Do you think the medical care that people get in a managed care plan or HMO is worse, about the same, or better than the medical care people with other health insurance options get?

1☐ Worse
2☐ About the same
3☐ Better
-1☐ Don't know

Q63. How much does the quality of medical care people get depend on which health insurance option they choose?

1☐ None at all
2☐ A little
3☐ Some
4☐ A lot
-1☐ Don't know

E. YOUR OPINIONS OF THE MEDICARE & YOU 2000 HANDBOOK

The next set of questions is about the **Medicare & You 2000 handbook**.

Q64. Have you recently seen a copy of the **Medicare & You 2000 handbook** developed by the Medicare program?

1☐ Yes
2☐ No ➔ **Go to Question 80 on Page 16**
3☐ I don't remember ➔ **Go to Question 80 on Page 16**

Q65. How much of the **Medicare & You 2000 handbook** did you read?

1☐ Never really looked at it ➔ **Go to Question 80 on Page 16**
2☐ Read parts of it
3☐ Read most or all of it

Q66. Did you read any part of the handbook more than once?

1☐ Yes
2☐ No

Q67. Overall, how much time did you spend looking at the handbook?

- 1☐ None
- 2☐ One to thirty minutes
- 3☐ Thirty-one to sixty minutes
- 4☐ One to two hours
- 5☐ More than two hours

Q68. What would you say is the main purpose of the **Medicare & You 2000 handbook**?

- 1☐ To educate people about their health insurance options
- 2☐ To encourage people to sign up for a Medicare Managed Care Plan of HMO
- 3☐ To discourage people from signing up for a Medicare Managed Care Plan or HMO

Q69. Were you able to find the information you were looking for in the handbook?

- 1☐ Yes
- 2☐ No
- 3☐ Was not looking for any specific information

Q70. Did you learn anything new from the handbook?

- 1☐ Yes
- 2☐ No ➔ **Go to Question 72**

Q71. What did you learn from the **Medicare & You 2000 handbook**? **CHECK ALL THAT APPLY**

- 1☐ I learned about different types of health insurance options for people with Medicare
- 2☐ I learned what a Managed Care Plan or HMO is
- 3☐ I learned that Medicare now pays for more preventive health services
- 4☐ I learned that there are phone numbers that I can call to get help
- 5☐ I was able to compare my own health insurance with others shown in the handbook
- 6☐ Other; please specify: ________________________
____
____
____

Q72. How would you rate the information in the handbook at helping you understand the advantages and disadvantages of each type of Medicare health insurance option?

- 1☐ Poor
- 2☐ Fair
- 3☐ Good
- 4☐ Very good
- 5☐ Excellent

Q73. Overall, how useful was the information in the handbook?

- 1☐ Very useful
- 2☐ Somewhat useful
- 3☐ Not very useful
- 4☐ Not at all useful

Q74. Which **one section** of the handbook was the **most** useful to you?

- 1☐ Medicare & You Basics
- 2☐ Your Medicare Benefits
- 3☐ Your Medicare Plan Choices
- 4☐ Local Information
- 5☐ Where To Call For Help
- 6☐ Your Medicare Rights And Protections
- 7☐ Questions And Answers
- 8☐ Definitions of Important Terms
- 9☐ Index
- 10☐ All of the above

Q75. Which **one section** of the handbook was the **least** useful to you?

- 1☐ Medicare & You Basics
- 2☐ Your Medicare Benefits
- 3☐ Your Medicare Plan Choices
- 4☐ Local Information
- 5☐ Where To Call For Help
- 6☐ Your Medicare Rights And Protections
- 7☐ Questions And Answers
- 8☐ Definitions of Important Terms
- 9☐ Index
- 10☐ All of the above

Q76. The handbook contains **graphs** with information comparing how well doctors communicate. How helpful was this information?

- 1☐ Not at all helpful
- 2☐ Somewhat helpful
- 3☐ Very helpful
- 4☐ Extremely helpful
- 5☐ Did not look at the graphs
- 6☐ I looked at the graphs, but can't remember

Q77. The handbook also contains **tables** comparing health insurance premiums. How helpful was this information?

- 1☐ Not at all helpful
- 2☐ Somewhat helpful
- 3☐ Very helpful
- 4☐ Extremely helpful
- 5☐ Did not look at the tables
- 6☐ I looked at the tables, but can't remember

Q78. Did you keep the **Medicare & You 2000 handbook**?

- 1☐ Yes
- 2☐ No

Q79. Did you look at the **Medicare & You 2000 Handbook** to help you answer any questions in this survey?

- 1☐ Yes
- 2☐ No

F. YOUR HEALTH

These next questions ask about your overall health and daily activities. These questions will help our researchers understand the characteristics of the group of people who have answered our survey.

Q80. In general, would you say your health is...

1☐ Excellent
2☐ Very good
3☐ Good
4☐ Fair
5☐ Poor
-1☐ Don't know

The following is a list of activities that you might do during a typical day. Please tell us if your health now limits you a lot, limits you a little, or does not limit you at all in these activities.

Q81. Think about moderate activities, such as moving a table, pushing a vacuum cleaner, or bowling. Does your health now limit you a lot, a little, or not at all?

1☐ A lot
2☐ A little
3☐ Not at all
-1☐ Don't know

Q82. Think about climbing several flights of stairs. Does your health now limit you a lot, a little, or not at all?

1☐ A lot
2☐ A little
3☐ Not at all
-1☐ Don't know

The next questions ask about your physical and emotional health and your daily activities.

Q83. During the past 4 weeks, have you accomplished less than you would like as a result of your physical health?

1☐ Yes
2☐ No
-1☐ Don't know

Q84. During the past 4 weeks, were you limited in the kind of work or other regular activities you do as a result of your physical health?

1☐ Yes
2☐ No
-1☐ Don't know

Q85. During the past 4 weeks, have you accomplished less than you would like as a result of any emotional problems, such as feeling depressed or anxious?

1☐ Yes
2☐ No
-1☐ Don't know

Q86. During the past 4 weeks, did you not do work or other regular daily activities as carefully as usual as a result of any emotional problems, such as feeling depressed or anxious?

1☐ Yes
2☐ No
-1☐ Don't know

Q87. During the past 4 weeks, how much did pain interfere with your normal work, including both work outside of the home and housework? Did it interfere …

1 ☐ Not at all
2 ☐ Slightly
3 ☐ Moderately
4 ☐ Quite a bit
5 ☐ Extremely
-1 ☐ Don’t know

The next questions are about how you have been feeling during the past 4 weeks. Please choose the one answer that comes closest to the way you have been feeling.

Q88. During the past 4 weeks, how much of the time have you felt calm and peaceful?

1 ☐ All of the time
2 ☐ Most of the time
3 ☐ A good bit of the time
4 ☐ Some of the time
5 ☐ A little bit of the time
6 ☐ None of the time
-1 ☐ Don’t know

Q89. During the past 4 weeks, how much of the time did you have a lot of energy?

1 ☐ All of the time
2 ☐ Most of the time
3 ☐ A good bit of the time
4 ☐ Some of the time
5 ☐ A little bit of the time
6 ☐ None of the time
-1 ☐ Don’t know

Q90. During the past 4 weeks, how much of the time have you felt downhearted and blue?

1 ☐ All of the time
2 ☐ Most of the time
3 ☐ A good bit of the time
4 ☐ Some of the time
5 ☐ A little bit of the time
6 ☐ None of the time
-1 ☐ Don’t know

Q91. During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities, like visiting with friends or relatives?

1 ☐ All of the time
2 ☐ Most of the time
3 ☐ A good bit of the time
4 ☐ Some of the time
5 ☐ A little bit of the time
6 ☐ None of the time
-1 ☐ Don’t know

Q92. Have you been a patient in a hospital overnight at any time during the last 12 months?

1 ☐ Yes
2 ☐ No
-1 ☐ Don’t know

Q93. About how many times have you visited a doctor or other medical person **in the last month or so**? Please include any visits you made to a doctor's office, community clinic, hospital clinic, or other place. **Do not include** hospital overnight stays, visits to the emergency room, or dental visits.

0☐ None
1☐ One
2☐ Two
3☐ Three
4☐ Four to six
5☐ Seven to nine
6☐ Ten or more
-1☐ Don't know

Q94. Do you have a particular doctor or other medical person who you usually go to when you are sick or need health care advice?

1☐ Yes
2☐ No
-1☐ Don't know

G. READING AND MEMORY

These next few questions ask about reading and memory.

Q95. How many **whole books** have you read for pleasure in the past **three months**? **Do not include** reading materials other than books.

0☐ None
1☐ One to five
2☐ Six to nine
3☐ Ten to fourteen
4☐ Fifteen or more
-1☐ Don't know

Q96. Not including books, how many **hours** per week do you spend reading "other" materials (that is, magazines, newspapers, etc.)?

0☐ None
1☐ One to five
2☐ Six to nine
3☐ Ten to fourteen
4☐ Fifteen or more
-1☐ Don't know

Q97. How often is the following statement true for you? "I find it hard to understand what I read."

1☐ Never
2☐ Seldom
3☐ Sometimes
4☐ Often
5☐ Always
-1☐ Don't know

Please tell us how strongly you agree or disagree with each of the following statements.

Q98. "For most people, facts that are interesting are easier to remember than facts that are not."

1☐ Agree strongly
2☐ Agree
3☐ Neither agree or disagree
4☐ Disagree
5☐ Disagree strongly
-1☐ Don't know

Q99. “I am good at remembering the content of news articles and broadcasts.”

1☐ Agree strongly
2☐ Agree
3☐ Neither agree nor disagree
4☐ Disagree
5☐ Disagree strongly
-1☐ Don’t know

Q100. “As long as I exercise my memory, it will not decline.”

1☐ Agree strongly
2☐ Agree
3☐ Neither agree nor disagree
4☐ Disagree
5☐ Disagree strongly
-1☐ Don’t know

H. ABOUT YOU

This last set of questions is about you. This information will be kept confidential.

Q101. What is your date of birth?

☐☐	☐☐	☐☐☐☐
Month	Day	Year

Q102. What is your gender?

1☐ Male
2☐ Female
-1☐ Don’t know

Q103. What is your current marital status?

1☐ Married
2☐ Separated
3☐ Divorced
4☐ Widowed
5☐ Never married
-1☐ Don’t know

Q104. What is the highest grade or year of school you have completed?

1☐ 8th grade or less
2☐ Some high school, but did not graduate
3☐ High school graduate or GED
4☐ Some college or technical school or 2-year degree
5☐ 4-year college graduate
6☐ More than 4-year college degree
-1☐ Don’t know

Q105. Are you of Hispanic or Latino origin or descent?

1☐ Yes
2☐ No
-1☐ Don’t know

Q106. What is your race? **PLEASE MARK ALL THAT APPLY**

1☐ White
2☐ Black or African-American
3☐ Asian
4☐ Native Hawaiian or other Pacific Islander
5☐ American Indian or Alaskan Native
6☐ Other, specify: ____________________
-1☐ Don’t know

Q107. Do you live alone, with a spouse or partner, with other relatives, or with someone else?

- 1☐ Live alone
- 2☐ Live with spouse/partner
- 3☐ Live with spouse/partner and other family members
- 4☐ Live with other relatives
- 5☐ Live with someone else
- -1☐ Don't know

Q108. Do you own or rent the place in which you currently live?

- 1☐ Own or buying
- 2☐ Rent
- 3☐ Live rent-free
- 4☐ Other, specify: ____________________
- -1☐ Don't know

Q109. What was your household's total yearly income before taxes in 1998?

- 1☐ $5,000 ($416 per month) or less,
- 2☐ More than $5,000 but less than $10,000 ($417-$833 per month),
- 3☐ $10,000 or more but less than $15,000 ($834-$1250 per month),
- 4☐ $15,000 or more but less than $20,000 ($1251-$1666 per month),
- 5☐ $20,000 or more but less than $30,000 ($1667 - $2500 per month), or
- 6☐ Over $30,000 ($2500 per month)
- -1☐ Don't know

110. Including yourself, how many people does your income support?

☐☐

Number

111. We would like to be able to contact you in case we have any questions about any of your answers. Please write your daytime telephone number below.

☐☐☐ - ☐☐☐ - ☐☐☐☐

Area Code

Q112. We are planning to invite some people from this survey to take part in a small group discussion about the Medicare program in a few months. We will give each participant selected to take part in this component of our study $40.00 in appreciation for his/her help.

Would you like for us to contact you by phone to provide more information about these group sessions?

- 1☐ YES. I would like to be contacted.
- 2☐ NO. Please do not contact me.

Q113. Please enter the date that you completed this form below.

☐☐ ☐☐ ☐☐

Month Day Year

Thank you for taking the time to complete this survey. Please return the survey in the postage-paid envelope:

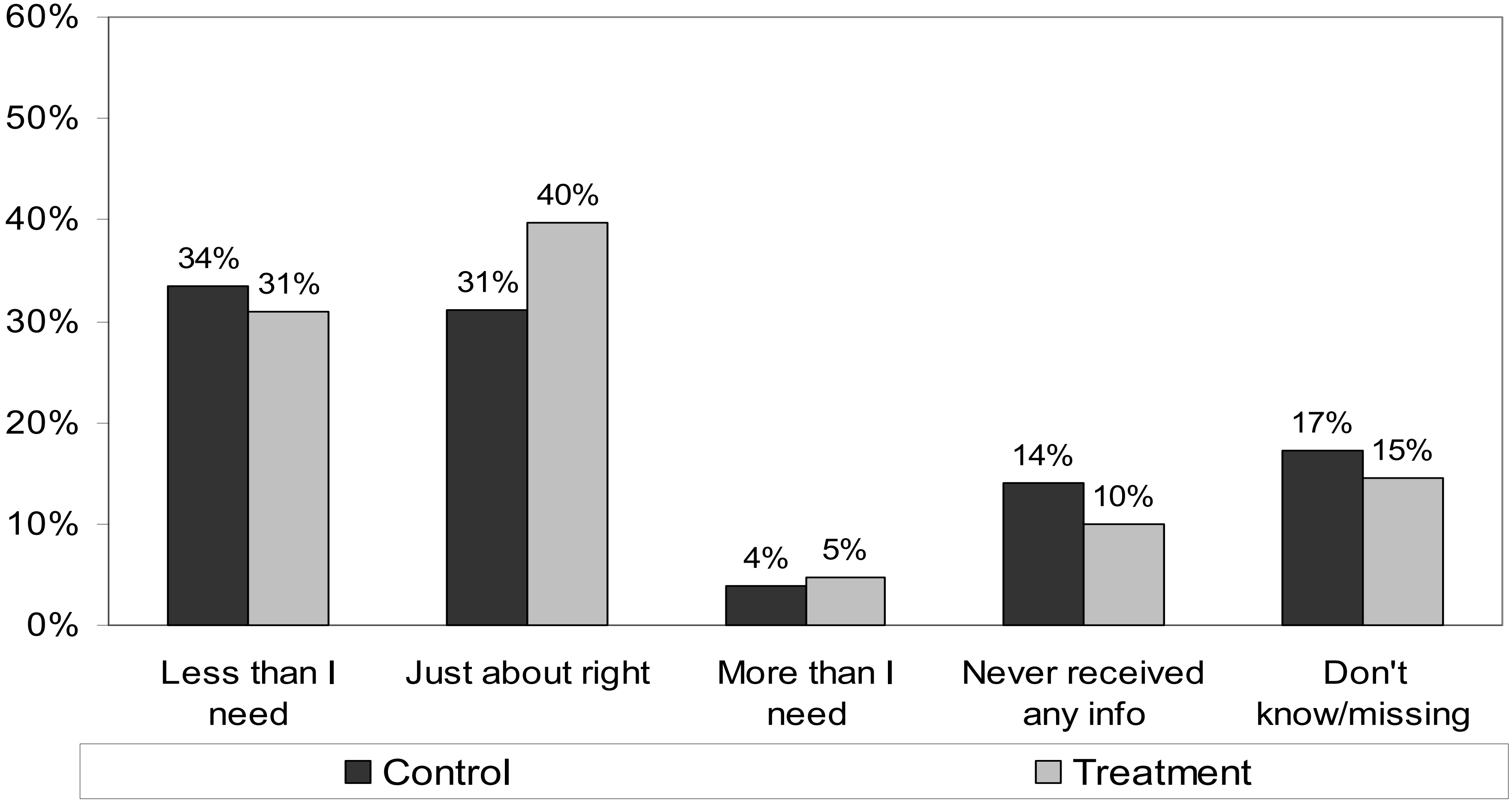
Research Triangle Institute
ATTN: Fred Licari
1615 M Street, NW
Suite 740
Washington, DC 20036-3209

APPENDIX B

Selected Bar Graphs for Descriptive Statistics

Exhibit B-1

Q26: Is the amount of information you have now about health insurance options less than you need, just about right, or more than you need?*



*Differences between the control and treatment groups were significant at the 0.05 level.

Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

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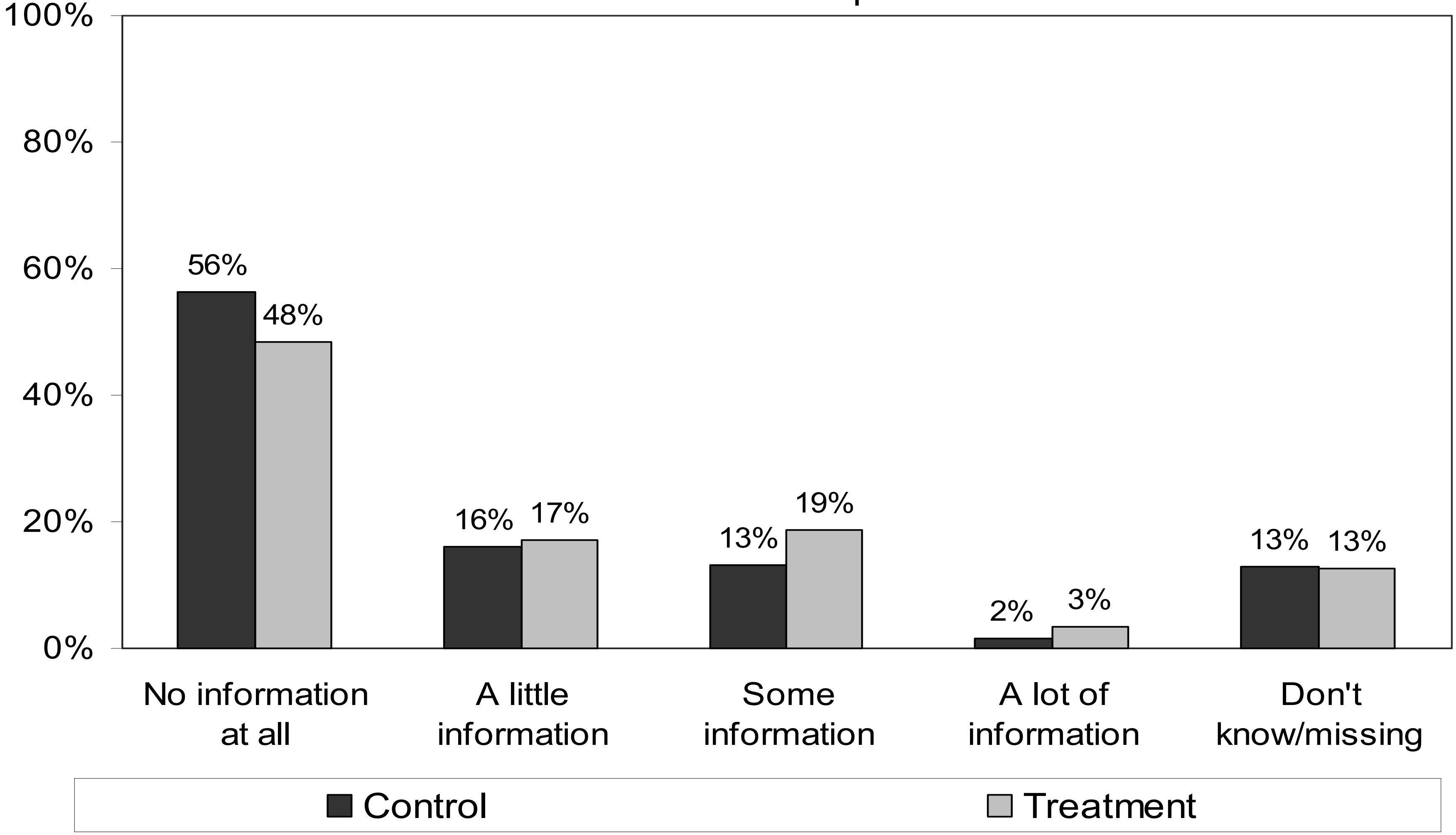
Exhibit B-2

