National Beneficiary Survey Round 4: Nonresponse Bias Analysis

Final Report

February 3, 2012

Eric Grau

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Policy Research

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Social Security Administration
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ITC Building
500 E. St., SW, 9th Floor
Washington, DC 20254
Project Officer: Paul O'Leary

Submitted by:
Mathematica Policy Research
600 Maryland Avenue, SW
Suite 550
Washington, DC 20024-2512
Telephone: (202) 484-9220
Facsimile: (202) 863-1763
Project Director: Debra Wright

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ERRATA

(Updated December 20, 2016)

The SF-8 mental component summary (MCS) and physical component summary (PCS) scores provided in the original National Beneficiary Survey (NBS) data files were calculated incorrectly. The original values excluded an intercept constant needed to scale the scores to general population norms. The intercept constant values are -10.11675 for the MCS, and -9.36839 for the PCS.

Because the intercept constants were not applied, the scores provided in the original data files were too high relative to what they should be on the population-based scale. Thus, if comparing NBS respondents to the general population, NBS respondents would appear healthier than they should. However, within the NBS respondent sample, the scores still appropriately represented greater or lesser mental and physical health according to the design of the SF-8.

The MCS and PCS variables included in the current data files have been corrected and are now valid for comparisons to other populations.

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CONTENTS

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TABLES

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ACRONYMS

AIC	Akaike's Information Criterion
ARF	Area Resource File
CAPI	Computer Assisted Personal Interviewing
CATI	Computer Assisted Telephone Interviewing
CHAID	Chi-Squared Automatic Interaction Detector
CR	Cost Reimbursement Provider Payment Program
EN	Employment Networks
NBS	National Beneficiary Survey
OMB	Office of Management and Budget
PSU	Primary Sampling Unit
SPSS	Statistical Package for the Social Sciences (SPSS is a registered trademark of SPSS, Inc., Chicago, IL)
SSA	Social Security Administration
SSDI	Social Security Disability Insurance (Title II of the Social Security Act)
SSI	Supplemental Security Income (Title XVI of the Social Security Act)
SVRA	State Vocational Rehabilitation Agency
TTW	Ticket to Work

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A. Introduction

In all studies, final survey estimates are based solely on respondents. Errors resulting from unit nonresponse can result if there are systematic differences between individuals who respond to a survey and those who do not. Nonresponse-adjusted weights attempt to account for these differences by allocating the sampling weights of nonrespondents to respondents who have similar characteristics. Insofar as these adjustments are unable to account completely for differences between nonrespondents and respondents, survey estimates could be biased.

The purpose of this report is to determine if the nonresponse adjustments applied to the sampling weights of the Round 4 National Beneficiary Survey (NBS) appropriately account for differences between respondents and nonrespondents, or if the potential for nonresponse bias still exists. In sum, our analysis indicates that the nonresponse adjustment alleviated nearly all differences observed between respondents and nonrespondents in both the beneficiary and participant samples with two exceptions for the beneficiary sample. First, the nonresponse-adjusted weighted estimate of the beneficiary type differed from the frame for Supplemental Security Income (SSI)-only cases, even though the original estimate (including all sampled cases) did not differ from the frame. Second, the nonresponse-adjusted weighted proportion of Asians is significantly less than the frame value.

1. Study Overview

As part of an evaluation of the Ticket to Work and Self-Sufficiency program (TTW), Mathematica Policy Research conducted Round 4 of the NBS in 2010. Sponsored by the Social Security Administration's (SSA) Office of Retirement and Disability Policy, the survey collected data from a national sample of SSA disability beneficiaries (hereafter referred to as the Representative Beneficiary Sample) and a sample of TTW participants (selected from a subpopulation of beneficiaries who participated in the TTW, hereafter referred to as the Ticket Participant Sample).

The NBS is one of several components of an evaluation of the impact of TTW relative to the current system, the SSA Vocational Rehabilitation Reimbursement Program, which has been in place since 1981. The evaluation includes a process analysis as well as an impact and participation analysis. Along with the NBS, data sources include SSA administrative records and interviews with program stakeholders. The NBS collects data needed for the TTW evaluation not available from SSA administrative data or other sources.

The NBS has five objectives:

1. To provide critical data on the work-related activities of Supplemental Security Income (SSI) and Social Security Disability Income (SSDI) beneficiaries, particularly as related to TTW implementation.
2. To collect data on the characteristics and program experiences of beneficiaries who use their Ticket.
3. To gather information about beneficiaries who do not use their Ticket and the reasons for their decision.
4. To collect data that will allow us to evaluate the employment outcomes of Ticket users and other SSI and SSDI beneficiaries.

5. To collect data on service use, barriers to work, and beneficiary perceptions about TTW and other SSA programs designed to help SSA beneficiaries with disabilities find and keep jobs.

In addition to the meeting the original study objectives stated above, the Round 4 NBS was designed to assess the impact of changes made to the TTW program in July 2008, when new regulations took effect.

The NBS data will be combined with SSA administrative data to provide critical information on access to jobs and employment outcomes for beneficiaries who do and do not participate in the TTW program. Although some sections of the NBS target beneficiary activity directly related to TTW, most of the survey captures general information on SSA beneficiaries, including their disability, interest in work, use of services, and employment. As a result, SSA and external researchers interested in disability and employment issues may use the survey data for other policymaking and program-planning efforts.