Q24: How much printed information have you received **comparing** how well doctors in the different types of health insurance options communicate with their patients?*

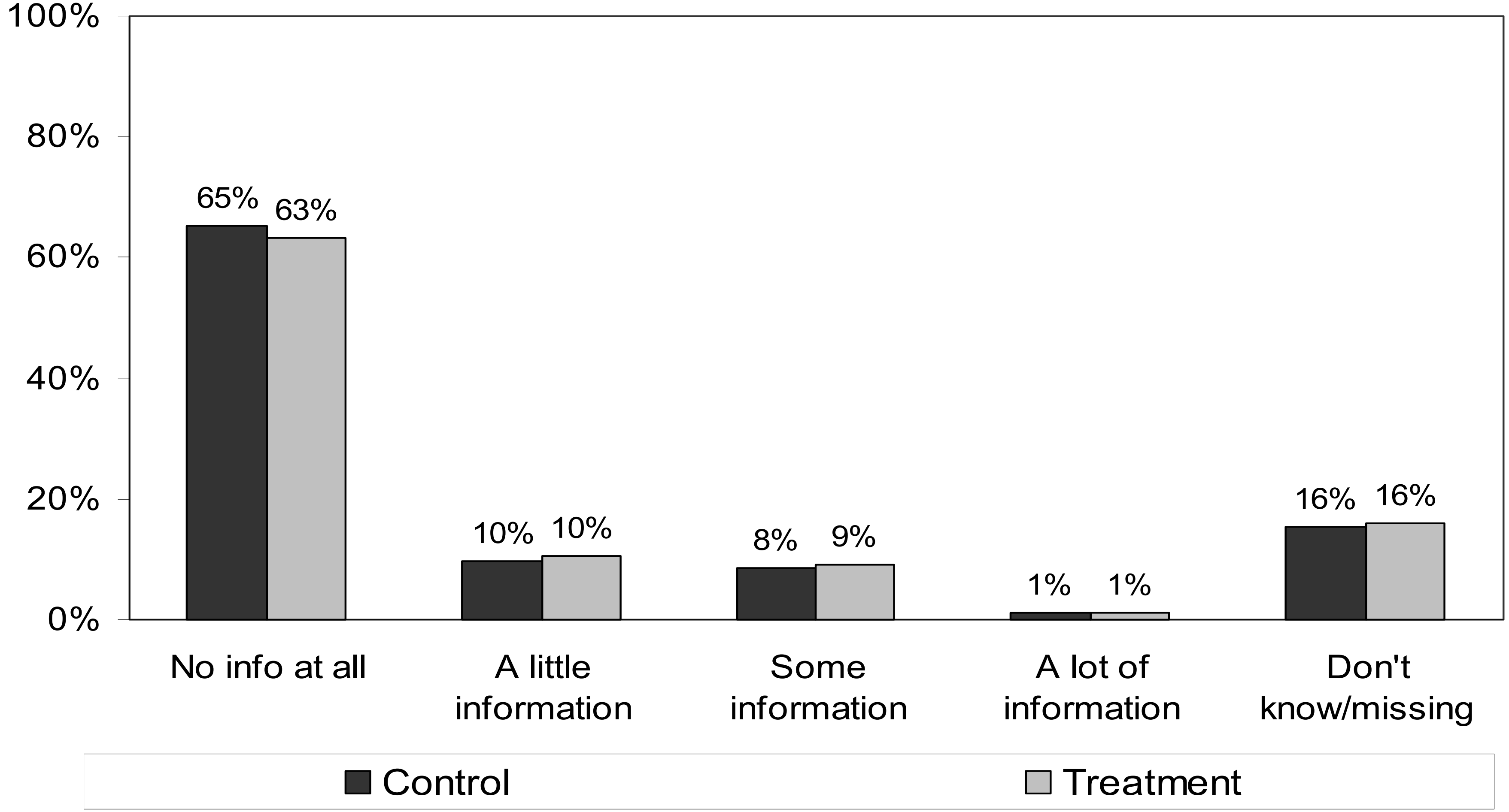


*Differences between the control and treatment groups were significant at the 0.05 level.

Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Exhibit B-3

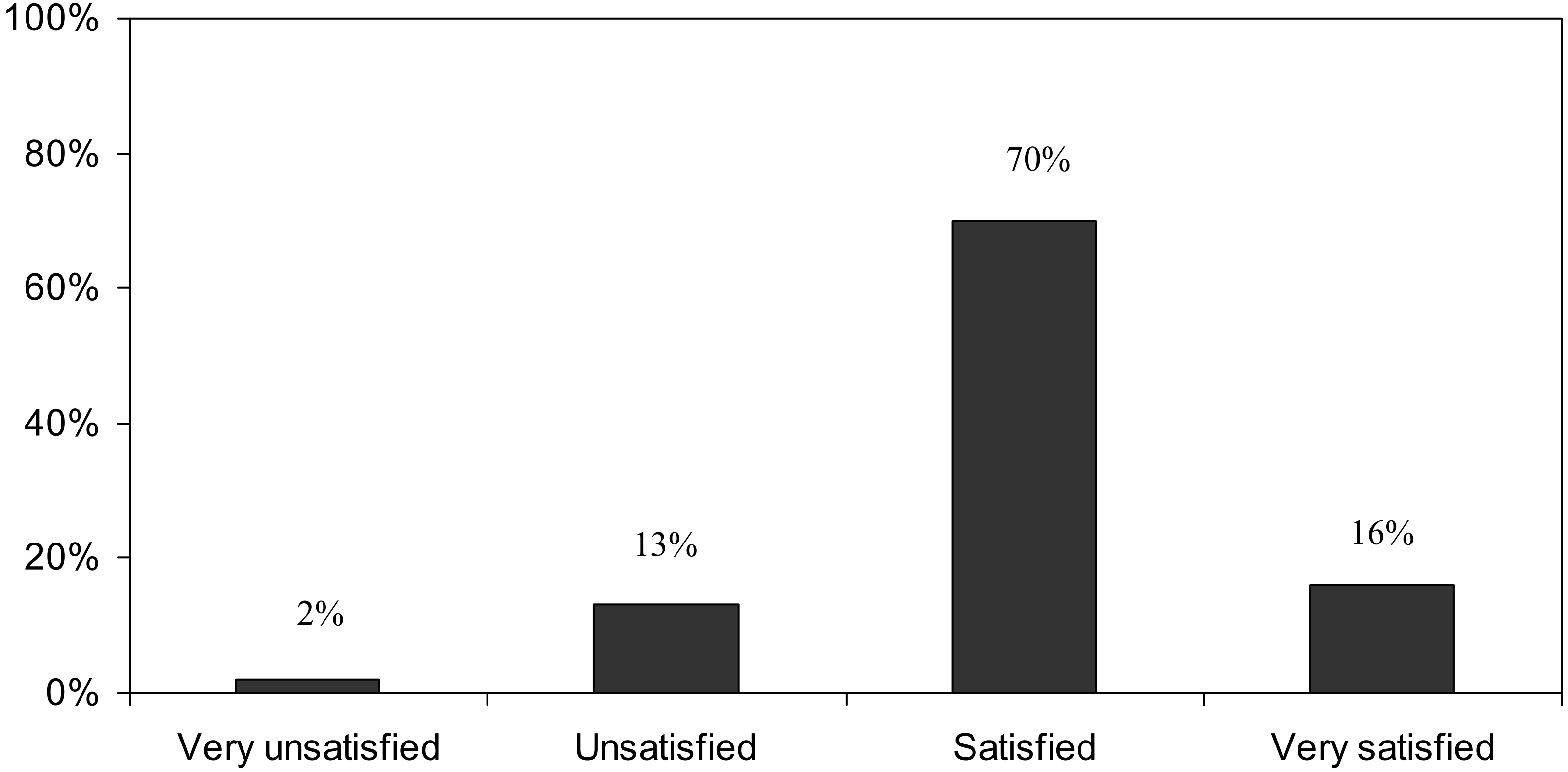
Q25: How much printed information have you received **comparing** how often people in different health insurance options get tested for cancer?



Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Exhibit B-4

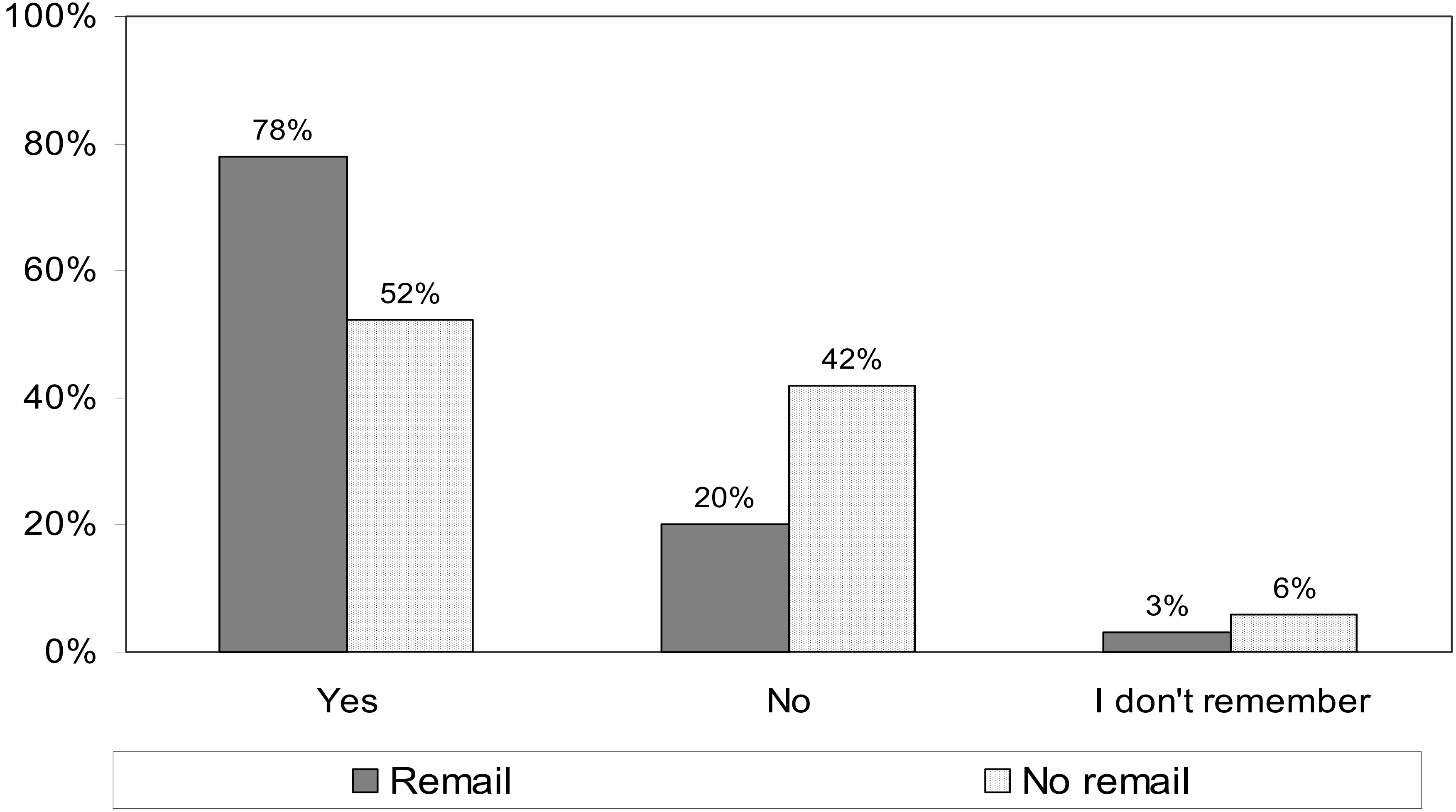
Q30: How satisfied are you in general with the availability of information about the Medicare program when you need it?



Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.
Asked of treatment group members only.

Exhibit B-5

Q64: Have you recently seen a copy of the **Medicare & You** 2000 handbook developed by the Medicare program?*



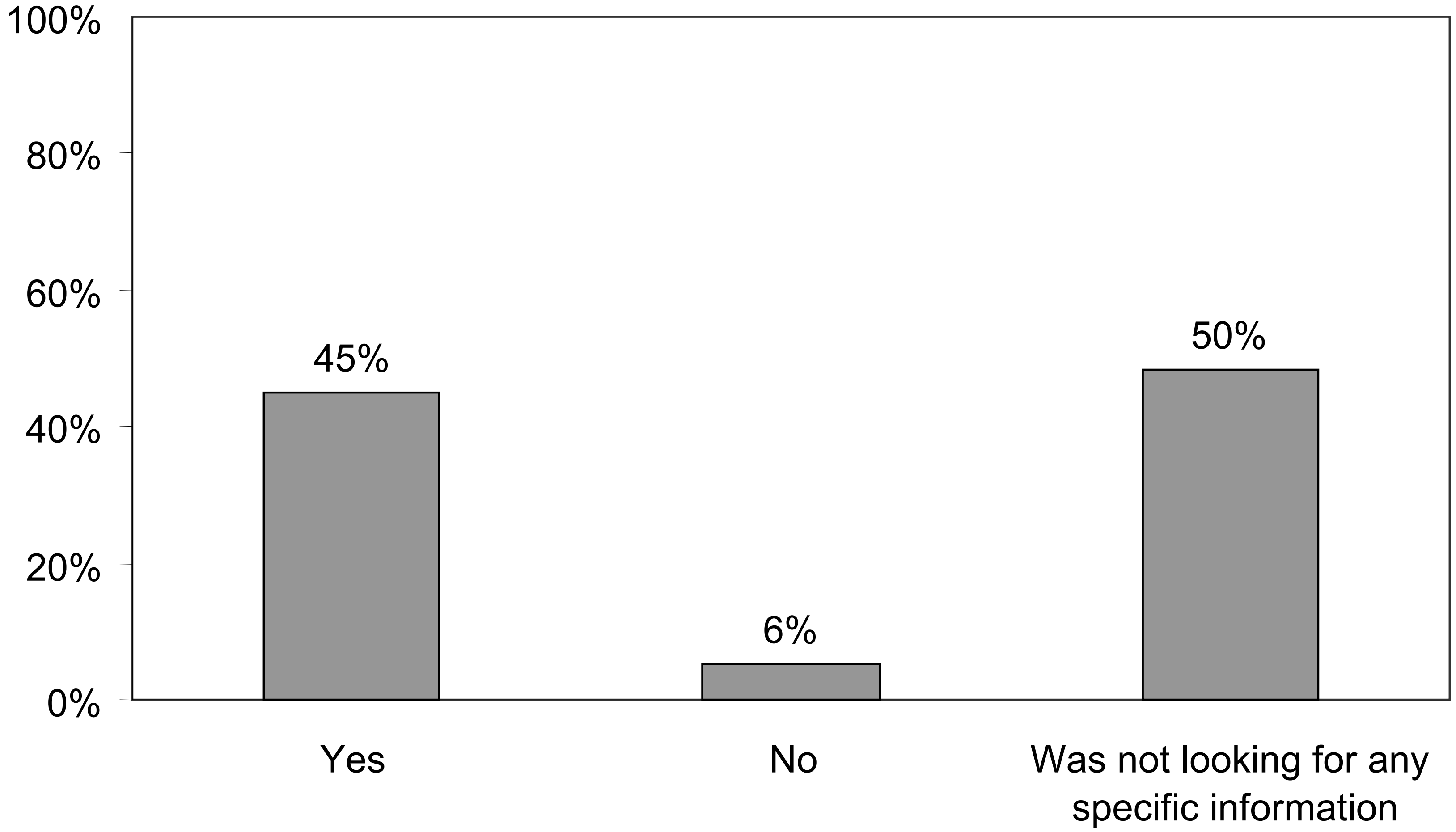
*Differences between the re-mail and no re-mail groups were significant at the 0.05 level.

Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Asked of treatment group members only.

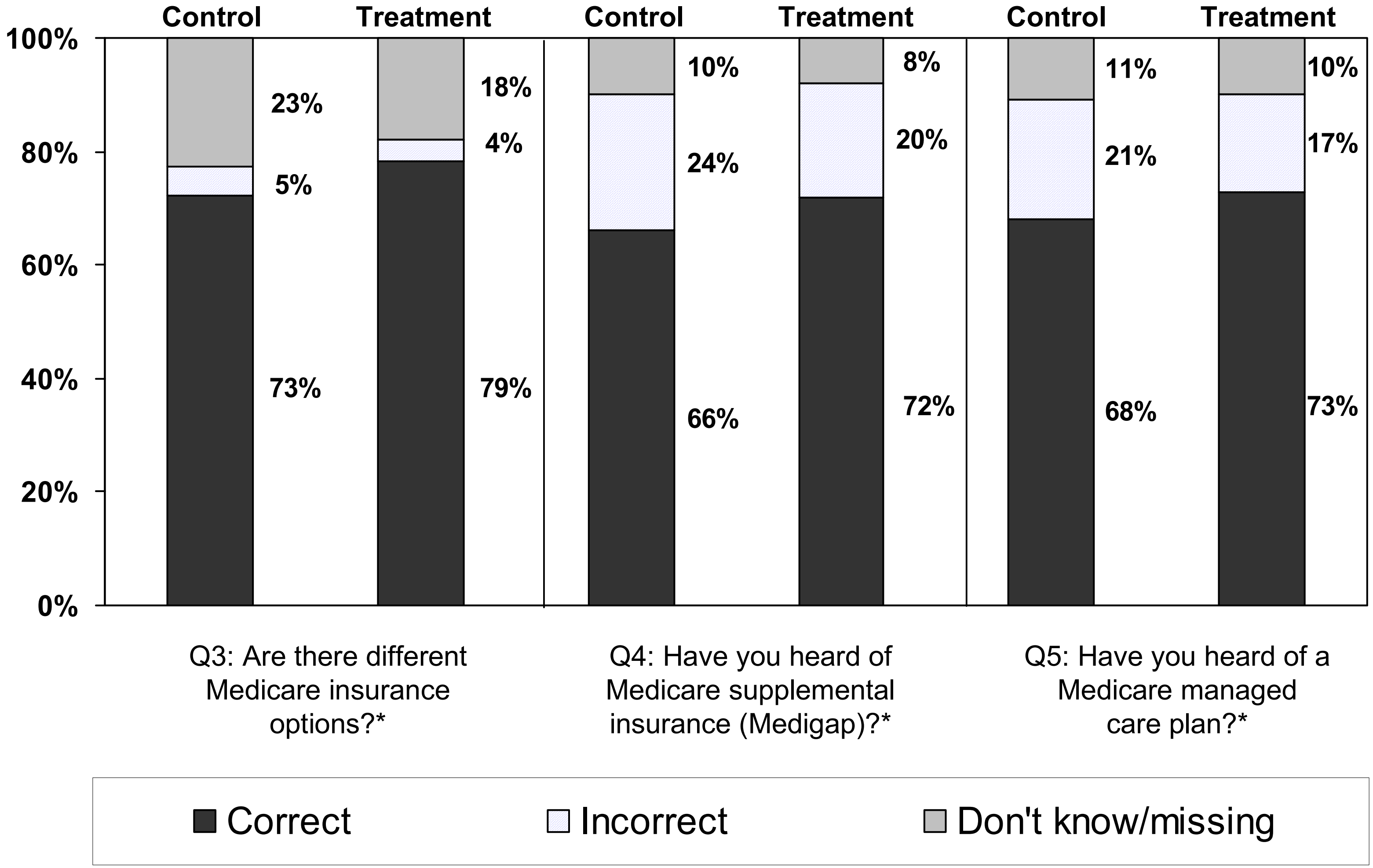
Exhibit B-6

Q69: Were you able to find the information you were looking for in the handbook?