2. Target Population and Sample Design

The target population in Round 4 for both the Representative Beneficiary and Ticket Participant Samples consisted of SSI and/or SSDI beneficiaries between the ages of 18 and 65. For the Representative Beneficiary Sample, the target population included beneficiaries in all 50 states and the District of Columbia who were in an active pay status as of June 30, 2009.[1] For the Ticket Participant Sample, the target population included beneficiaries who had used the Ticket at least once on January 1, 2009 or between January 1, 2009 and October 2, 2009.[2] Because of the availability of administrative data for all SSI and SSDI beneficiaries, we were able to ascertain many of the "true" properties of the target population, providing tools for the processing of this analysis.

The NBS used a multistage sampling design in all survey rounds, with a supplemental single-stage sample for some Ticket participant populations. For the multistage design, Mathematica used data from SSA on the counts of eligible beneficiaries in each county to form primary sampling units (PSU) consisting of one or more counties. The PSUs selected at Round 1 were the first-stage sampling units for all subsequent rounds. Details on the selection of PSUs are available in the sampling design section of the User's Guide (Wright et al. 2012).

As shown in Table 1, in Round 4 we selected a sample of 3,683 beneficiaries from strata defined by four age categories (18 to 29, 30 to 39, 40 to 49, and 50 to 65) and a sample of 4,334 TTW

[1] Beneficiaries in the Representative Beneficiary sample with selected non-payment status codes were included only if the denial variable was blank. However, based on our experience in prior rounds, we received an updated data extraction after sampling and prior to fielding to identify beneficiaries who may have been in a "holding" status at the time of sample selection, but who had subsequently been denied benefits. These cases were coded as ineligible prior to fielding. Due to time constraints, this extraction was limited to SSI files at Round 4. Hence, the payment-type distribution among ineligible cases contains more SSI-only cases and fewer SSDI-only cases than would be expected if the ineligible cases were like the rest of the population. Individuals in the TTW Participant sample were not evaluated based on pay status since they were determined to be "Ticket eligible" by SSA.

[2] For the most part, the participant population is a subset of the beneficiary population, though, as is apparent from the dates given, it is possible, but highly unlikely, for a Ticket participant to have used the Ticket at least once in the date range given, but to not be in active pay status as an SSI/SSDI beneficiary on June 30, 2009.

participants from the strata defined by the following provider and payment types: (1) participants with Tickets assigned to State Vocational Rehabilitation Agencies (SVRAs) receiving payments under the traditional cost-reimbursement (CR) payment system (referred to in this report as "traditional SVRAs") and (2) participants with Tickets assigned to Employment Networks (EN) or SVRAs functioning as ENs under the TTW program (referred to as "non–SVRA ENs" and "SVRA ENs"). Additional information on sampling can be found in the National Beneficiary Survey Round 4: Editing, Coding, Imputation, and Weighting Procedures Report (Grau et al. 2012), available from SSA through their website: http://www.socialsecurity.gov/disabilityresearch/publicusefiles.html.

Table 1. Round 4 Sample Sizes, Target Completes, and Actual Completes

Sampling Strata	Sample Size	Target Completed Interviews	Actual Completed Interviews
Representative Beneficiary Sample	3,683	2,400	2,298
Age 18 to 29	1,029	666	634
Age 30 to 39	1,032	666	625
Age 40 to 49	1,019	666	643
Age 50 and older	603	402	396
Ticket Participant Sample	4,334	3,000	2,780
Employment Networks	3,251	2,250	2,030
Non–SVRA providers	2,157	1,500	1,352
SVRA providers	1,094	750	678
Traditional SVRA	1,083	750	750
Total Sample Size	8,017	5,400	5,078

Source: NBS, Round 4.

3. Calculation of Non-Response Adjustments

Each observation had an initial weight that accounted for the sample design, including the multiple chances of selection into various sample components. We calculated two adjustments to the weights to account for sample members who did not complete the questionnaire: a location adjustment to account for unlocated sample members and, among located cases, a response adjustment to account for those who refused to respond. The adjustments, which constitute a nonresponse adjustment to the initial weight, were intended to reduce the potential for bias attributable to differential nonresponse, across levels, of a variety of auxiliary variables. In this report, we assess whether the adjustments successfully decreased the potential for bias or whether a potential for significant nonresponse bias still exists.

In the absence of information about how nonrespondents would have answered survey questions, we use data from two sources for this analysis: administrative data from the sampling frame provided by the Social Security Administration (SSA) and data from the Area Resource File (ARF), which contains demographic, health, and economic-related data for every county in the United States (Area Resource File 2009–2010). The administrative data included demographic characteristics about each beneficiary, whether they received SSI, SSDI, or both, and information about their disability and their payment status, including how and why they received payments. The ARF data was used to classify the county where each beneficiary lived, including urbanicity and metropolitan status, and information about the county's economic and racial/ethnic profile.

Due to the relatively small samples sizes available for modeling, we used selected levels of a small number of variables to calculate the nonresponse adjustments. In this analysis, however, we look across all the levels for the variables of greatest interest. We believe that these data provide an effective assessment of the potential for bias in this sample.

4. Round 4 Data Collection

Mathematica completed the Round 4 computer-assisted telephone interviewing (CATI) and computer-assisted personal interviewing (CAPI) data collection in December 2010, interviewing 2,298 individuals in the Representative Beneficiary Sample and 2,780 in the Ticket Participant Sample (a total of 5,078 completed interviews).[3] An additional 222 individuals in the Representative Beneficiary Sample and 77 in the Ticket Participant Sample were deemed ineligible for the survey.[4] Across both samples, 3,936 interviews were completed by telephone and 1,142 by CAPI. Proxy interviews were completed for 998 sample members. The weighted response rate for the Representative Beneficiary Sample was 72.8 percent; for the Ticket Participant Sample, it was 71.4 percent.

Despite intensive locating and contact efforts, we obtained fewer than the targeted number of completes in most sampling strata at Round 4, particularly for the Ticket Participant EN sample, and achieved response rates that were substantially lower than in prior rounds. There are two main reasons for this. First, data collection began later than planned due to delays in receiving OMB clearance, thus requiring data collection to continue throughout the fall and winter holiday seasons; these are time periods when sample members are often harder to contact and less likely to agree to participate in a voluntary survey. Overall, more beneficiaries refused participation than in prior rounds, particularly among the TTW participant sample (12 percent compared to 9 percent in the prior round). Second, compared to previous rounds of the NBS, contact information was invalid for significantly more beneficiaries—63 percent of the released sample required locating versus an average of 40 percent in Rounds 1 through 3. Beneficiaries were also more difficult to find than in prior rounds, with a higher percentage of unlocated cases remaining at the end of data collection (5.5 percent, compared to 3.6 percent in Round 3). We speculate that the depressed economic conditions experienced nationwide may have led to displacement within this population. Finally, in accord with an increasing trend for household surveys, we placed more calls on average in an attempt to complete an interview than we did in Round 3 (31 versus 25), and significantly more cases resulted in a "noncontact" status (i.e., repeated attempts that end with an answering machine or no answer at all); 9.3 percent in Round 4, compared to 3.4 percent in Round 3.

In response to the lower yield rates, we applied several strategies to increase response, including sending prepaid incentives to the remaining nonrespondents in the last six weeks of the data collection period. We also considered the possibility of extending the data collection period to continue our effort on hard-to-reach cases. However, because several questions in the survey ask respondents to report on behaviors that occurred in 2009, we were concerned that interviewing in 2011 would negatively impact recall and increase measurement error. In addition, extending the data

[3] Given that the clustered and unclustered samples of the Ticket Participant Sample were independent, it was not common for individuals to be selected for both samples. It was also possible for a sample member to be chosen for both the Representative Beneficiary Sample and the Ticket Participant Sample. Interviews for duplicate cases were conducted only once but recorded twice (once for each sample). The counts above include the duplicates as separate cases.

[4] We statused as ineligible any beneficiaries who died between sample selection and the start of data collection based on information obtained from LexisNexis\Accurint prior to the start of data collection. Additionally, beneficiaries who were found to be deceased, incarcerated, no longer living in the continental United States, or reported that they had not received benefits in the past five years at the time of the interview, were statused as ineligible during the data collection period. Ineligible cases were treated as respondents for the purposes of weighting, and then the weights were zeroed out at the end of processing. The weighted number of ineligible cases served as an estimate of the number of ineligible cases in the target population.

collection period would have increased costs and only marginally increased the number of completes. We thus estimated how a reduction in target completes would impact minimal detectable differences for key variables and revised the targets per strata based on this estimate. We added additional samples to ensure these targets would be met. While this further suppressed response rates, it was viewed as a necessary tradeoff to ensure statistical power for analyses.

5. Rationale for Nonresponse Bias Analysis

Because the weighted response rates within strata ranged from 67.3 to 75.2 percent (see Table 2), we conducted a nonresponse bias analysis at the conclusion of data collection, using all 8,017 sample cases, to determine if there were systematic differences between respondents and nonrespondents that could result in nonresponse bias. This analysis was not conducted in previous rounds of the NBS, since the response rates were close to or exceeded 80 percent. Therefore, the assumption was that the effect of nonresponse bias on final estimates was minimal.

Table 2. Sample Sizes and Response Rates*

	Sample (Unweighted Counts)					Response Rate (Percent)*	
			Nonrespondents				
	Total Sample	Respondents	Located	Unlocated	Ineligibles	Unweighted	Weighted
Beneficiaries	3,683	2,298	825	338	222	68.4	72.8
Age 18–29	1,029	634	216	108	71	68.5	70.2
Age 30–39	1,032	625	233	120	54	65.8	67.3
Age 40–49	1,019	643	242	78	56	68.6	70.5
Age 50–65	603	396	134	32	41	72.5	75.2
Participants	4,334	2,780	785	238	77	71.8	71.4
Traditional	1,083	750	244	74	15	70.6	71.5
SVRA EN	1,094	678	216	49	15	72.3	69.5
Non-SVRA EN	2,157	1,352	425	115	47	72.2	71.5

*Response rates are calculated by taking the number of respondents and ineligibles as the numerator and dividing by the total number of sample members. Because the eligibility of very few nonrespondents is known, the response rate calculation is close to a more commonly used response rate calculation: numerator = number of respondents and denominator = number of respondents + number of eligible nonrespondents + eligibility rate * number of nonrespondents with unknown eligibility. In subpopulations where a dual sample design was used, we did not include some sample cases in the denominator. Details are beyond the scope of this report but may be found in the User's Guide (Wright et al. 2012).