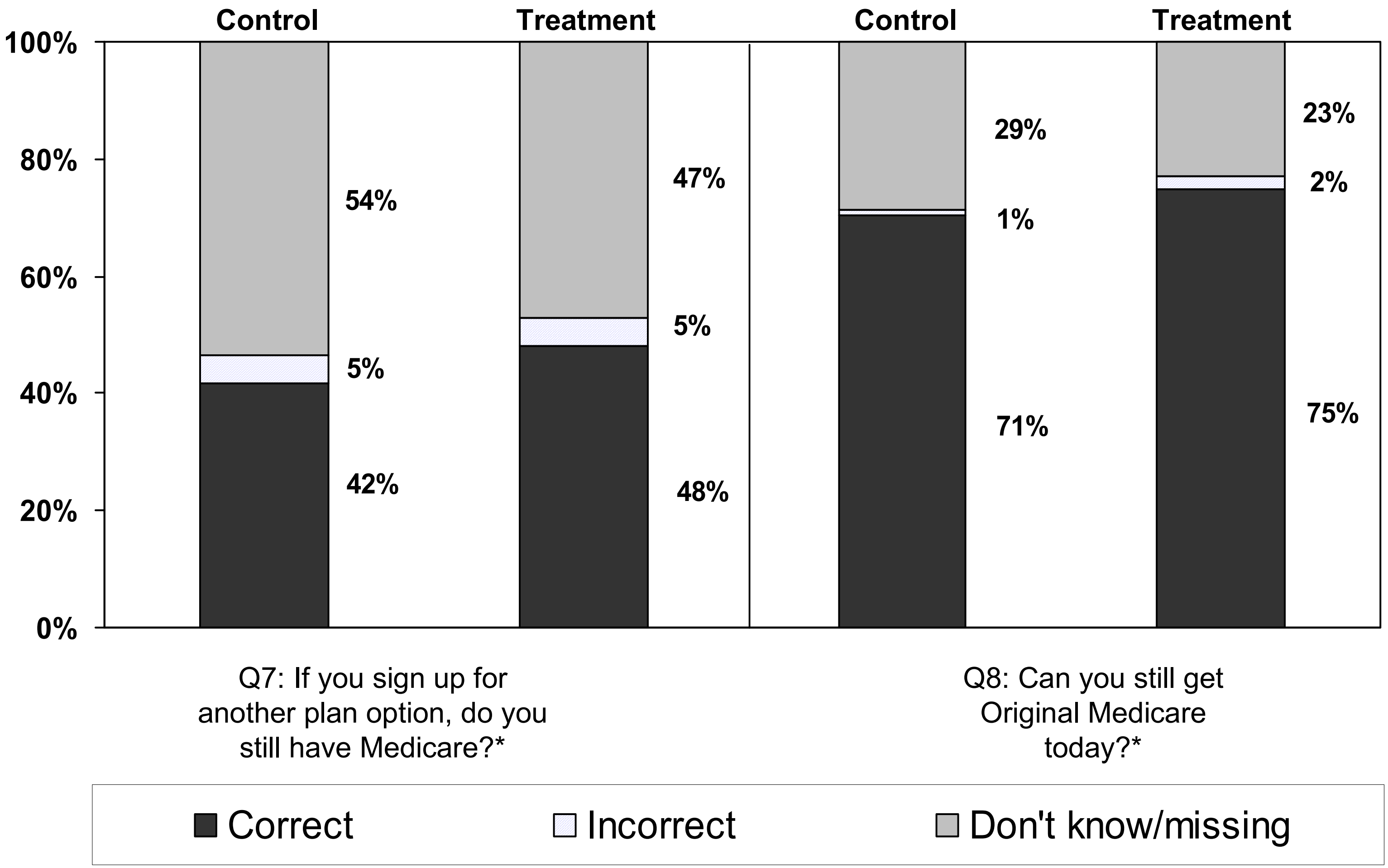
Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.
Control group not included.
Asked of treatment group members only.

Exhibit B-7
Questions on Awareness of Medicare Options



*Differences between the control and treatment groups were significant at the 0.05 level.
Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

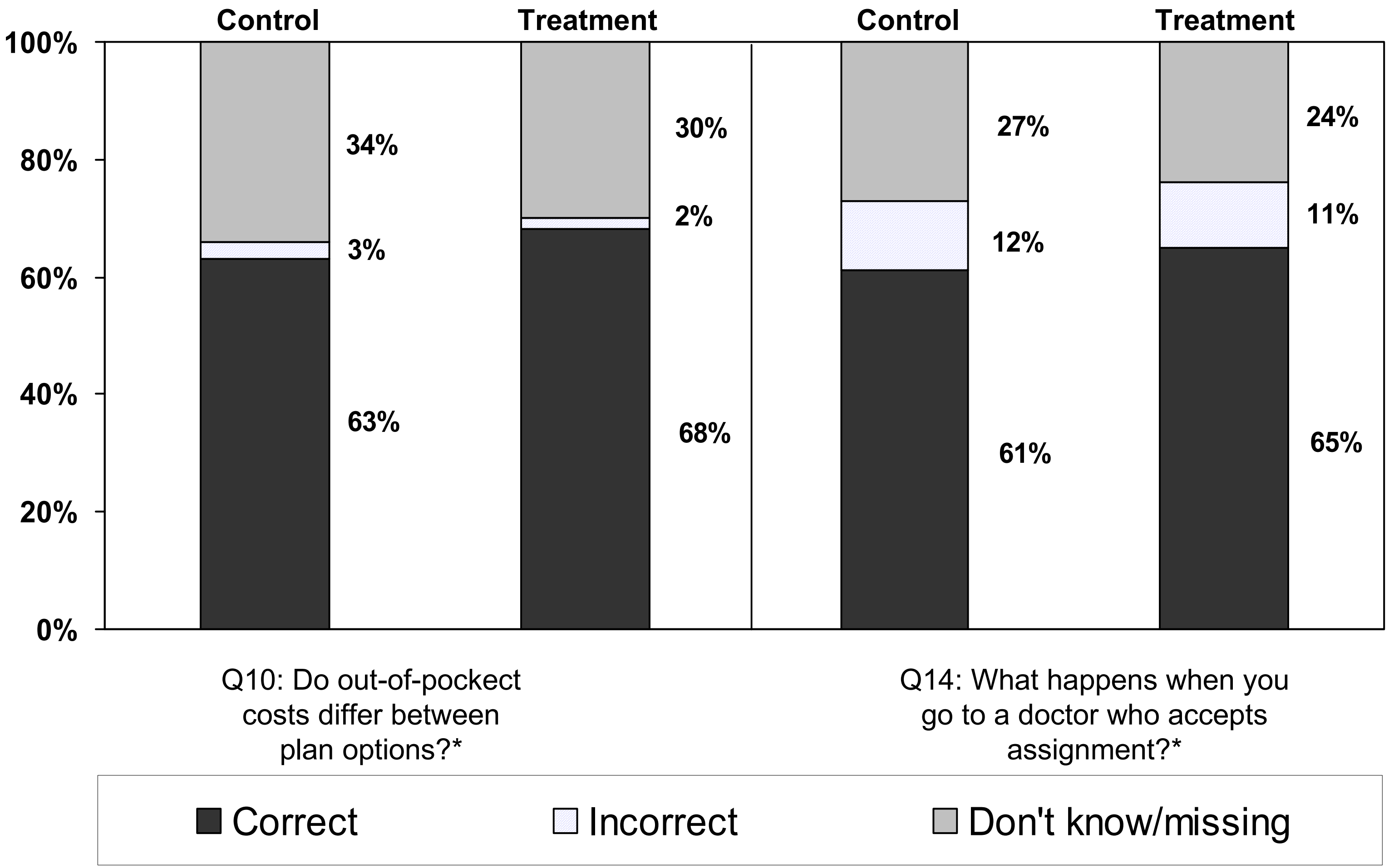
Exhibit B-8
Questions on Access to Traditional Medicare



*Differences between the control and treatment groups were significant at the 0.05 level.
Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Exhibit B-9

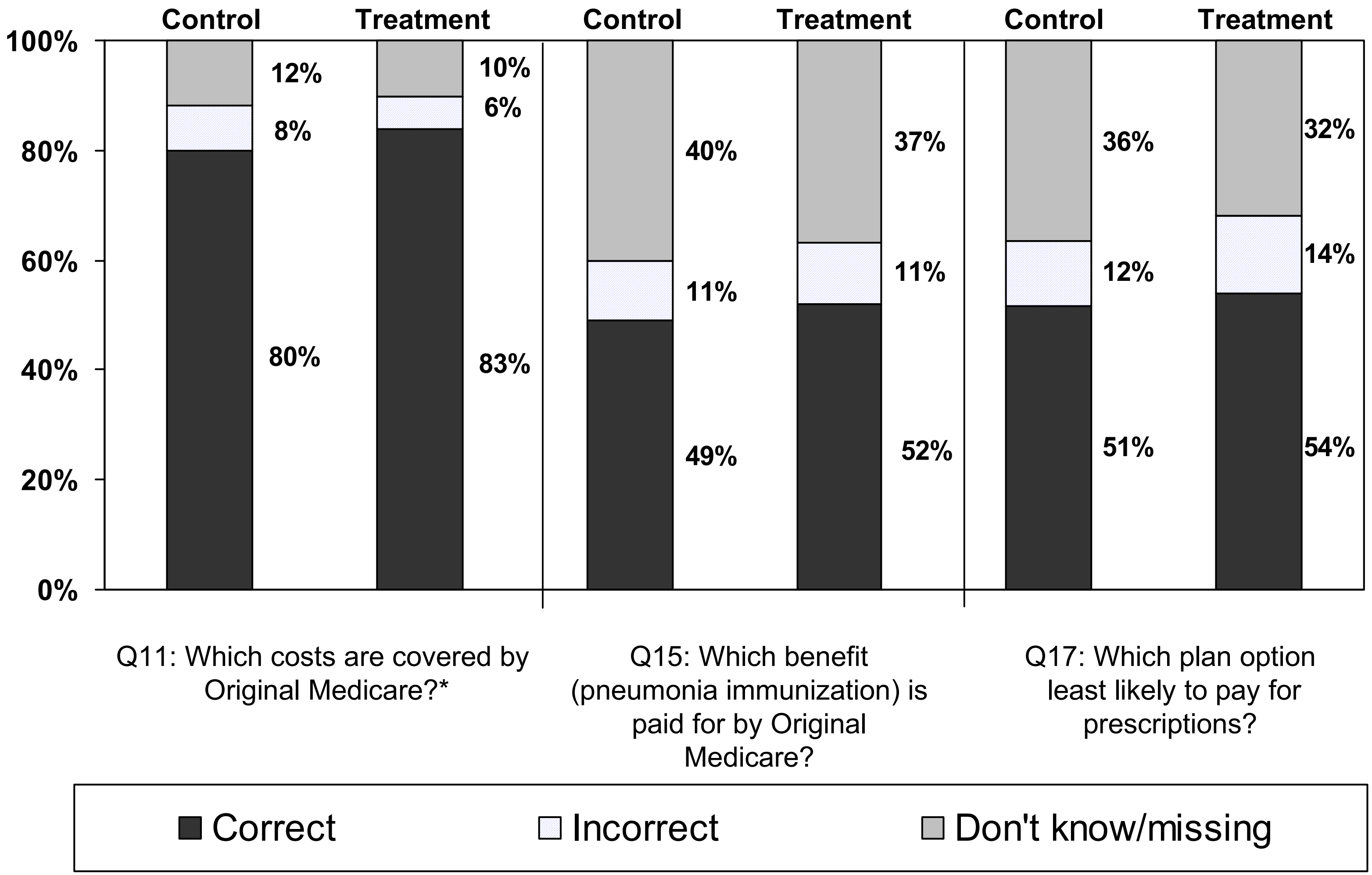
Questions on Cost Implications of Choices



*Differences between the control and treatment groups were significant at the 0.05 level.
Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Exhibit B-10

Questions on Coverage and Benefits

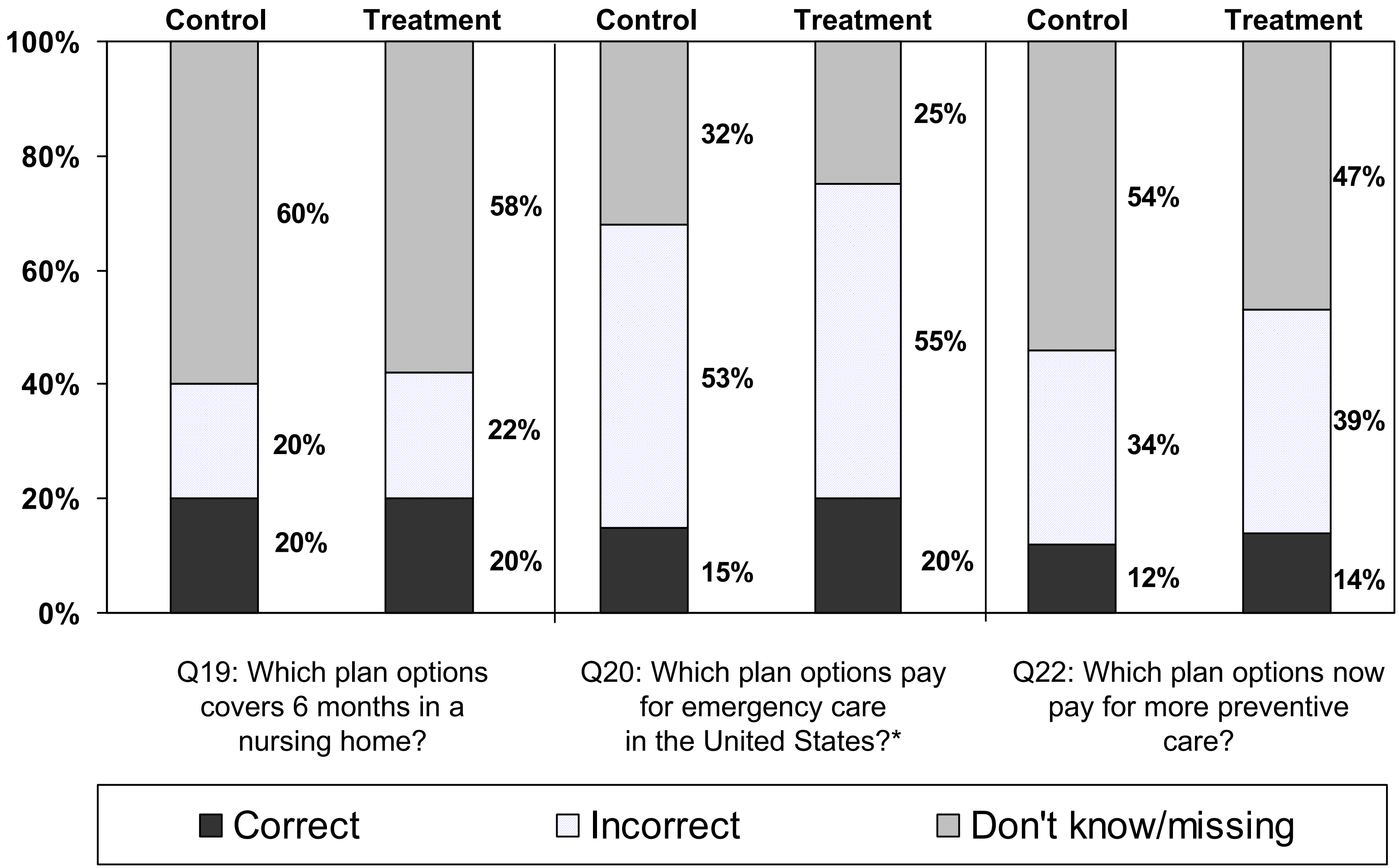


*Differences between the control and treatment groups were significant at the 0.05 level.

Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Exhibit B-11

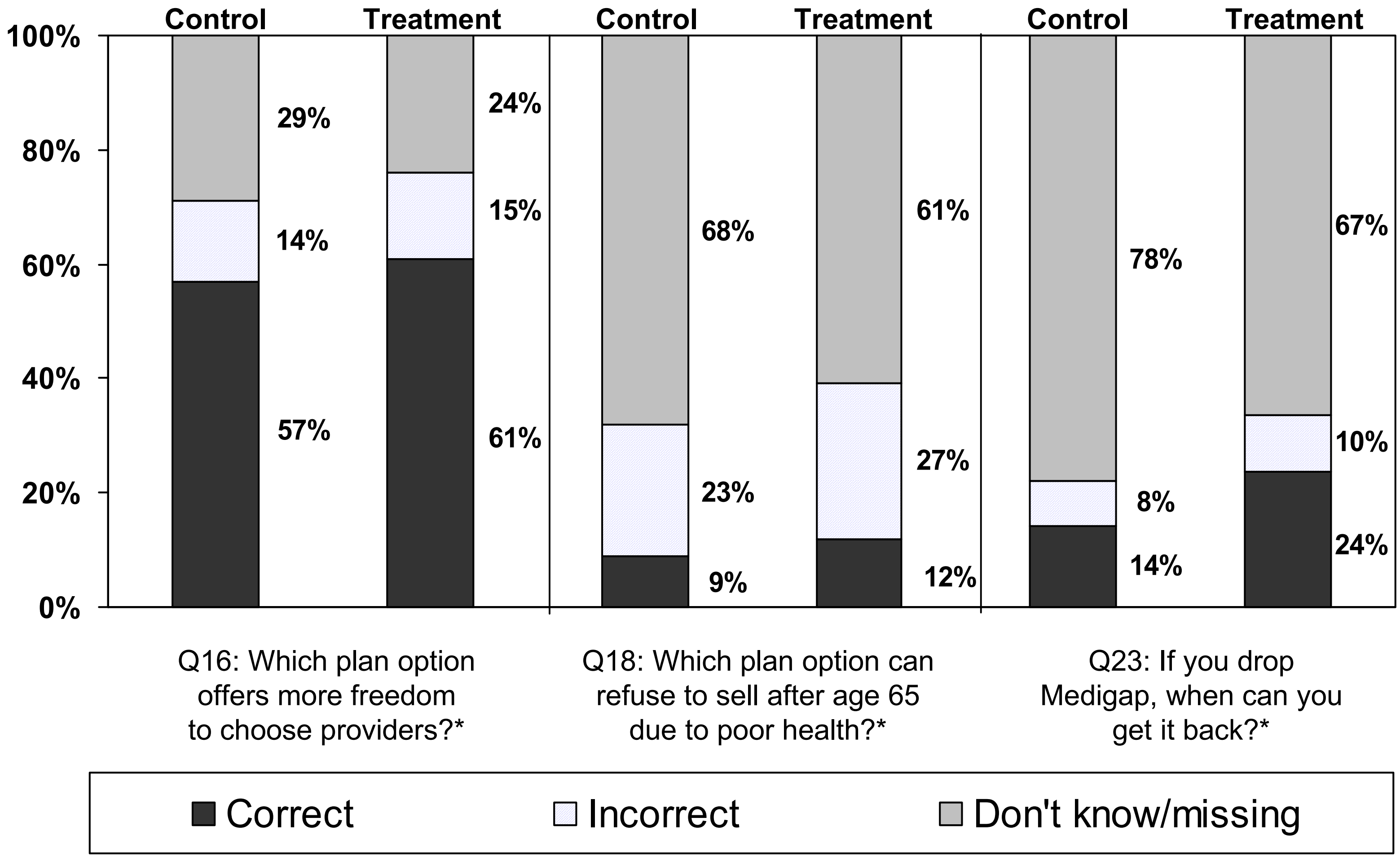
Additional Questions About Coverage and Benefits



*Differences between the control and treatment groups were significant at the 0.05 level.

Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

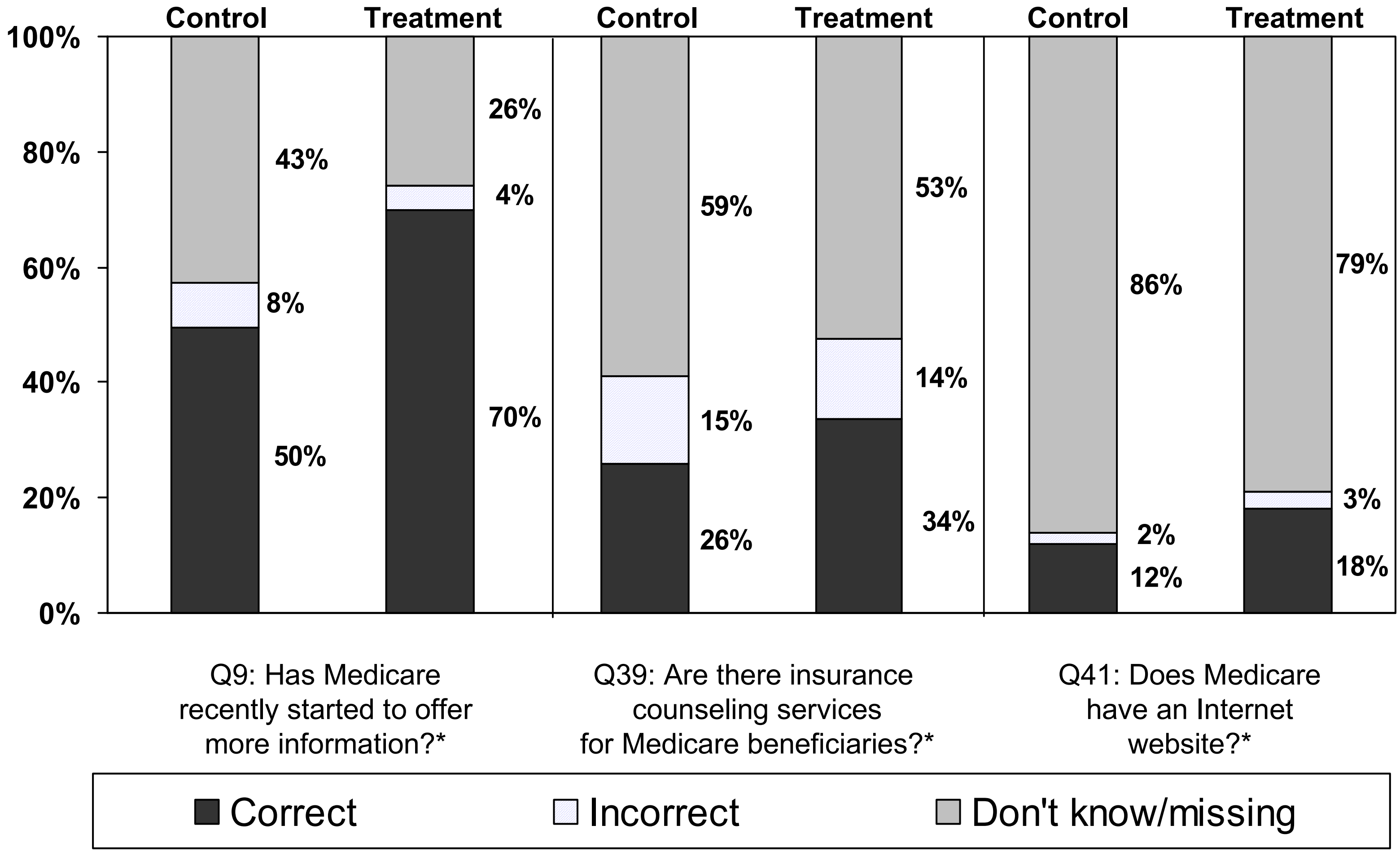
Exhibit B-12
Questions about Plan Rules and Restrictions



*Differences between the control and treatment groups were significant at the 0.05 level.
Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Exhibit B-13

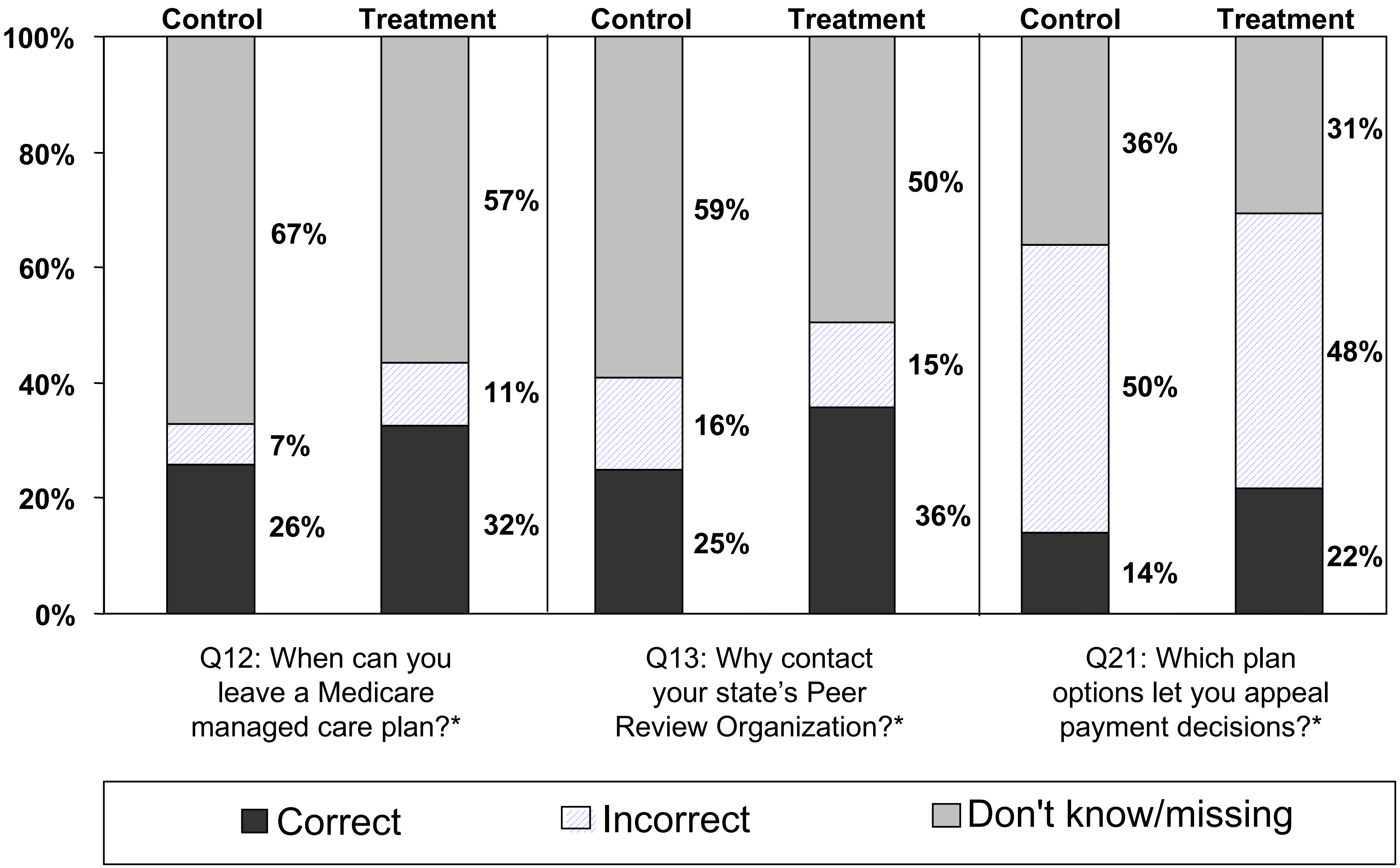
Questions on Availability of Information



*Differences between the control and treatment groups were significant at the 0.05 level.
Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Exhibit B-14

Questions on Beneficiary Rights

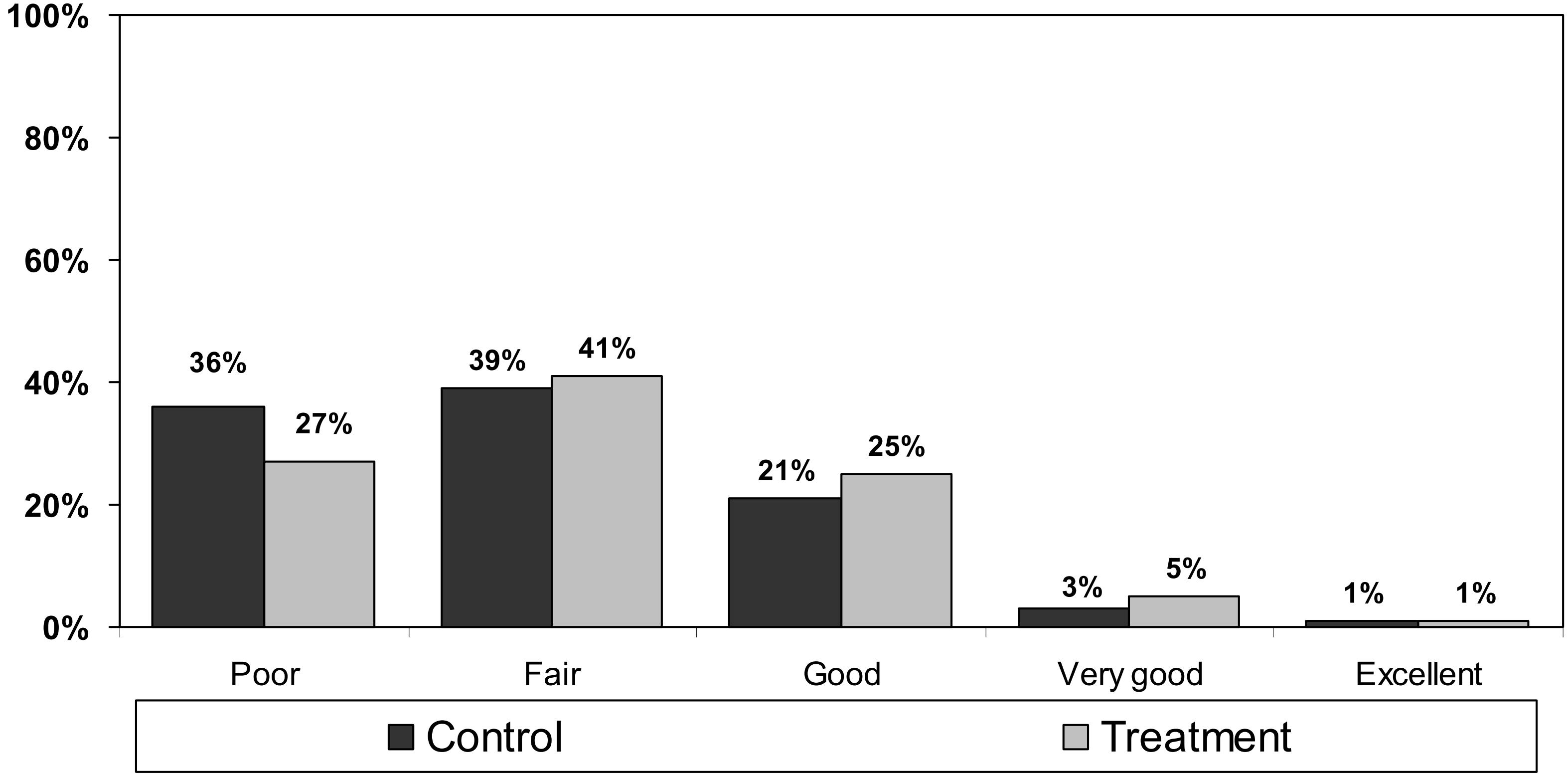


*Differences between the control and treatment groups were significant at the 0.05 level.

Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Exhibit B-15

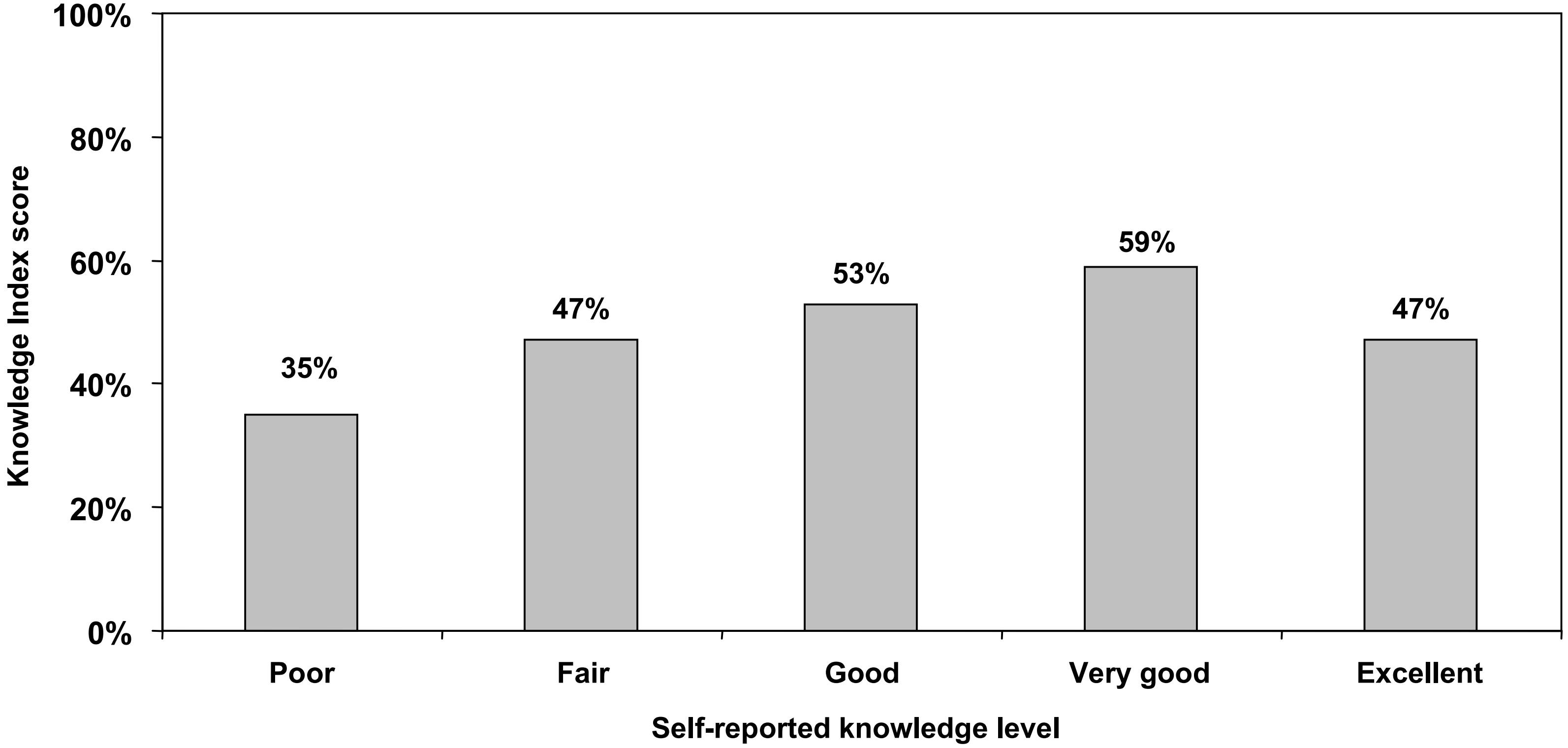
Q37: How would you rate your understanding of the different types of health insurance options for people with Medicare?*



*Differences between the control and treatment groups were significant at the 0.05 level.
Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Exhibit B-16

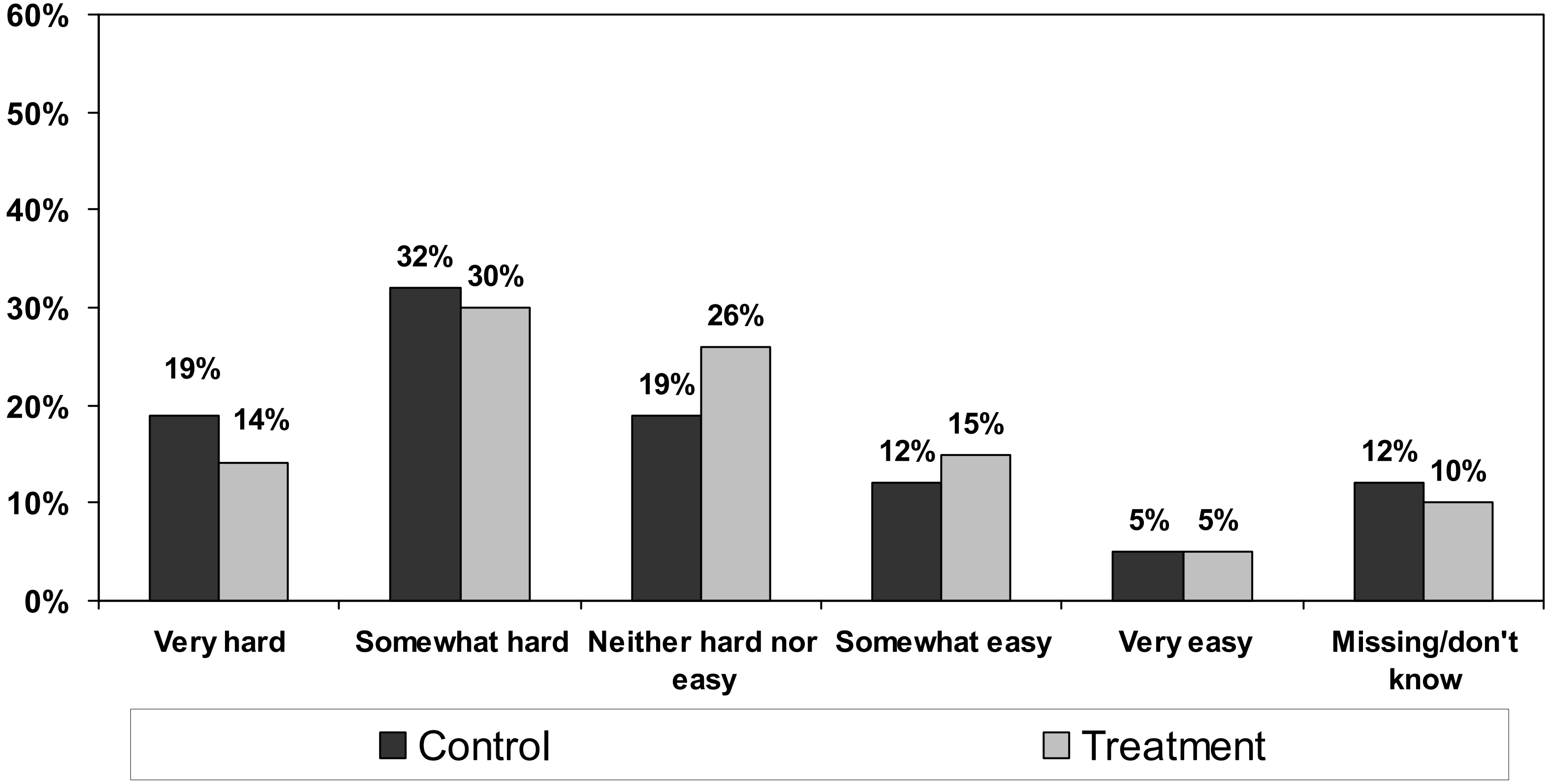
Mean Knowledge Index (KI) Score by Self-Reported Knowledge Level (question 37)



Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Exhibit B-17

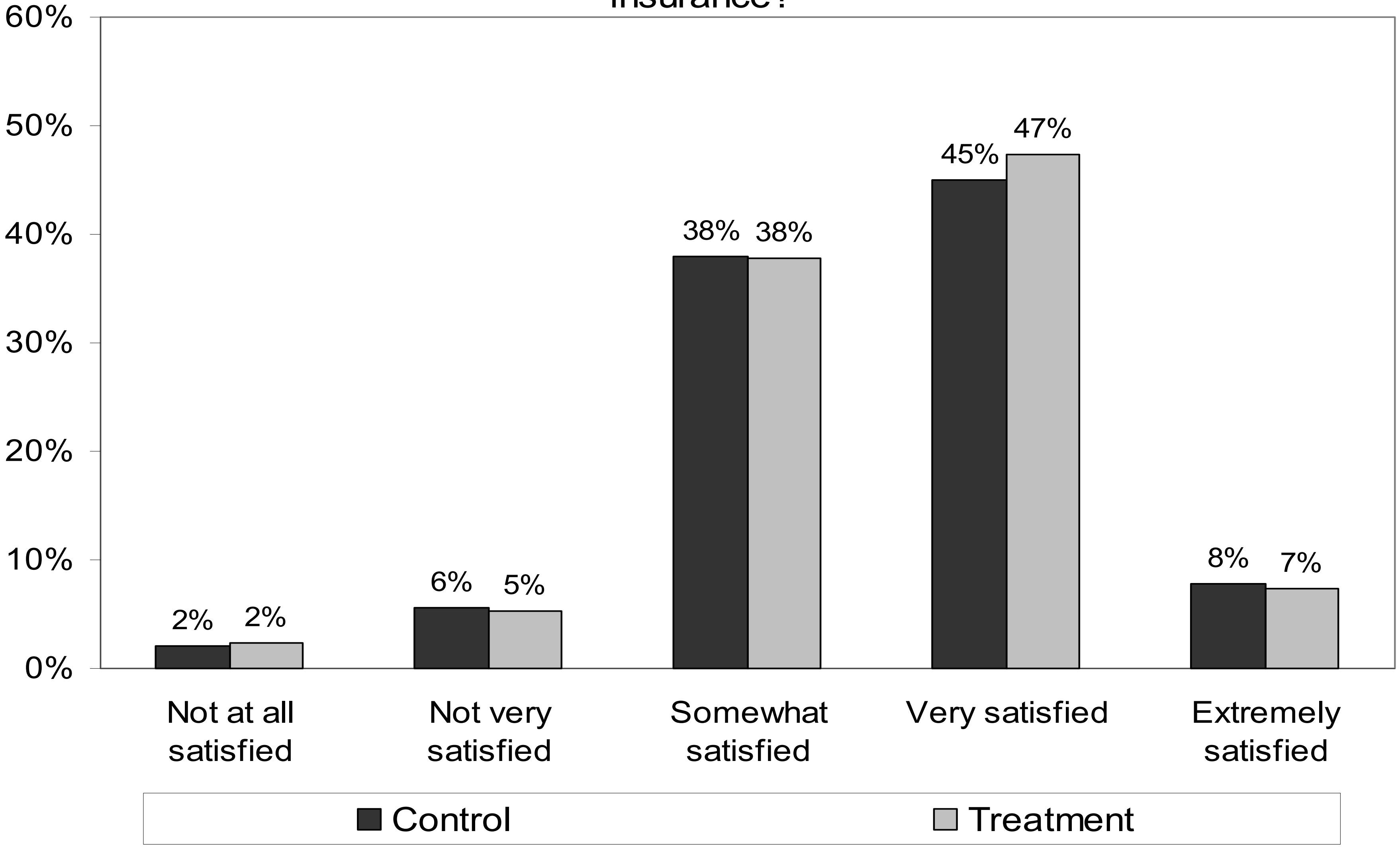
Q38: How hard or easy is it for you to understand the different types of health insurance options for people with Medicare?*