6. Data Documentation Reports

The following publically available reports are available from SSA on their website (http://www.socialsecurity.gov/disabilityresearch/publicusefiles.html):

- **User's Guide for Restricted- and Public-Use Data Files** (Wright et al. 2012). This report provides users with information about the restricted- and public-use data files, including construction of the files; weight specification and variance estimation; masking procedures employed in the creation of the Public-Use File; and a detailed overview of the questionnaire design, sampling, and NBS data collection. The report provides information covered in the two reports mentioned above, including procedures for data

editing, coding of open-ended responses, and variable construction, and a description of the imputation and weighting procedures and development of standard errors for the survey. In addition, this report contains an appendix addressing Total Survey Error (TSE) and the NBS.

- **NBS Public-Use File Codebook** (Rall et al. 2012). This codebook provides extensive documentation for each variable in the file, including variable name, label, position, variable type and format, question universe, question text, number of cases eligible to receive each item, constructed variable specifications, and user notes for variables on the public-use file. The codebook also includes frequency distributions and means as appropriate.
- **NBS Questionnaire** (Wright et al. 2012). This document contains all items on the Round 4 NBS and includes documentation of skip patterns, question universe specifications, text fills, interviewer directives, and consistency and range checks.
- **Editing, Coding, Imputation, and Weighting Report** (Grau et al. 2012). This report summarizes the editing, coding, imputation, and weighting procedures as well as the development of standard errors for Round 4 of the NBS. It includes an overview of the variable naming, coding, and construction conventions used in the data files and accompanying codebooks; describes how the sampling weights were computed to the final post-stratified analysis weights for both the Representative Beneficiary Sample and Ticket Participant Sample (and describes the procedures for combining the samples); outlines the procedures used to impute missing responses; and discusses procedures that should be used to estimate sampling variances for the NBS.
- **Cleaning and Identification of Data Problems Report** (Barrett et al. 2012). This report describes the data processing procedures performed for Round 4 of the NBS. It outlines the data coding and cleaning procedures and describes data problems, their origins, and the corrections implemented to create the final data file. The report describes data issues by sections of the interview and concludes with a summary of types of problems encountered and general recommendations.
- **NBS Nonresponse Bias Analysis** (current report). The purpose of this report is to determine if the nonresponse adjustments applied to the sampling weights of the Round 4 NBS appropriately account for differences between respondents and nonrespondents, or if the potential for nonresponse bias still exists.

The following restricted use reports are available from SSA through a formal agreement:

- **NBS Restricted-Access Codebook** (Rall et al. 2012). This codebook provide extensive documentation for each variable in the file, including variable name, label, position, variable type and format, question universe, question text, number of cases eligible to receive each item, constructed variable specifications, and user notes for variables on the restricted-access file. The codebook also includes frequency distributions and means as appropriate.

In this report we first provide the unweighted and weighted response rates for the beneficiary and participant samples and their substrata. We compare respondents and nonrespondents on information available from the sampling frame, and compare the weighted estimates from sample respondents, using the initial unadjusted weights and weights adjusted for nonresponse. The comparison between sample values with adjusted and unadjusted weights allows us to (1) see the

potential for bias after removing nonrespondents and making no nonresponse adjustments to the weights and (2) assess the nonresponse adjustment procedures' effect on the potential for bias.

B. Response Rates

As indicated in Section A.2, the beneficiary population includes all SSI and/or SSDI beneficiaries aged 18 to 65 in active pay status as of June 30, 2009, and the participant population includes the subset of beneficiaries who used the Ticket at least once on January 1, 2009 or between January 1, 2009 and October 2, 2009. In Table 2, we present the total number of sampled beneficiaries and participants and the number of respondents, nonrespondents, and cases ineligible due to death, incarceration, or other reasons, all by stratum. In addition, we present the unweighted response rate and weighted[5] response rates. Among beneficiaries, weighted response rates ranged from a low of 67.3 percent for 30 to 39 year olds to a high of 75.2 percent for 50 to 65 year olds. Among Ticket participants, response rates ranged from a low of 69.5 percent for SVRA EN participants to a high of 71.5 percent for both traditional participants and participants who received payments through non–SVRA ENs.

C. Methodology

The nonresponse bias analysis used data on individual members of the sampling frame and sample. The total number of beneficiaries in the target population (excluding U.S. territories) is 12,117,128, with some missing data on items of interest. The total number of Ticket participants (excluding U.S. territories) is 85,038.[6] The variables that we used (all categorical) follow:

1. Age category (4 levels: 18–29, 30–39, 40–49, 50–65).
2. Gender (2 levels: male, female).
3. Beneficiary type (3 levels: SSI only, SSDI only, both SSI and SSDI).
4. Race/ethnicity (6 levels: non–Hispanic white, non–Hispanic black, non–Hispanic Asian, non–Hispanic American Indian, non–Hispanic other, Hispanic).
5. Constructed disability status (3 levels: hearing disability, mental disability, physical disability, excluding hearing disabled).
6. Racial/ethnic profile of beneficiary's county (6 levels: county with at least 20 percent American Indian population; county with plurality or majority non–Hispanic black population; county with plurality or majority Hispanic population; county with racially/ethnically mixed population, no majority group; county with majority but less than 90 percent non–Hispanic white population; county with at least 90 percent non–Hispanic white population).