*Differences between the control and treatment groups were significant at the 0.05 level.
Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Exhibit B-18

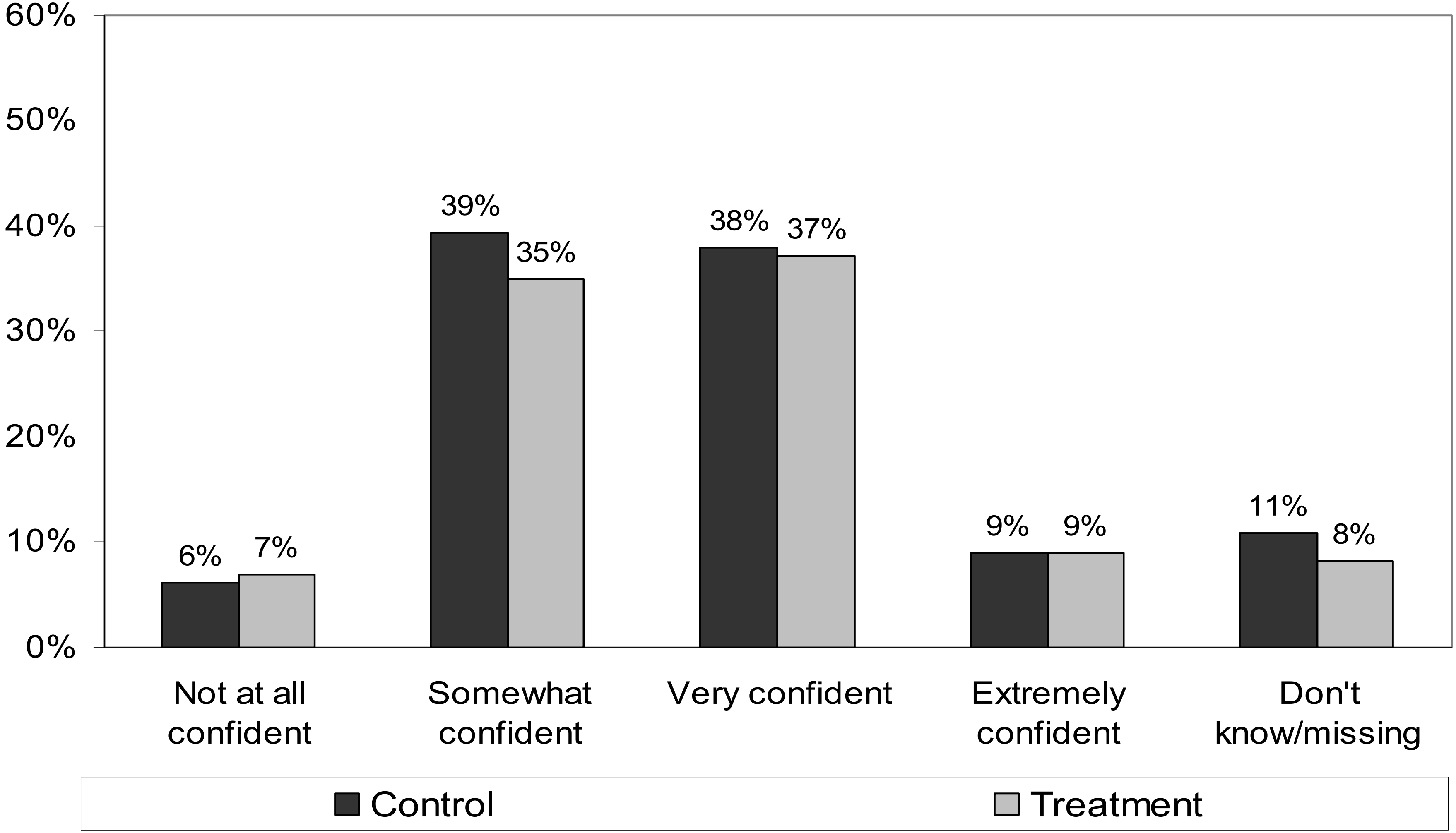
Q47: Overall, how satisfied are you with your current health insurance?



*Differences between the control and treatment groups were not significant at the 0.05 level.
Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Exhibit B-19

Q57: How confident are you that the health insurance you have now is the best choice for you?

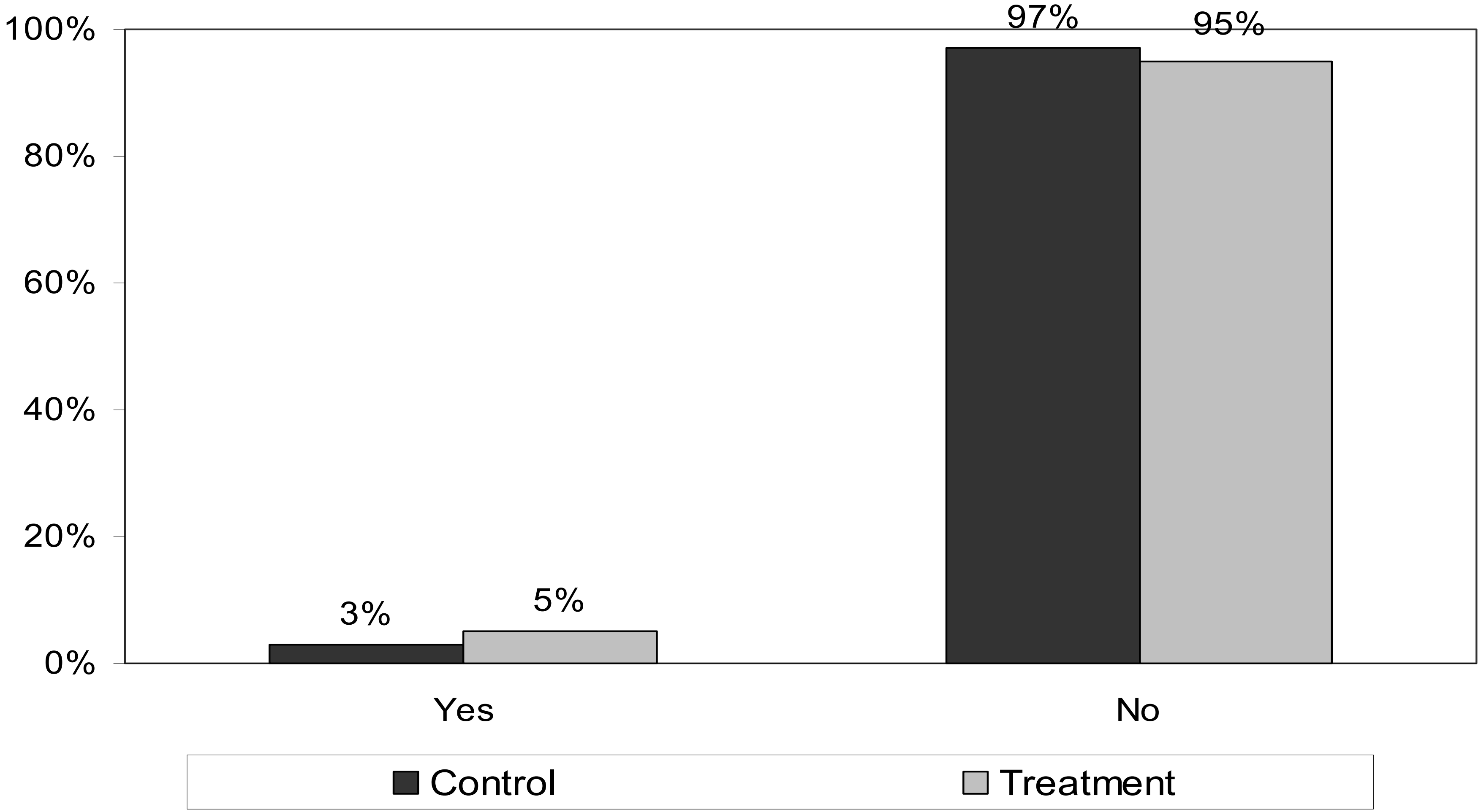


*Differences between the control and treatment groups were not significant at the 0.05 level.

Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Exhibit B-20

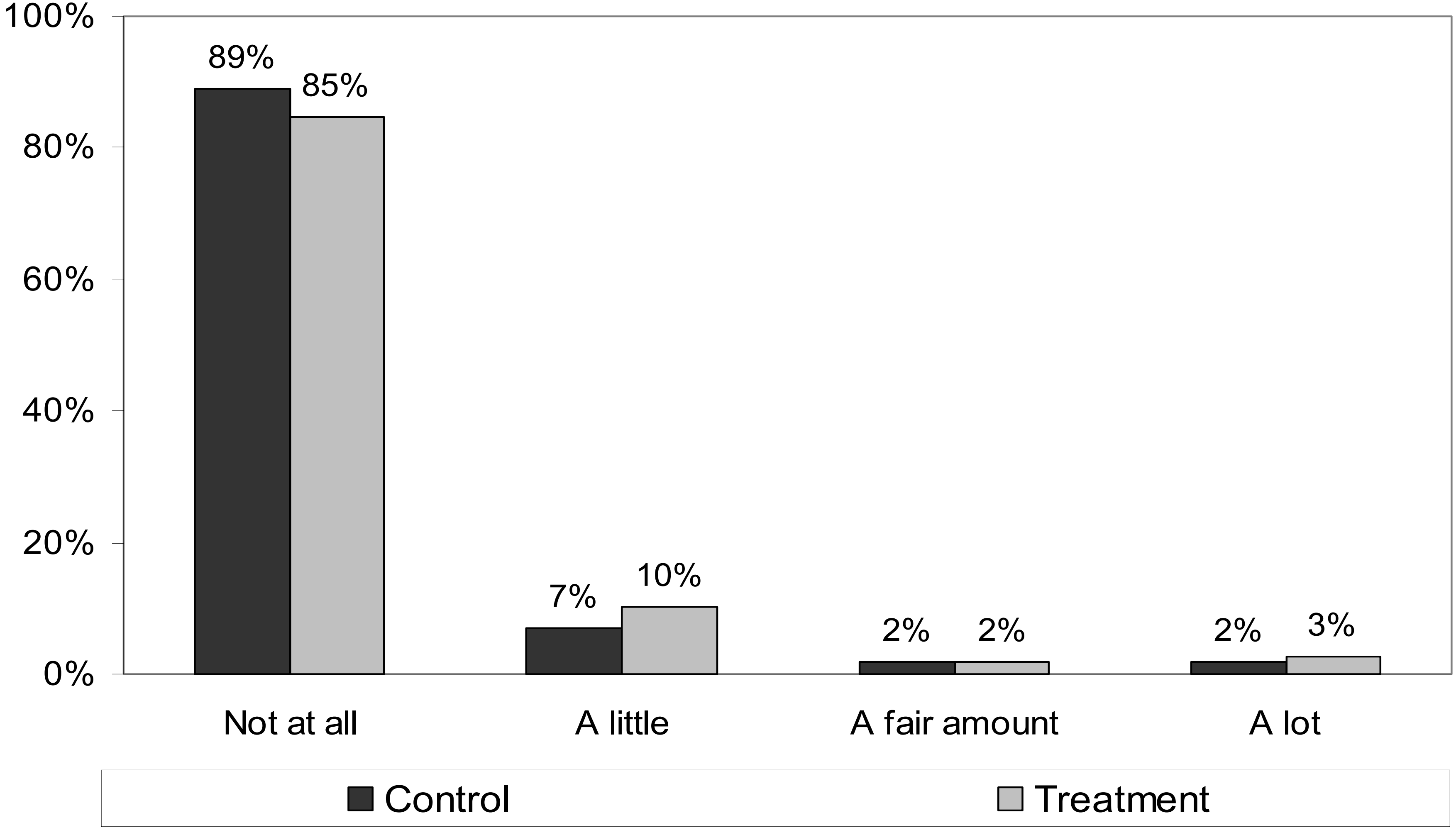
Q51: In the last month or so, did you decide to change your health insurance?*



*Differences between the control and treatment groups were significant at the 0.05 level.
Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Exhibit B-21

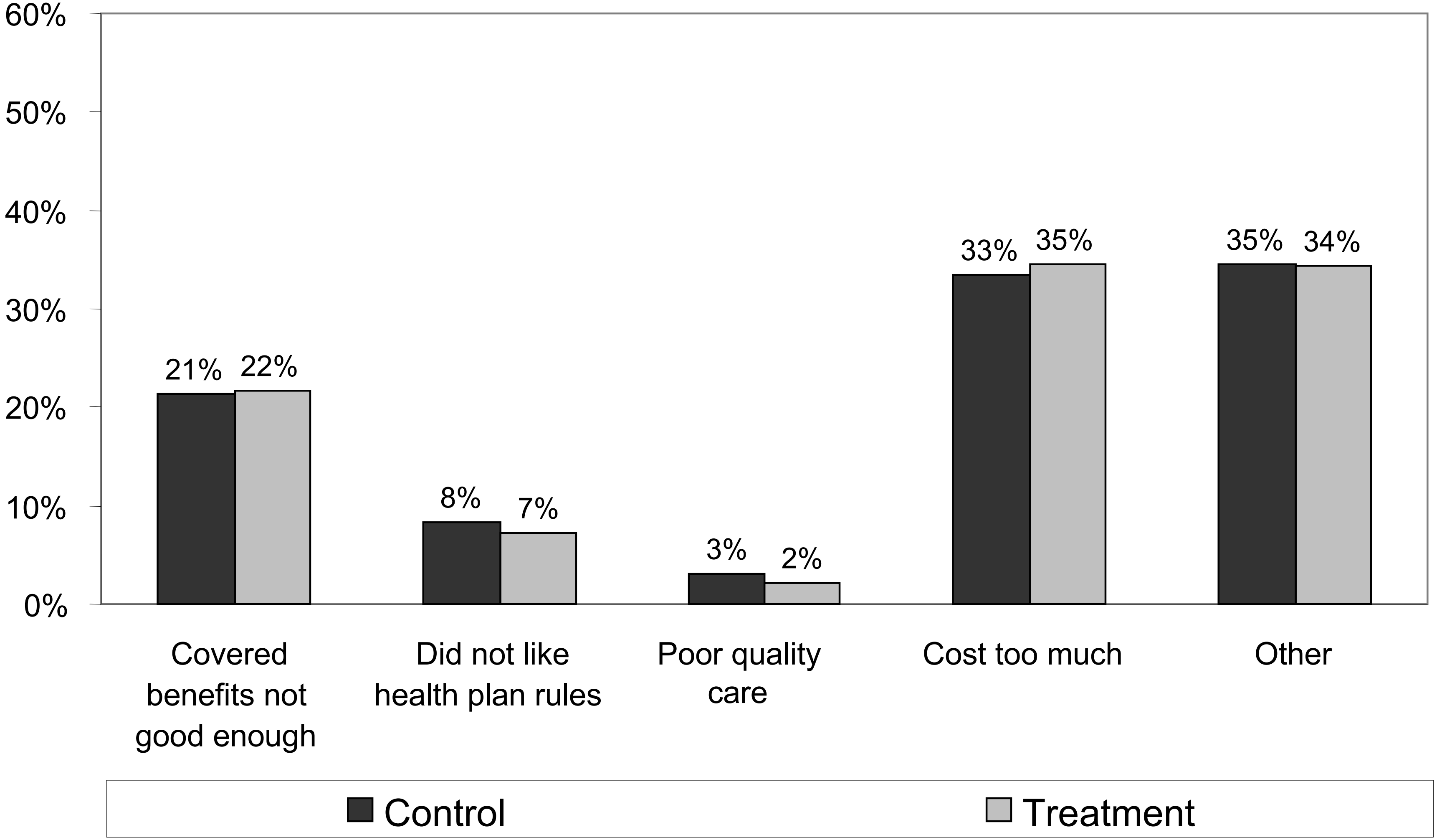
Q52: In the last month or so, how much did you **think about** changing your health insurance?*



*Differences between the control and treatment groups were significant at the 0.05 level.
Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Exhibit B-22

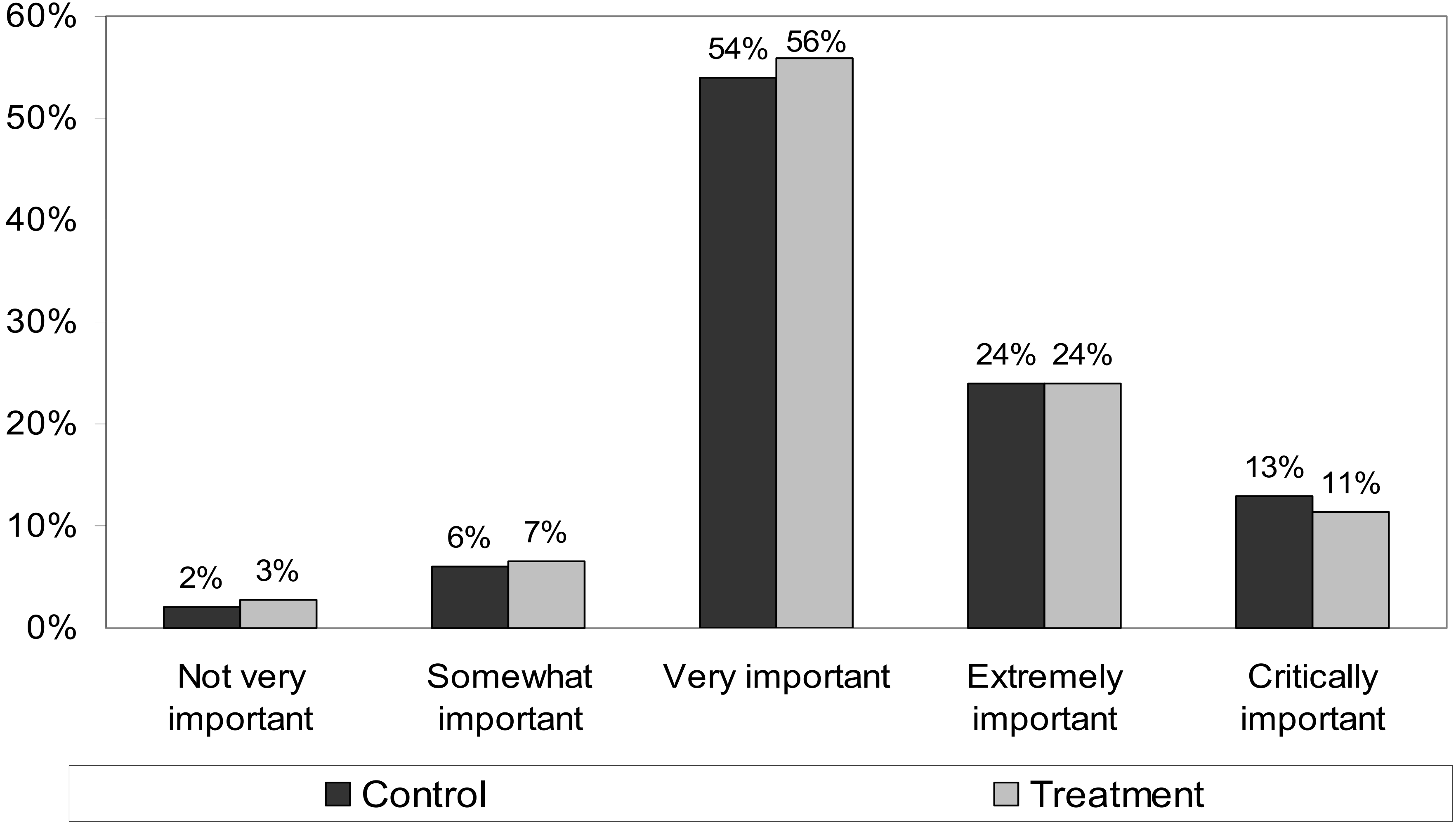
Q53: What was the **main reason** you changed or thought about changing health insurance?