[5] Weighted by the initial weight.

[6] This excludes beneficiaries and participants who resided in U.S. territories.

7. Economic characteristics of county (7 overlapping levels, each listed as binary variables: government-dependent economy county[7], service-dependent economy county[8], nonspecialized-dependent economy county[9], county with housing stress[10], county with low education[11], population-loss county[12], retirement-destination county[13]).
8. Metropolitan status of county (6 levels: metropolitan area of 1 million population or more, metropolitan area of 250,000 to 999,999 population, metropolitan area of fewer than 250,000 population, nonmetropolitan area adjacent to large metropolitan area, nonmetropolitan area adjacent to medium or small metropolitan area, nonmetropolitan area not adjacent to metropolitan area).
9. Geographic region of beneficiary's residence (4 levels for U.S. Census region: West, South, Northeast, and South; 9 levels for U.S. Census division: East North Central, West North Central, New England, Middle Atlantic, South Atlantic, East South Central, West South Central, Mountain, Pacific).
10. Payment type (for participants only, 3 levels: traditional, milestone-outcome, outcome-only).

After examining the level of missing data for the above variables (Table 3), we used the initial weights to compare the distributions of the variables across the frame, the sample, the eligible sample, the respondents, the nonrespondents, and the ineligible sample (Tables 4 through 8). We then used the final nonresponse-adjusted rates to compare the distributions across the frame, the sample, the eligible sample, and the respondents (Tables 9 through 13).

In each table, we used SUDAAN to calculate standard errors in order to accommodate the sample design. The sample statistics consisted of proportions with an attribute (presented as percentages). We conducted comparisons for all beneficiaries, all participants, and within the three payment-provider types for participants. Several variables were missing values in the sample frame. In particular, in the beneficiary frame, race/ethnicity and disability type were missing values. In the participant frame, beneficiary type, race/ethnicity, age, disability type, geographic variables, and all ARF-derived variables had missing values. In Table 3, we provide the number of missing values for each variable within the frame and each subset of the sample. In each case, the proportions with each attribute that are used in the following analyses are calculated among nonmissing cases.

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[7] 15 percent or more of average annual labor and proprietors' earnings derived from Federal and State government during 1998-2000.

[8] 45 percent or more of average annual labor and proprietors' earnings derived from services (SIC categories of retail trade; finance, insurance and real estate; and services) during 1998-2000.

[9] County did not meet the dependence threshold for service, government, farming, mining, or manufacturing.

[10] 30 percent or more of households had one or more of these housing conditions in 2000: lacked complete plumbing, lacked complete kitchen, paid 30 percent or more of income for owner costs or rent, or had more than 1 person per room.

[11] 25 percent or more of residents 25 through 64 years old had neither a high school diploma nor GED in 2000.

[12] Number of residents declined both between the 1980 and 1990 censuses and between the 1990 and 2000 censuses.

[13] Number of residents 60 and older grew by 15 percent or more between 1990 and 2000 due to immigration.

Table 3. Percentage of Missing Values for Variables of Interest

Variable	Weighted Percent Missing*				
	In Frame	In Entire Sample	Among Respondents	Among Nonrespondents	Among Ineligibles
Beneficiaries					
Race/ethnicity	7.1	7.4	7.2	7.6	8.1
Disability status	4.2	3.7	2.3	4.1	15.8
All Participants					
Age category	<0.1	0	0	0	0
Beneficiary type	2.0	0.2	0.1	<0.1	8.0
Race/ethnicity	11.3	11.2	11.2	11.4	8.7
Disability status	3.0	1.1	1.3	0.3	8.3
Geographic variables	0.1	0	0	0	0
ARF-derived variables	0.1	0	0	0	0
Traditional					
Age category	<0.1	0	0	0	0
Beneficiary type	2.1	0.1	0	0	7.4
Race/ethnicity	12.0	12.2	12.3	11.9	7.4
Disability status	3.2	1.2	1.4	0.3	7.4
Geographic variables	0.1	0	0	0	0
ARF-derived variables	0.1	0	0	0	0
SVRA					
Age category	<0.1	0	0	0	0
Beneficiary type	1.0	0.1	0	0.3	0
Race/ethnicity	10.6	9.8	10.0	9.6	8.2
Disability status	1.9	0.6	0.4	0.7	8.2
Geographic variables	<0.1	0	0	0	0
ARF-derived variables	<0.1	0	0	0	0
Non- SVRA					
Age category	0	0	0	0	0
Beneficiary type	1.7	0.5	0.3	0.1	11.5
Race/ethnicity	7.4	6.4	5.1	9.1	13.1
Disability status	2.6	0.9	0.8	0.5	11.5
Geographic variables	0.1	0	0	0	0
ARF-derived variables	0.1	0	0	0	0

* The weights in the table are the initial base weights.