*Differences between the control and treatment groups were not significant at the 0.05 level.
Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Exhibit B-23

Q49: **If you were choosing** a Medicare health insurance option today, how important would the choice be?

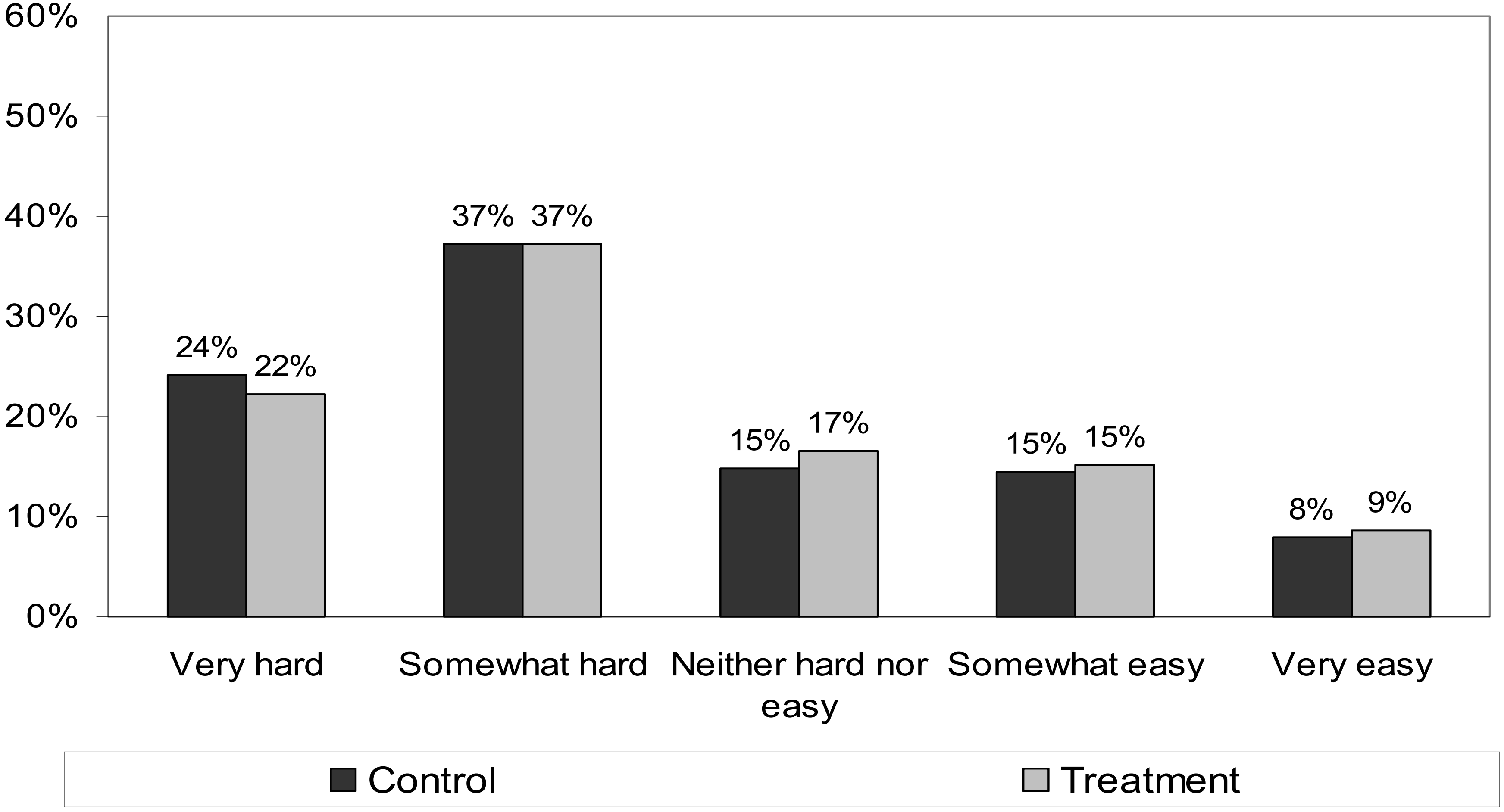


*Differences between the control and treatment groups were not significant at the 0.05 level.

Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Exhibit B-24

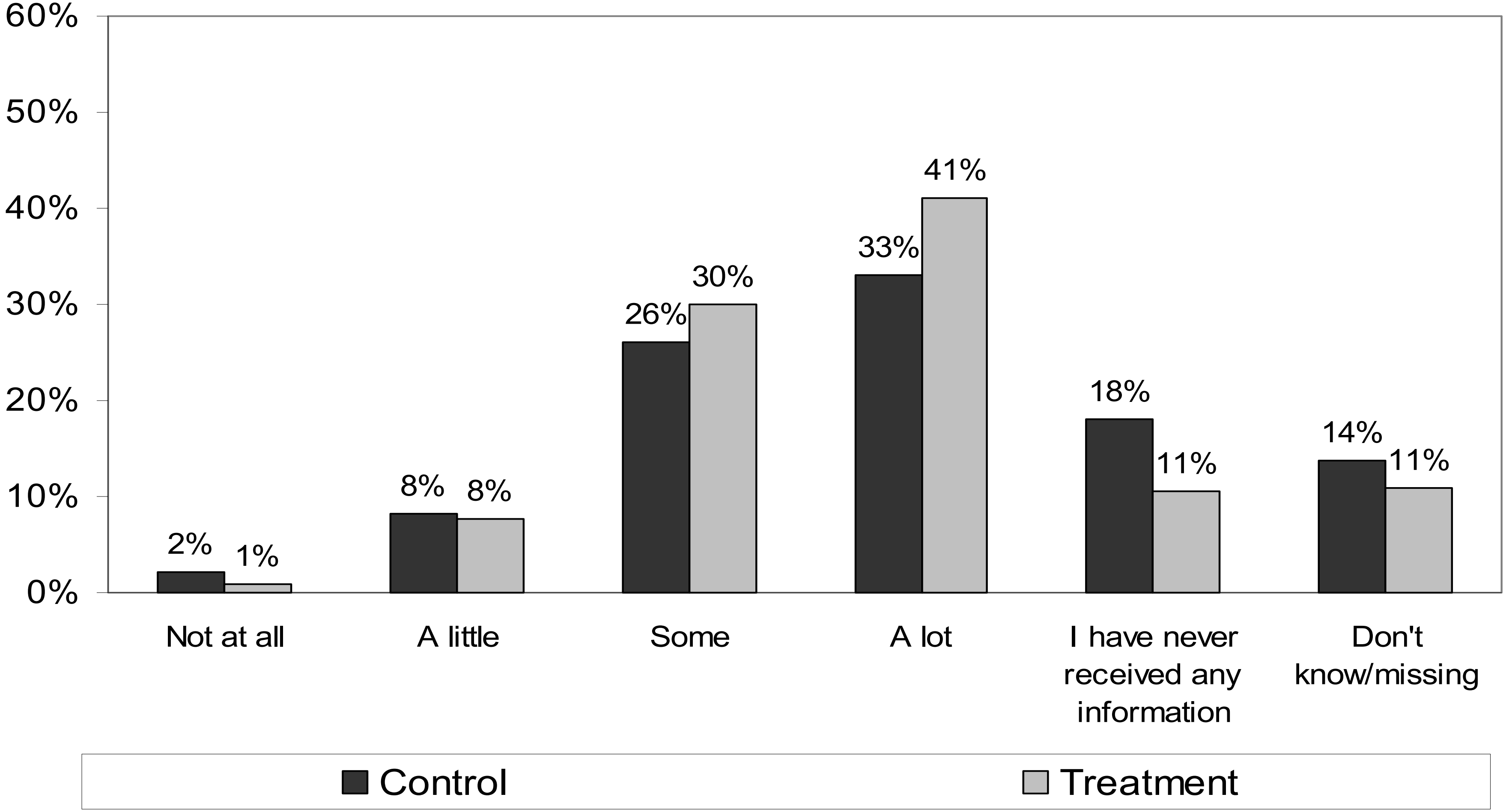
Q50: **If you were choosing** a health insurance option today, how hard or easy would it be to decide which option is best for you?



*Differences between the control and treatment groups were not significant at the 0.05 level.
Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Exhibit B-25

Q28: How much do you trust the information you get from the Medicare program?*

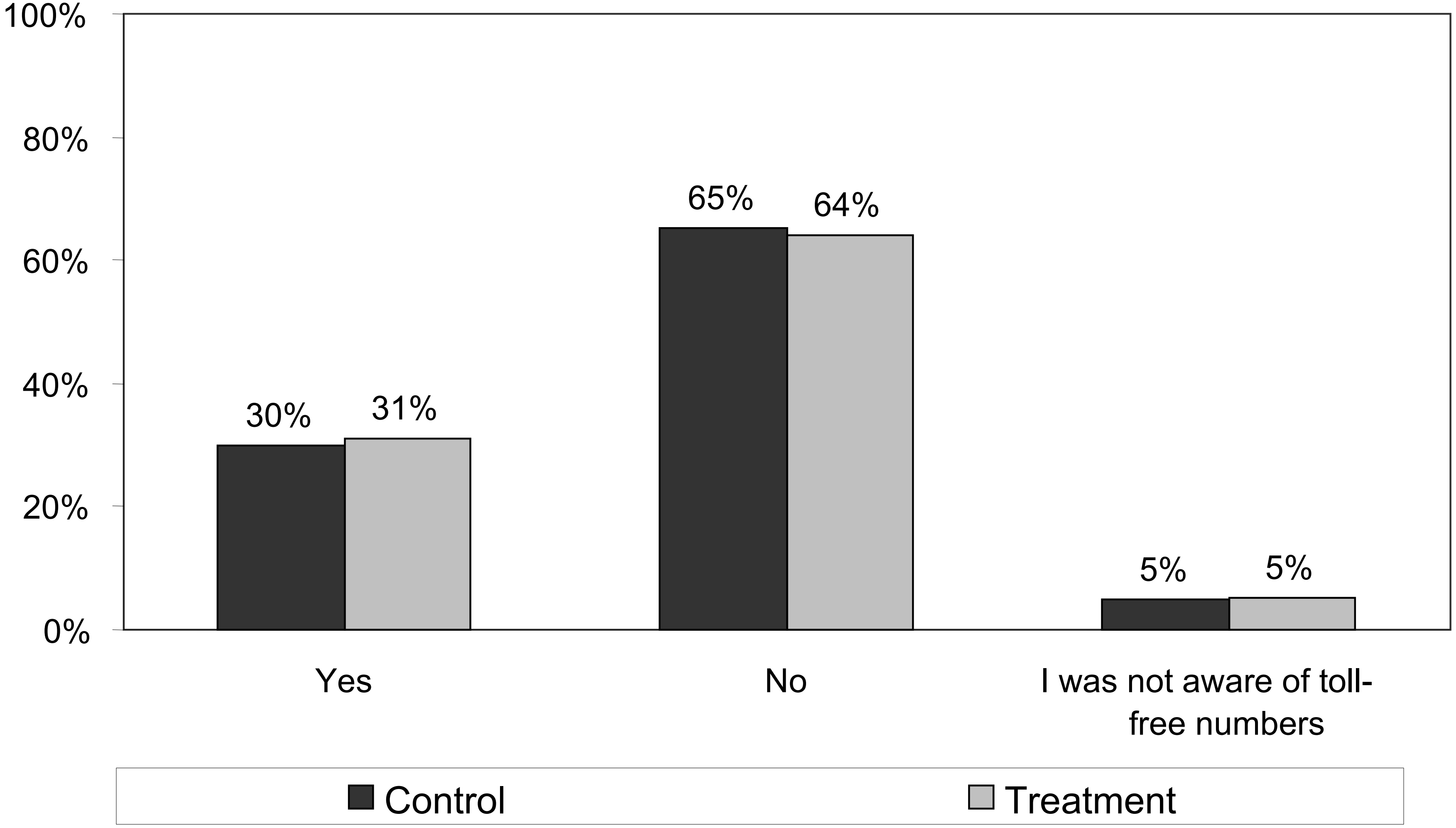


*Differences between the control and treatment groups were significant at the 0.05 level.

Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Exhibit B-26

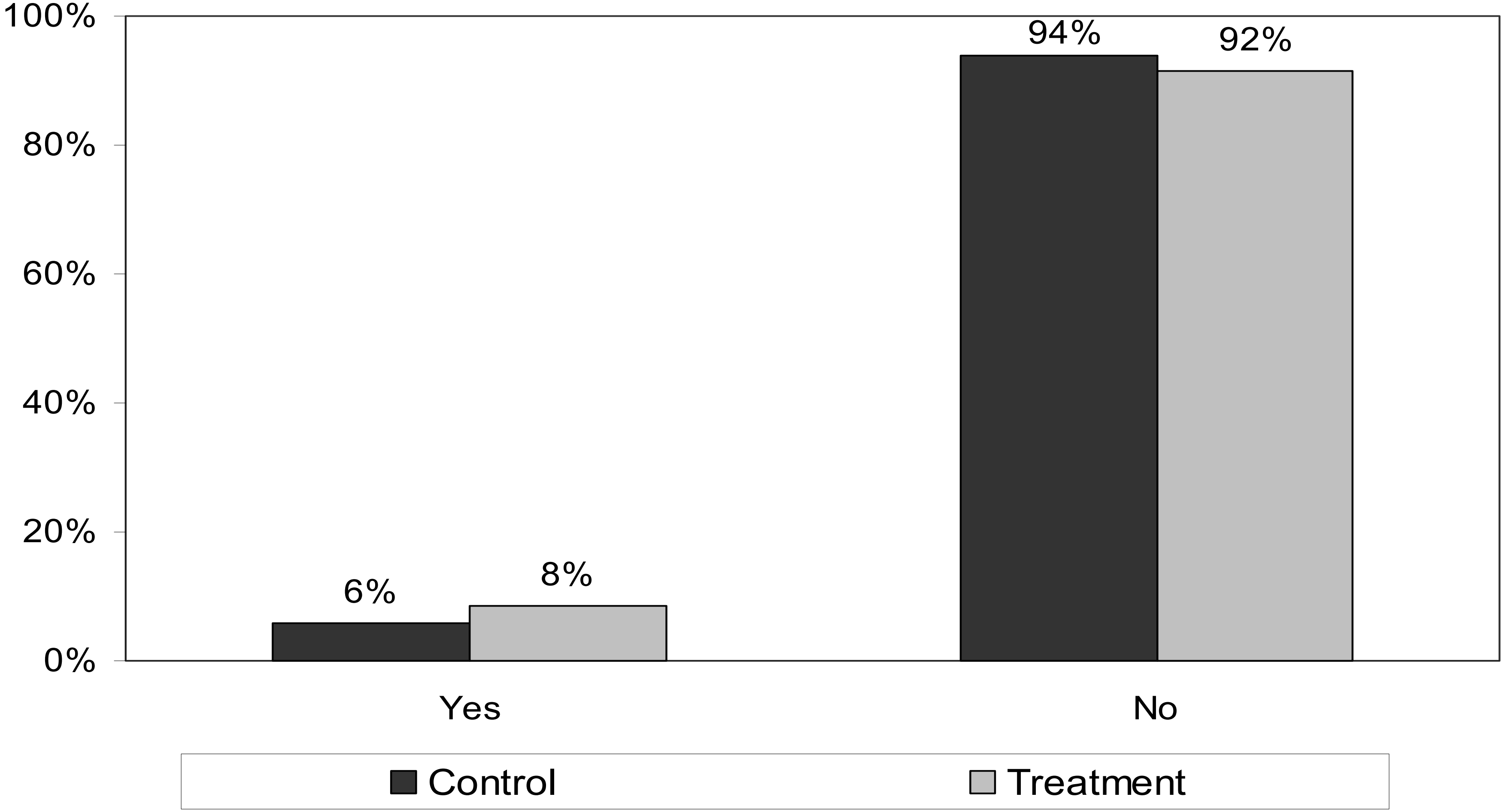
Q43: Have you ever called a toll-free (1-800) telephone number to get help with Medicare issues?



*Differences between the control and treatment groups were not significant at the 0.05 level.
Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Exhibit B-27

Q45: In the last month or so, have you contacted a person or organization for information about health insurance options for people with Medicare?*

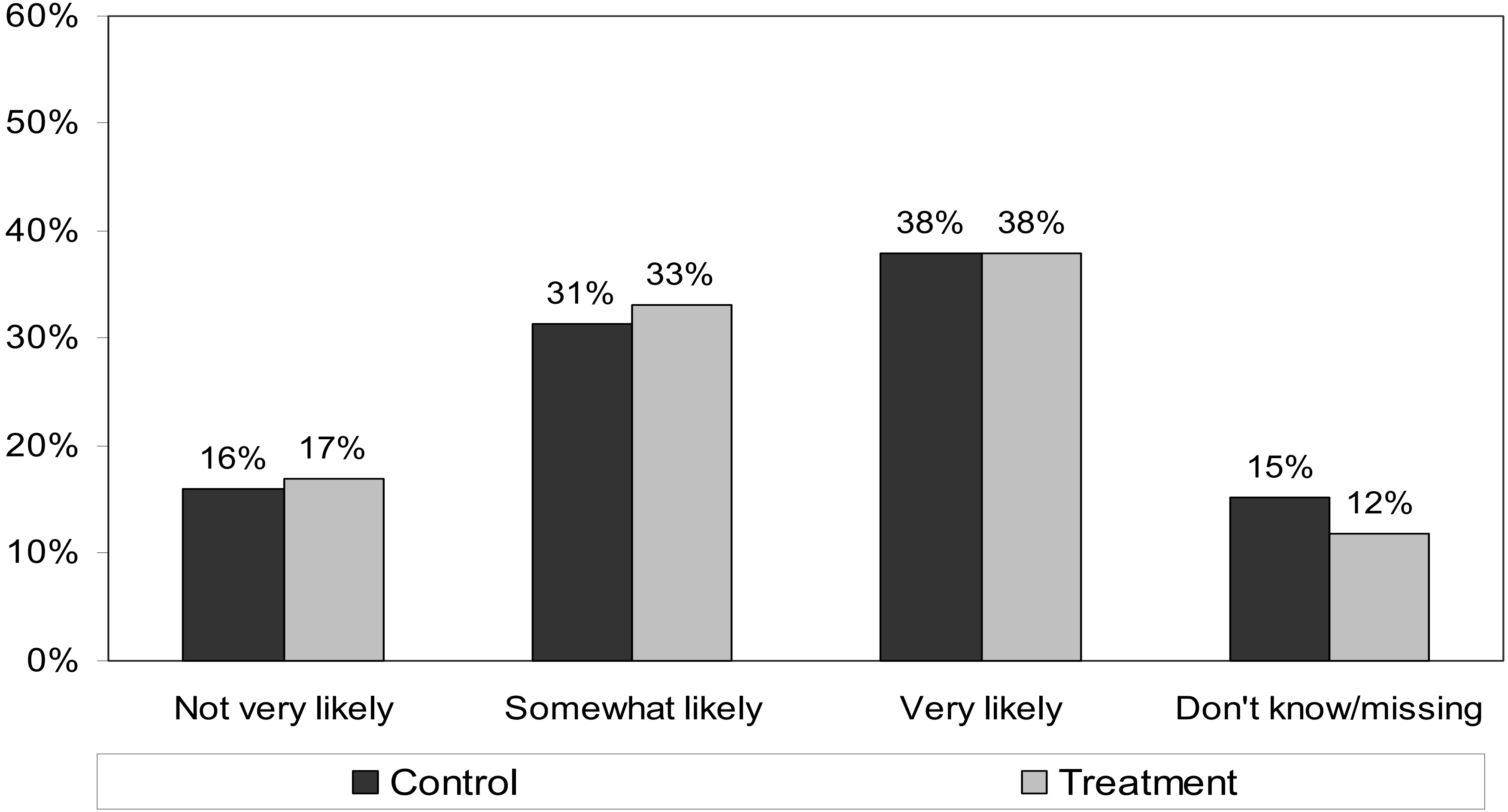


*Differences between the control and treatment groups were significant at the 0.05 level.

Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Exhibit B-28

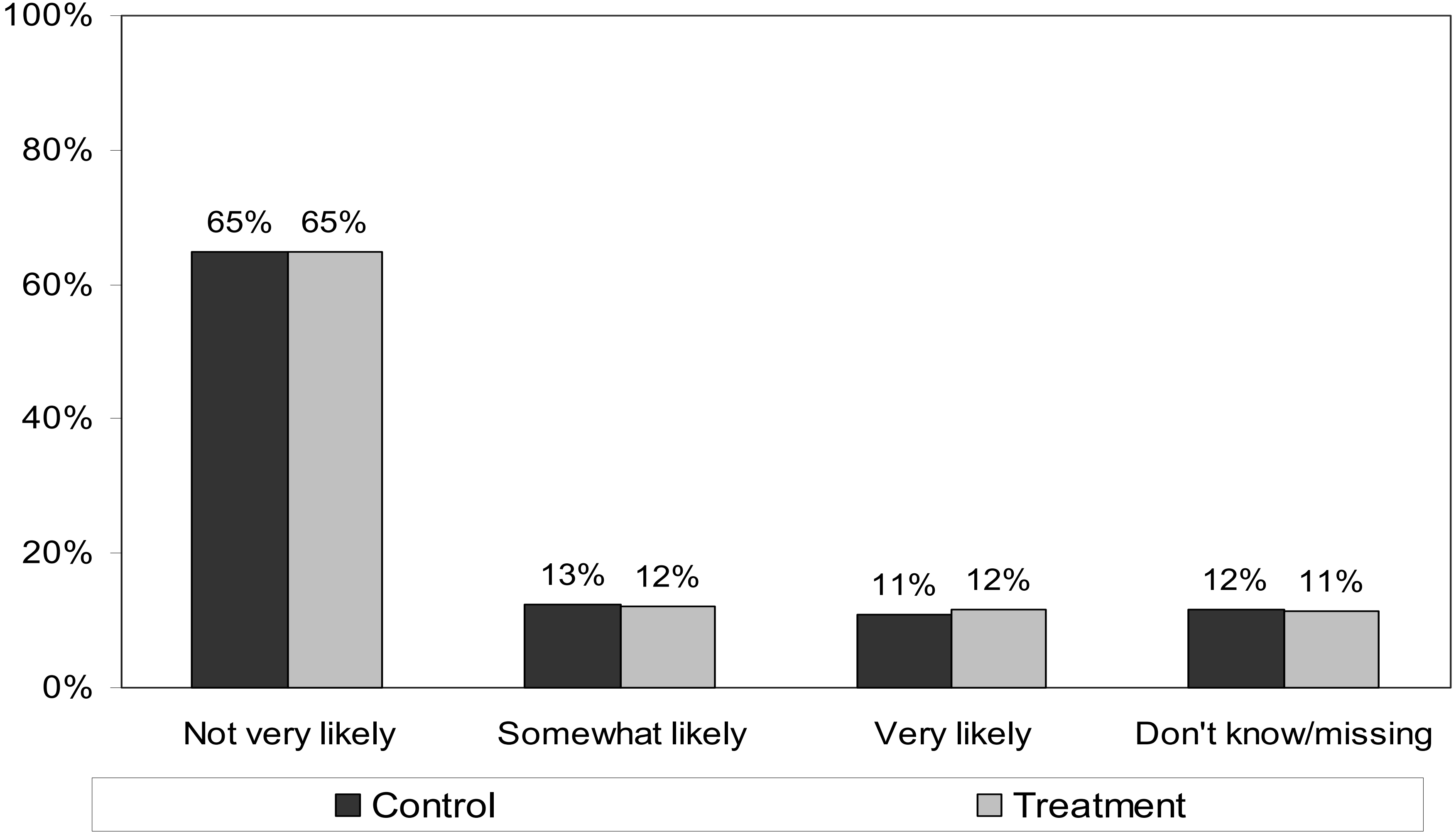
Q40: How likely is it that you would use [an information and counseling service] if you needed help in understanding and comparing health insurance options?



*Differences between the control and treatment groups were not significant at the 0.05 level.
Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Exhibit B-29

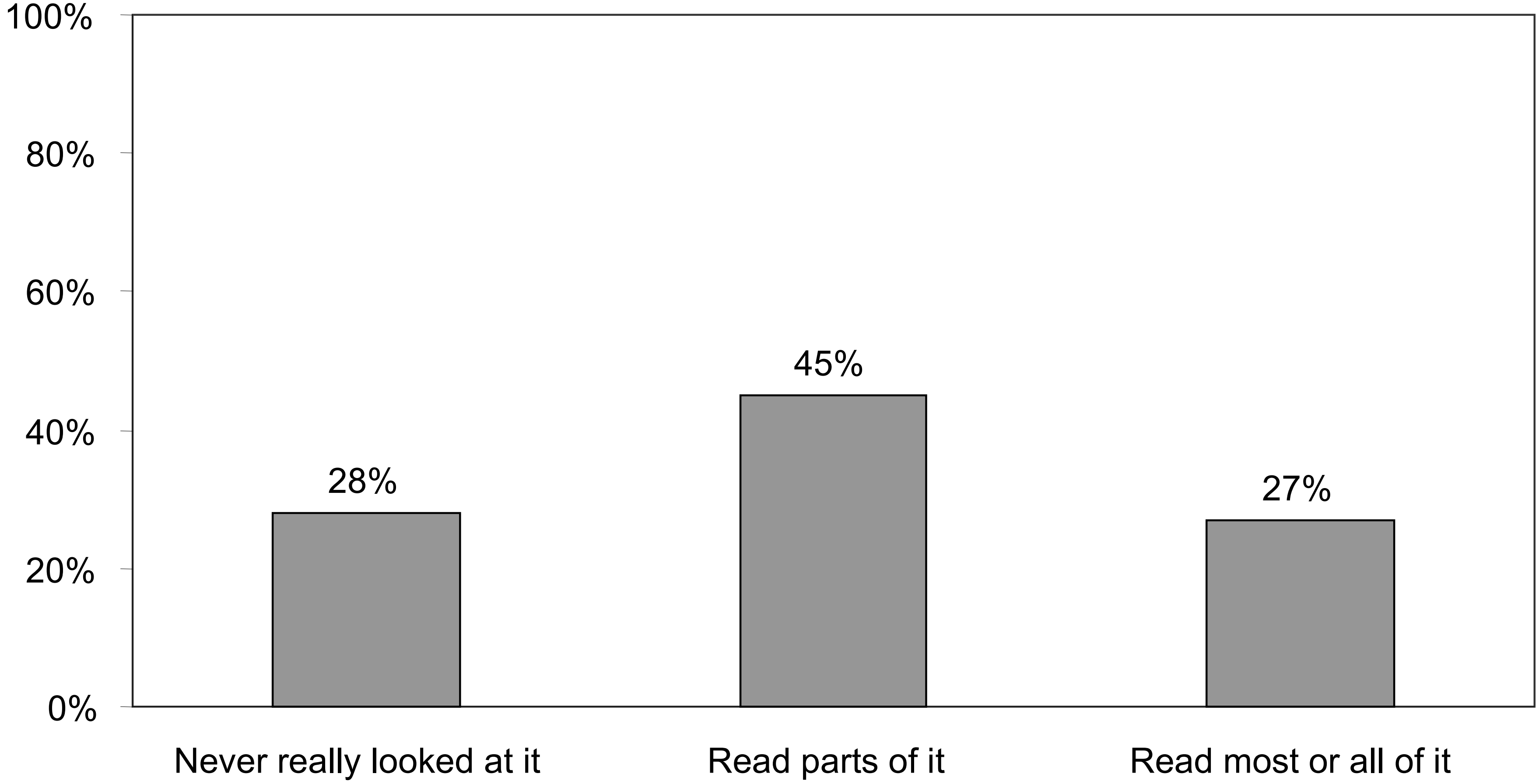
Q42: If the Medicare program had its own Internet website, how likely is it that you would use it to get information about Medicare?



*Differences between the control and treatment groups were not significant at the 0.05 level.
Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.

Exhibit B-30

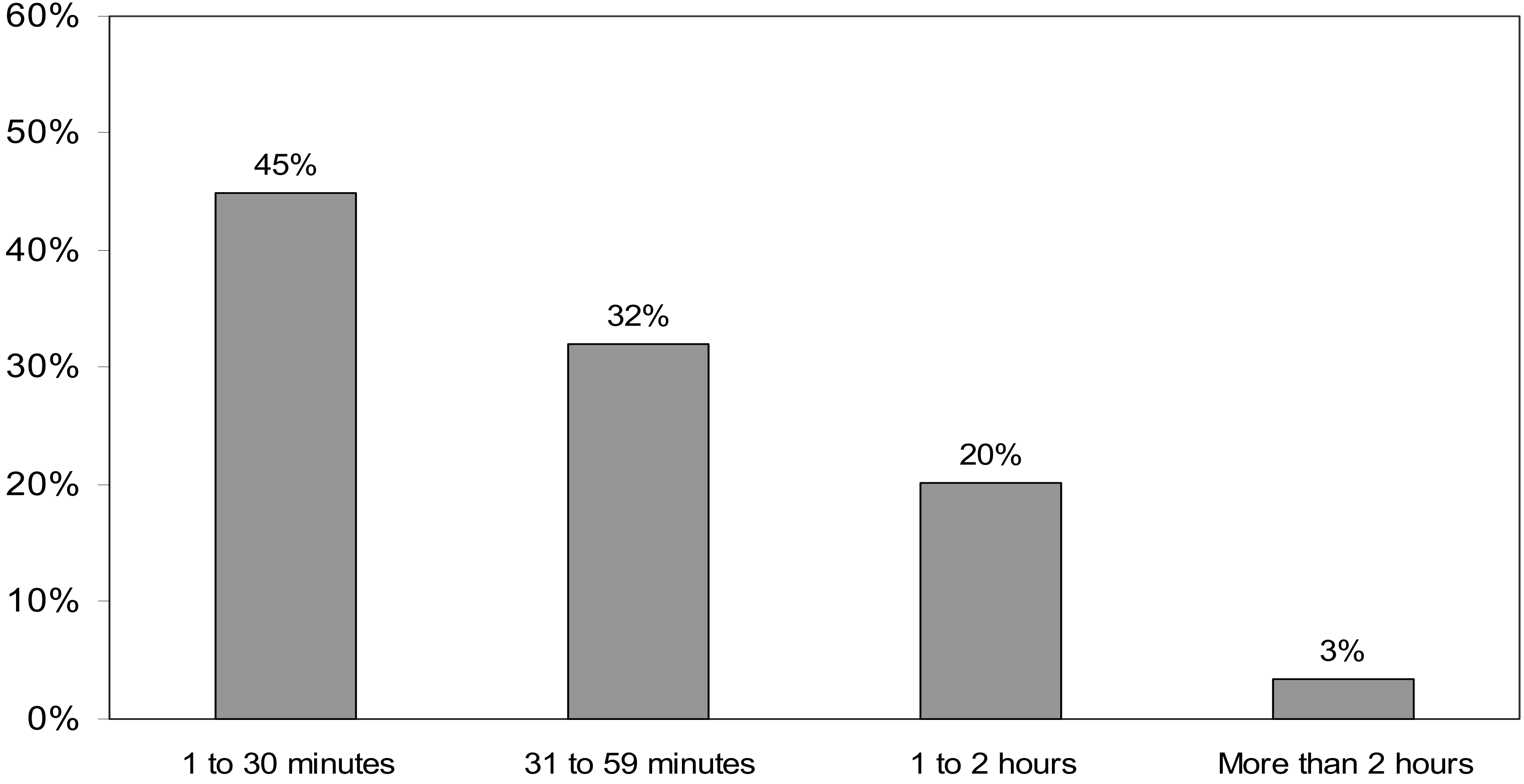
Q65: How much of the *Medicare & You* 2000 handbook did you read?



Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.
Asked of treatment group members only. Includes only respondents who remember seeing the handbook.

Exhibit B-31

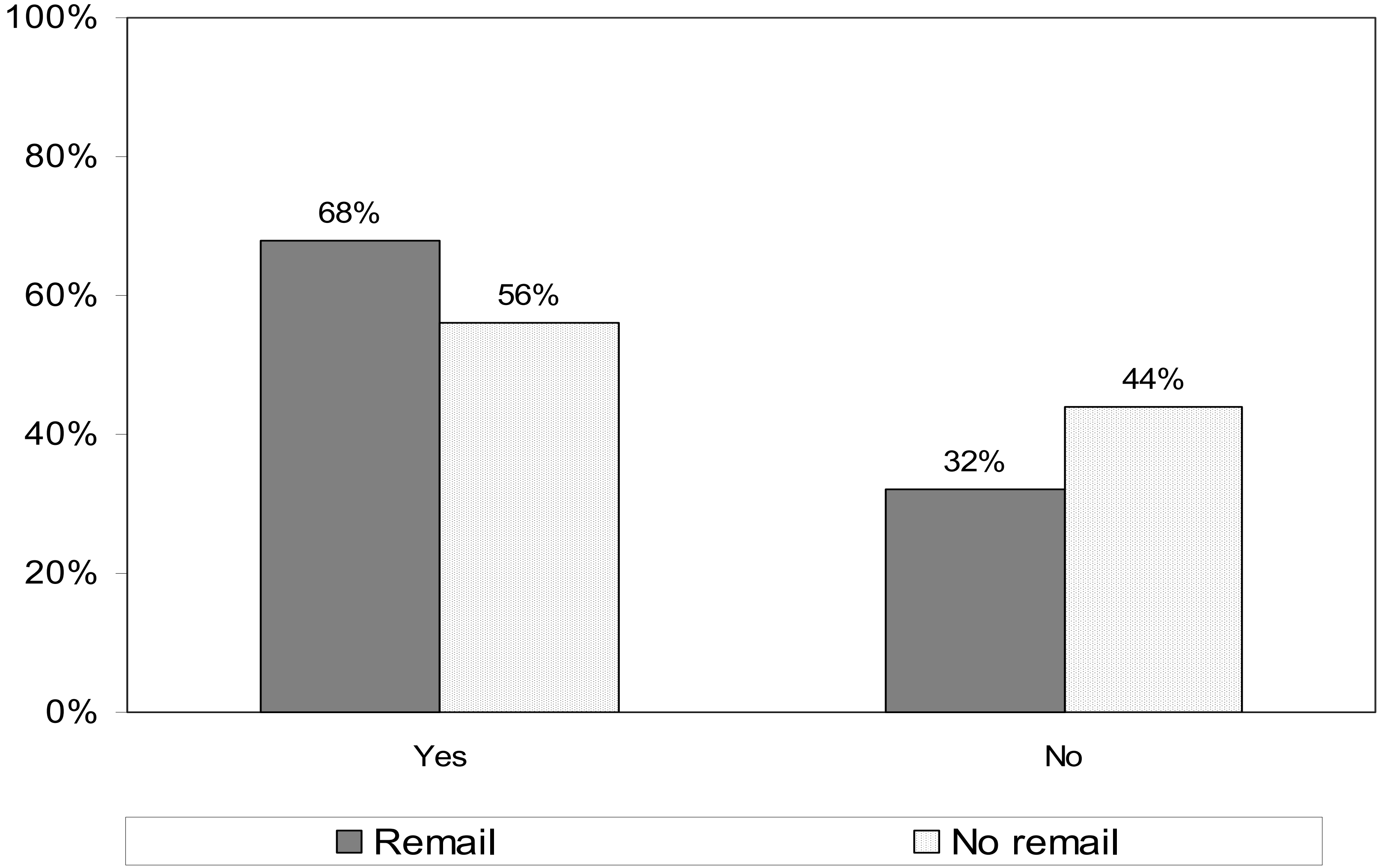
Q67: How much time did you spend looking at the handbook?



Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.
Asked of treatment group members only. Includes only the respondents who remember receiving the handbook and who read at least part of it.

Exhibit B-32

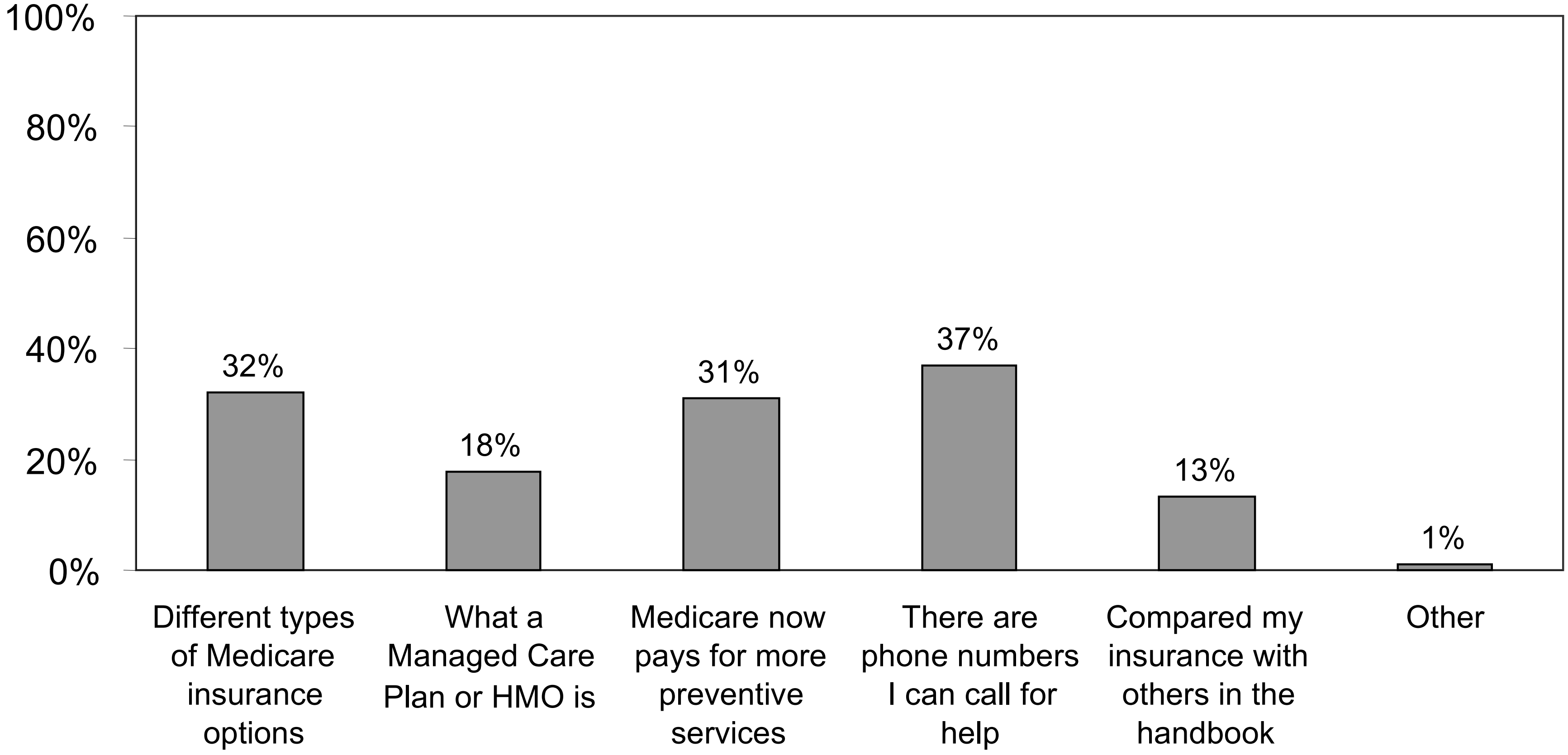
Q70: Did you learn anything new from the handbook?*



*Differences between the no remail and remail and treatment groups were significant at the 0.05 level.
Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.
Asked of treatment group members only. Includes only the respondents who remember receiving the handbook and who read at least part of it.