As is apparent from Table 3, the level of missingness for race/ethnicity is high, ranging in the sample frame from 7.1 percent for beneficiaries to 12.0 percent for traditional participants. Any conclusions drawn from race/ethnicity therefore must be viewed with caution.

D. Results

In Tables 4 through 8, we compare sample statistics of the variables for the entire samples of beneficiaries, participants, and the three subpopulations of participants. The values are percents for each level of the categorical variables, with the associated standard errors in parentheses. The frame values do not have a standard error (se) because they represent the original population. Unknown categories are not included in the levels for these variables; proportions are calculated out of the

nonmissing cases.[14] In the tables, we applied initial weights to sample values for all columns except the frame percent, for which no weights were required (percentages calculated out of the entire population).

We compare two types of variables. We place greater emphasis on the variables that are likely to be correlated with important outcome variables: beneficiary type, disability type, and demographic variables. Other variables are less likely to be highly correlated with outcome variables and thus receive less emphasis: geographic and economic characteristics associated with the beneficiary's or participant's ZIP code, and phase, a variable indicating when the Ticket program was rolled out for the state in which the beneficiary or participant resided. Phase is only included in this analysis because it was used a stratification variable in the initial selection of Primary Sampling Units.

If we added and subtracted two standard errors from each point estimate among the sample values, we would in effect create 95 percent confidence intervals. We do not account for the several tests that increase the Type I error (the probability that the confidence interval does not include the true value or the probability of rejecting the null hypothesis when it is true).

1. Comparison of Entire Sample with Frame

Before conducting a nonresponse analysis, we must determine if the sample distribution adequately matches the frame distribution on important variables. This is necessary to ascertain whether the sampling and weighting procedures produce a sample that adequately represents the population. As the data from Tables 4 through 8 indicate, the statistics estimated from the entire sample (using the initial sampling weight) among all beneficiaries and participants and among participant subpopulations are generally close to those computed with the full frame, although a few estimates—at least among non–geography-based variables—deviate from the frame value by more than two standard deviations. (Those varying by more than two standard deviations are denoted by *.) Given that within PSUs the samples were selected within explicit and implicit strata defined by age category, disability status, gender, and race/ethnicity, it is not surprising that these variables do not differ markedly from the frame. Among non–geography-based variables, the frame percentages and weighted sample percentages in the beneficiary sample exhibited no other significant differences. However, we observed differences in the participant sample for beneficiary type; the weighted sample percentage of SSDI-only participants was significantly higher than that in the frame, and the weighted sample percentage of concurrent participants was significantly lower. The weighted sample proportion of Asians in the participant sample was also significantly less than that in the frame.

[14] Values are assumed to be Missing Completely at Random (MCAR). While MCAR is normally a strong assumption, the level of missingness is so small for all but race/ethnicity that deviations from this assumption will not significantly change conclusions.

Table 4. Percents with Various Attributes (categorical variables) Using Initial Weights, Beneficiaries

Variable	Frame Percent	Entire Sample Percent (se)	Eligible Sample Percent (se)	Respondent Percent (se)	Nonrespondent Percent (se)	Ineligible Percent (se)
Beneficiary Type						
SSI only	31.5	32.6 (1.1)	30.6 (1.1)	29.1 (1.4)	34.1 (2.0)	63.9 (5.1)*
SSDI only	51.9	49.9 (1.3)	51.3 (1.3)	52.8 (1.6)	47.7 (2.3)	27.1 (4.9)*
Both SSI and SSDI	16.6	17.5 (0.9)	18.1 (0.9)	18.1 (1.2)	18.2 (1.6)	9.0 (2.8)
Constructed Disability Status						
Hearing	0.9	0.9 (0.2)	0.9 (0.2)	0.9 (0.3)	0.8 (0.2)	0.2 (0.2)
Mental	42.7	42.8 (1.2)	43.0 (1.3)	41.6 (1.5)	46.6 (2.2)	39.6 (5.2)
Physical	56.4	56.3 (1.2)	56.1 (1.3)	57.5 (1.6)	52.7 (2.3)	60.2 (5.2)
Sex						
Male	50.5	50.8 (1.3)	50.6 (1.3)	49.5 (1.6)	53.3 (2.2)	54.1 (5.2)
Beneficiary's Age						
18–29 years	10.7	10.7 (0.4)	10.6 (0.4)	10.2 (0.5)	11.7 (0.8)	11.6 (1.7)
30–39 years	10.8	10.8 (0.4)	11.0 (0.4)	10.1 (0.5)	13.1 (0.8)*	8.9 (1.4)
40–49 years	20.8	20.8 (0.7)	21.0 (0.8)	20.4 (0.9)	22.6 (1.4)	17.7 (2.7)
50–64 years	57.6	57.6 (1.1)	57.4 (1.2)	59.3 (1.4)	52.6 (2.2)*	61.8 (4.2)
Race/Ethnicity						
White	67.4	65.8 (1.2)	65.9 (1.3)	66.0 (1.6)	65.8 (2.1)	64.2 (5.1)
Black	22.7	23.0 (1.1)	22.8 (1.1)	24.1 (1.4)	19.7 (1.7)	25.3 (4.5)
Asian	1.2	1.1 (0.2)	1.2 (0.2)	0.5 (0.1)*	2.9 (0.8)*	0.5 (0.3)*
Other	3.5	3.8 (0.5)	3.8 (0.5)	4.3 (0.7)	2.6 (0.6)	3.8 (2.0)
Indian	0.5	0.7 (0.2)	0.8 (0.2)	0.8 (0.3)	0.7 (0.5)	0.3 (0.3)
Hispanic	4.7	5.5 (0.5)	5.4 (0.5)	4.3 (0.6)	8.2 (1.2)*	5.9 (2.7)
Phase						
Phase 1	28.7	28.4 (1)	28.1 (1.2)	27.1 (1.4)	30.7 (2.1)	33.1 (4.9)
Phase 2	30.9	31.6 (1.2)	31.7 (1.2)	32.2 (1.5)	30.3 (2.1)	30.6 (4.8)
Phase 3	40.3	40.0 (1.2)	40.2 (1.3)	40.7 (1.6)	39.0 (2.2)	36.3 (4.9)
County Racial/Ethnic Profile						
County with at least 20% American Indian population	0.5	1.9 (0.4)*	1.9 (0.4)*	2.1 (0.5)*	1.6 (0.7)	1.8 (1.6)
County with plurality or majority non-Hispanic black population	4.0	4.0 (0.5)	3.9 (0.5)	4.8 (0.7)	1.6 (0.4)*	5.5 (2.1)
County with plurality or majority Hispanic population	7.9	10.4 (0.8)*	10.5 (0.8)*	10.0 (1.0)*	11.6 (1.4)*	9.5 (2.9)
County with majority but less than 90% non-Hispanic white population	37.9	38.5 (1.2)	38.3 (1.3)	38.3 (1.6)	38.5 (2.2)	41.3 (5.1)
County with racially/ethnically mixed population, no majority group	32.2	28.3 (1.1)*	28.7 (1.2)*	27.6 (1.4)*	31.3 (2.0)	22.0 (4.1)*
County with at least 90% non-Hispanic white population	17.5	16.9 (1.0)	16.7 (1.0)	17.3 (1.2)	15.3 (1.7)	19.8 (4.1)

Table 4 *(continued)*

Variable	Frame Percent	Entire Sample Percent (se)	Eligible Sample Percent (se)	Respondent Percent (se)	Nonrespondent Percent (se)	Ineligible Percent (se)
Economic Characteristics of County						
Government-dependent economy county	11.8	9.7 (0.7)*	9.5 (0.7)*	8.8 (0.8)*	11.0 (1.4)	14.2 (4.0)
Service-dependent economy county	37.9	40.6 (1.2)*	40.7 (1.3)*	38.3 (1.5)	46.6 (2.2)*	39.3 (4.9)
Nonspecialized-dependent economy	24.4	27.0 (1.1)*	26.9 (1.2)*	28.0 (1.5)*	24.4 (1.9)	29.0 (4.7)
County with housing stress	40.2	40.4 (1.2)	40.4 (1.3)	39.1 (1.6)	43.4 (2.2)	40.1 (5.0)
County with low education	16.1	15.4 (0.9)	15.5 (1.0)	15.6 (1.2)	15.2 (1.6)	14.9 (3.3)
Population-loss county	12.0	10.8 (0.8)	10.9 (0.8)	12.2 (1.1)	7.7 (1.1)*	9.8 (3.1)
Nonmetropolitan county	12.2	13.7 (0.9)	13.9 (0.9)	13.4 (1.1)	14.9 (1.7)	11.0 (3.1)
Metropolitan Status of County						
Metropolitan area of 1 million population or more	45.2	42.2 (1.3)*	42.2 (1.3)*	41.3 (1.6)*	44.4 (2.2)	42.5 (5.1)
Metropolitan area of 250,000 to 999,999 population	20.3	25.6 (1.1)*	25.6 (1.1)*	25.9 (1.4)*	25.1 (1.9)*	24.8 (4.6)
Metropolitan area of fewer than 250,000 population	11.2	10.7 (0.8)	10.8 (0.8)	10.2 (0.9)	12.4 (1.5)	8.5 (2.4)
Nonmetropolitan area adjacent to large metropolitan area	3.4	7.4 (0.7)*	7.1 (0.7)*	7.2 (0.8)*	7.0 (1.2)*	12.4 (3.6)*
Nonmetropolitan area adjacent to medium or small metropolitan area	11.7	8.5 (0.8)*	8.6 (0.8)*	10.1 (1.0)	5.0 (1.0)*	6.6 (2.8)
Nonmetropolitan area not adjacent to metropolitan area	8.1	5.5 (0.6)*	5.6 (0.6)*	5.3 (0.7)*	6.2 (1.2)	5.3 (2.2)
Census Region						
West	18.9	18.4 (1.0)	18.5 (1.0)	16.7 (1.2)	23.0 (1.9)*	16.4 (3.6)
South	40.9	42.6 (1.3)	42.6 (1.3)	44.4 (1.6)	38.0 (2.2)	43.2 (5.1)
Northeast	18.9	15.5 (0.9)*	15.5 (1.0)*	15.7 (1.2)*	15.2 (1.6)*	15.6 (3.8)
Midwest	21.3	23.5 (1.1)*	23.4 (1.1)*	23.2 (1.4)*	23.8 (1.9)	24.8 (4.4)
Census Division						
East North Central	15.2	17.0 (1.0)	17.2 (1.0)	17.9 (1.3)*	15.6 (1.6)	14.4 (3.7)
West North Central	6.1	6.4 (0.6)	6.2 (0.6)	5.4 (0.7)	8.2 (1.3)	10.4 (3.0)
New England	5.0	4.7 (0.5)	4.8 (0.6)	4.5 (0.7)	5.3 (1.1)	3.4 (1.5)
Middle Atlantic	13.9	10.8 (0.8)*	10.7 (0.8)*	11.1 (1.0)	9.8 (1.3)*	12.2 (3.6)
South Atlantic	19.6	23.3 (1.1)*	23.4 (1.1)*	23.4 (1.4)	23.3 (1.9)*	21.2 (4.1)
East South Central	9.6	8.4 (0.7)	8.2 (0.7)	8.9 (0.9)	6.4 (1.1)*	12.0 (3.5)
West South Central	11.7	10.9 (0.8)	11.0 (0.8)	12.1 (1.0)	8.2 (1.3)*	10.0 (3.3)
Mountain	5.4	5.0 (0.6)	5.3 (0.6)	5.0 (0.7)	5.8 (1.1)	1.7 (0.7)*
Pacific	13.5	13.4 (0.8)	13.3 (0.8)	11.7 (1.0)	17.2 (1.6)*	14.7 (3.5)