Exhibit B-33

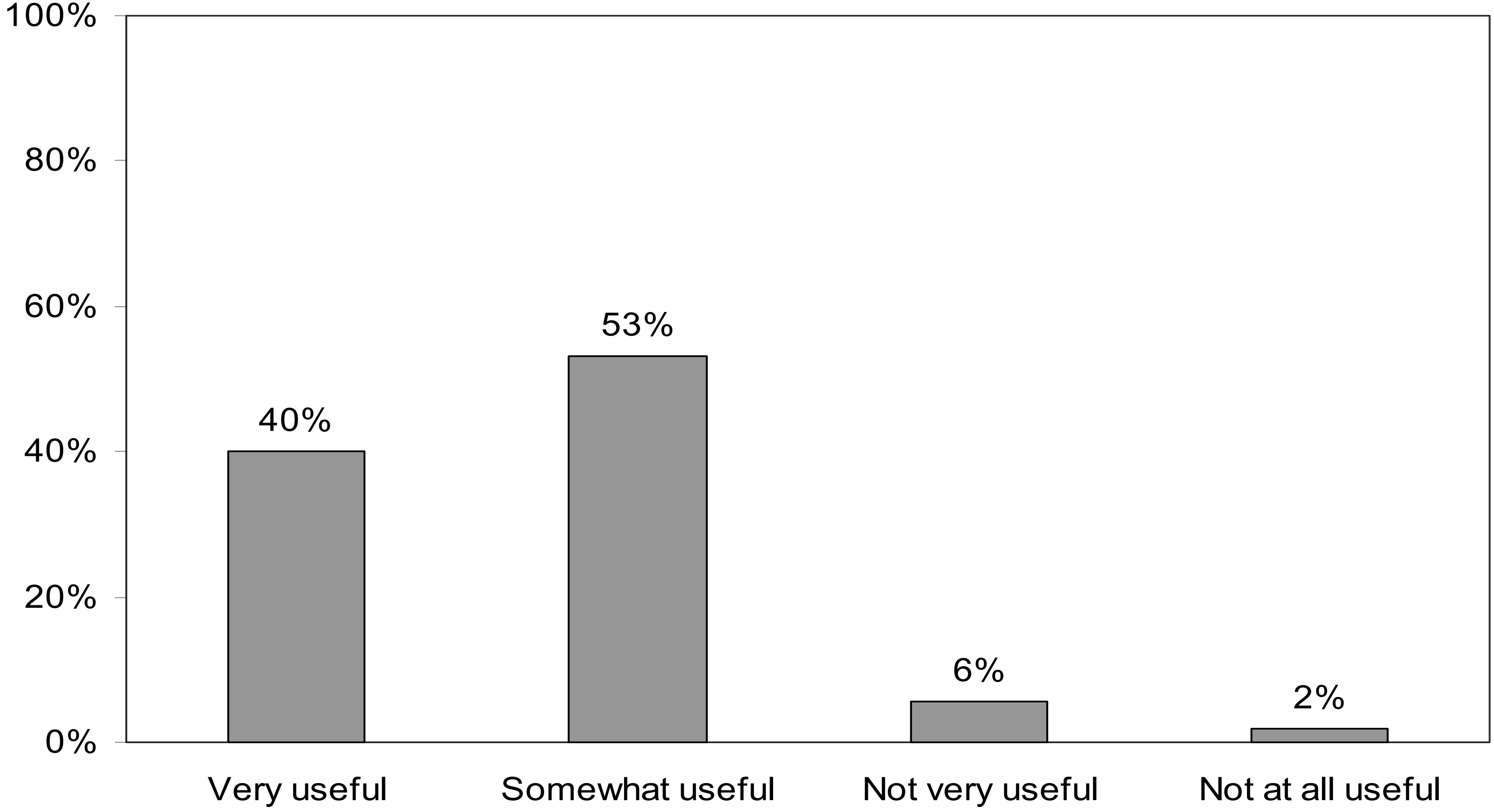
Q71: What did you learn from the *Medicare & You* 2000 handbook?



Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.
Asked of treatment group members only. Includes only the respondents who remember receiving the handbook, read at least part of it, and reported that they learned something from it .

Exhibit B-34

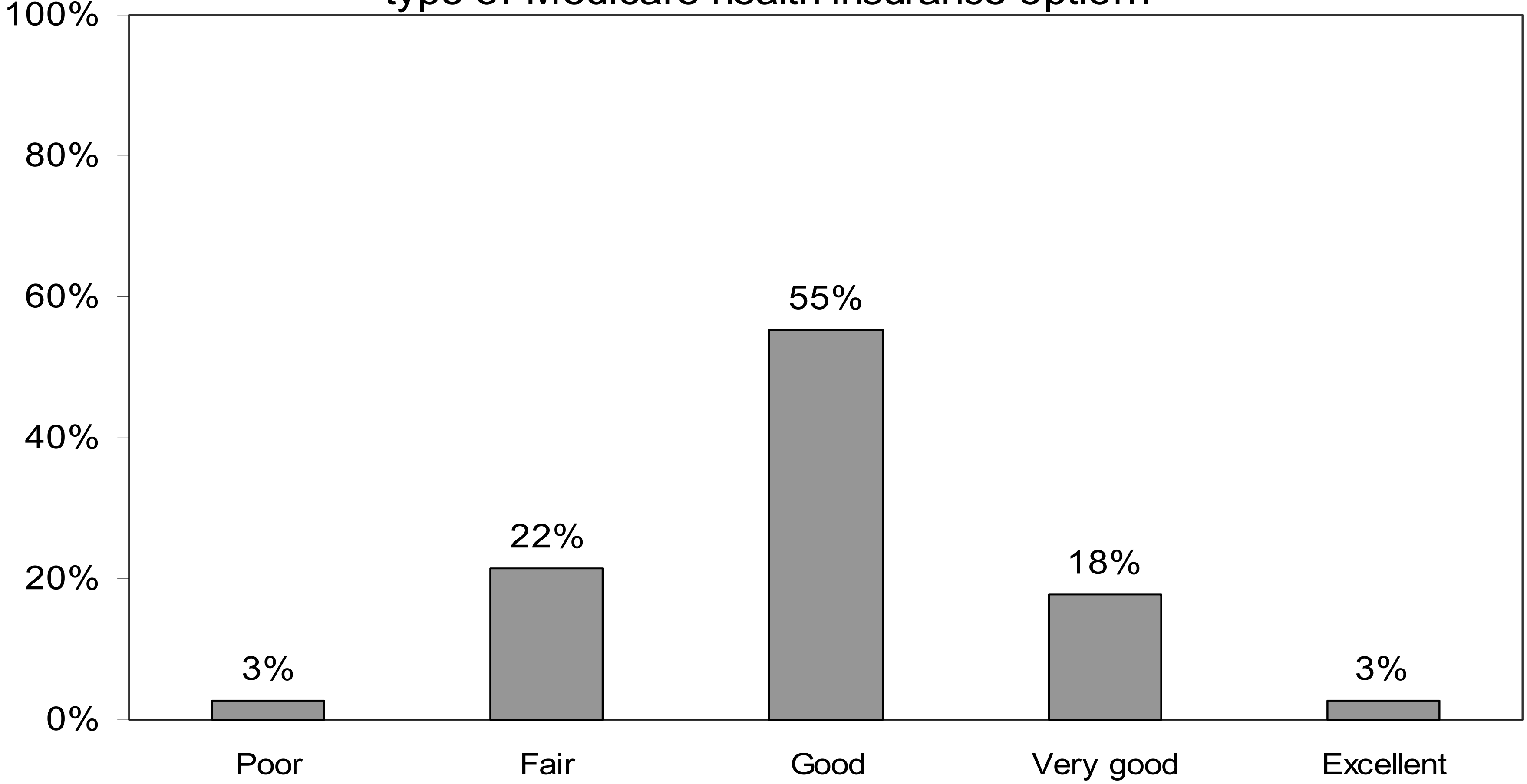
Q73: Overall, how useful was the information in the handbook?



Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.
Asked of treatment group members only. Includes only the respondents who remember receiving the handbook and who read at least part of it.

Exhibit B-35

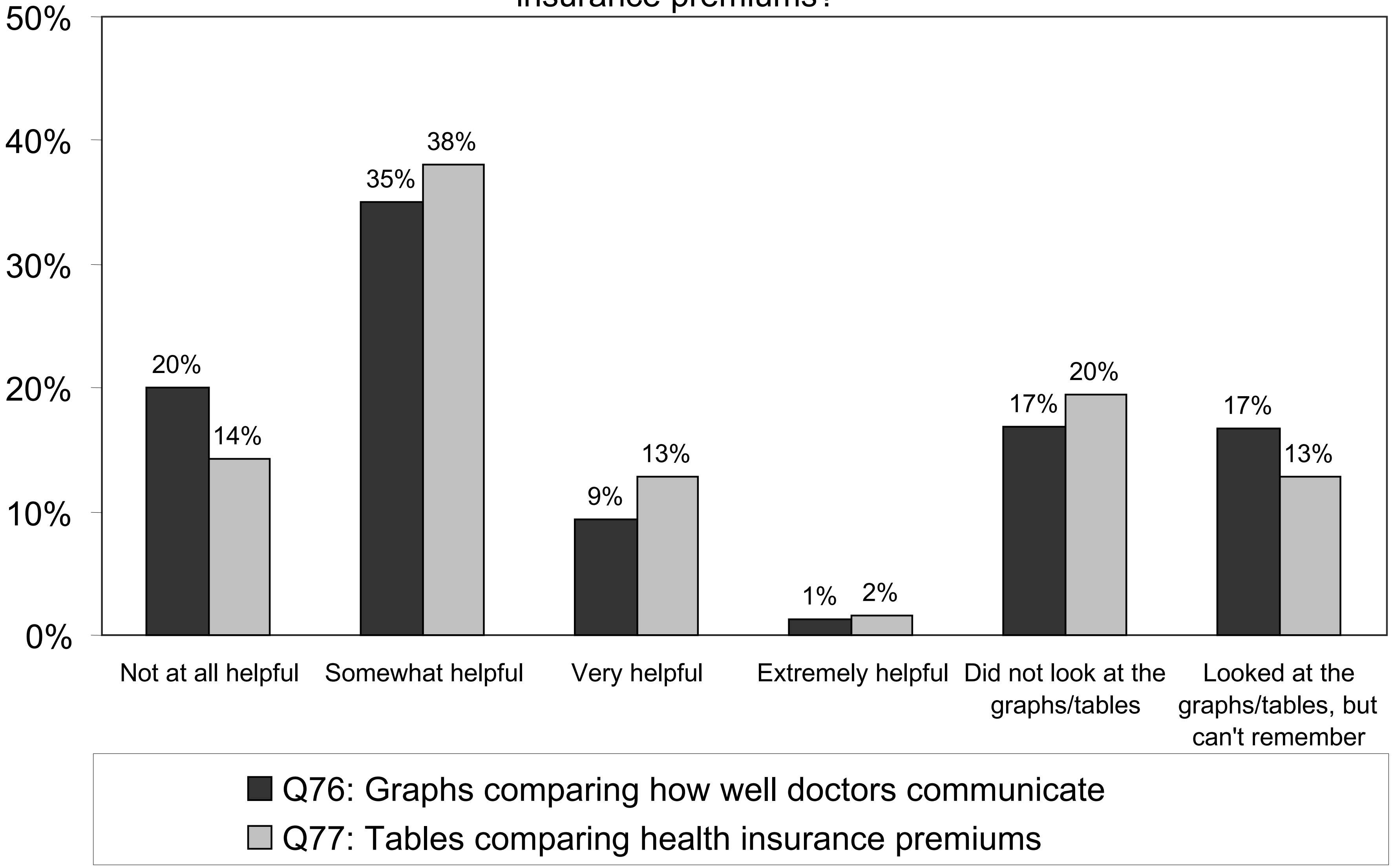
Q72: How would you rate the information in the handbook at helping you understand the advantages and disadvantages of each type of Medicare health insurance option?



Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.
Asked of treatment group members only. Includes only the respondents who remember receiving the handbook and who read at least part of it.

Exhibit B-36

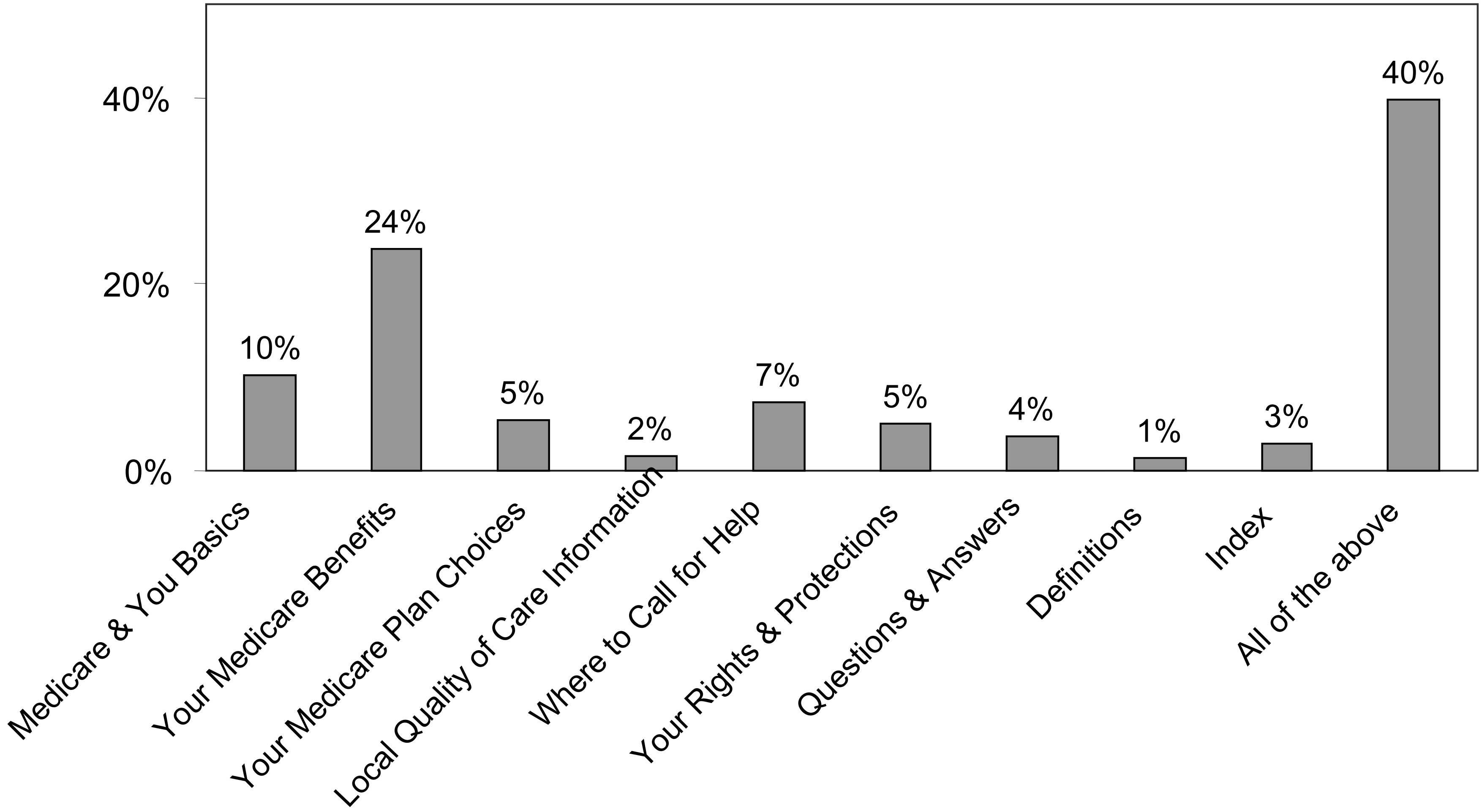
Q76/Q77: How helpful were the graphs/tables in the handbook with information comparing how well doctors communicate and health insurance premiums?



*Differences between the no remail and remail groups were not significant at the 0.05 level.
Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.
Asked of treatment group members only. Includes only the respondents who remember receiving the handbook and who read at least part of it.

Exhibit B-37

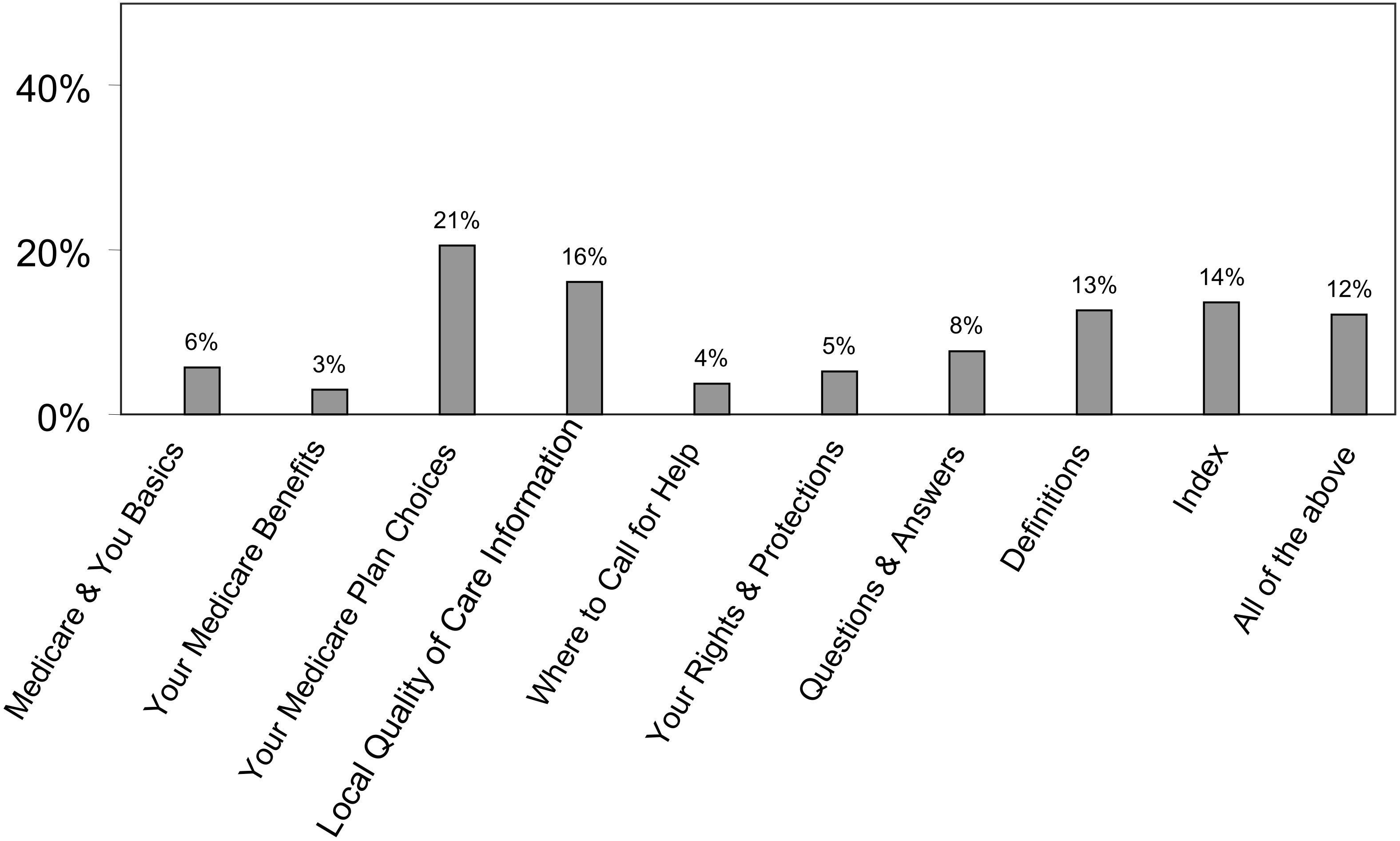
Q74: Which **one section** of the handbook was the **most** useful to you?



Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000.
Asked of treatment group members only. Includes only the respondents who remember receiving the handbook and who read at least part of it.

Exhibit B-38

Q75: Which **one section** of the handbook was the **least** useful to you?



Data Source: National survey of Medicare beneficiaries conducted by Research Triangle Institute between July 1999 and February 2000. Asked of treatment group members only. Includes only the respondents who remember receiving the handbook and who read at least part of it.