* Denotes a difference between the sample and frame value of more than two standard deviations.

Table 5. Percents with Various Attributes (categorical variables) Using Initial Weights, Participants

Variable	Frame Percent	Entire Sample Percent (se)	Eligible Sample Percent (se)	Respondent Percent (se)	Nonrespondent Percent (se)	Ineligible Percent (se)
Beneficiary Type						
SSI only	32.2	31.4 (1.8)	31.4 (1.8)	30.5 (2.1)	33.8 (2.6)	26.7 (8.9)
SSDI only	42.0	45.5 (1.7)*	45.2 (1.7)*	45.8 (1.9)*	43.8 (2.5)	64.8 (9.3)*
Both SSI and SSDI	25.8	23.2 (0.9)*	23.4 (0.9)*	23.7 (1.0)*	22.4 (1.8)	8.6 (5.0)*
Constructed Disability Status						
Hearing	3.6	3.6 (0.5)	3.5 (0.5)	2.5 (0.5)*	5.7 (1.0)*	12.8 (8.2)
Mental	56.5	57.4 (1.2)	57.7 (1.2)	57.9 (1.4)	57.2 (2.2)	32.0 (9.7)*
Physical	39.9	39.1 (1.3)	38.8 (1.3)	39.5 (1.5)	37.1 (2.0)	55.2 (10.7)
Sex						
Male	53.6	54.2 (1.0)	54.2 (1.0)	54.6 (1.1)	53.2 (2.4)	57.8 (10.4)
Beneficiary's Age						
18–29 years	31.6	30.8 (1.7)	31.1 (1.7)	31.3 (2.0)	30.6 (2.4)	8.4 (5.3)*
30–39 years	17.6	16.6 (1.0)	16.5 (1.0)	15.1 (1.1)*	19.9 (1.9)	22.6 (8.5)
40–49 years	24.2	25.2 (1.1)	24.9 (1.2)	25.6 (1.5)	23.2 (2.4)	46.9 (10.2)*
50–64 years	26.6	27.4 (1.3)	27.5 (1.3)	28.0 (1.6)	26.3 (2.2)	22.1 (7.2)
Race/Ethnicity						
White	62.2	64.6 (2.6)	64.7 (2.6)	63.5 (2.8)	67.5 (3.3)	59.7 (9.9)
Black	26.9	24.0 (2.2)	24.0 (2.1)	25.9 (2.4)	19.2 (2.6)*	23.5 (8.5)
Asian	1.3	0.6 (0.2)*	0.7 (0.2)*	0.6 (0.3)*	0.9 (0.5)	0.0 (0.0)
Other	3.4	4.0 (0.7)	4.1 (0.7)	4.0 (0.6)	4.3 (1.3)	0.7 (0.7)*
Indian	0.5	0.4 (0.3)	0.4 (0.3)	0.2 (0.1)	0.9 (0.6)	0.0 (0.0)
Hispanic	5.7	6.3 (1.5)	6.1 (1.5)	5.7 (1.5)	7.1 (1.8)	16.1 (7.9)
Phase						
Phase 1	33.2	30.7 (2.4)	30.8 (2.5)	30.1 (2.6)	32.5 (3.2)	26.5 (8.0)
Phase 2	27.3	28.4 (2.7)	28.5 (2.7)	28.2 (3.0)	29.1 (3.0)	21.5 (7.7)
Phase 3	39.5	40.9 (3.1)	40.7 (3.1)	41.7 (3.2)	38.4 (3.6)	51.9 (9.3)
County Racial/Ethnic Profile						
County with at least 20% American Indian population	0.2	0.2 (0.2)	0.2 (0.2)	0.2 (0.2)	0.3 (0.3)	0.0 (0.0)
County with plurality or majority non-Hispanic black population	2.7	1.9 (0.9)	1.9 (0.9)	1.7 (0.8)	2.4 (1.2)	0.3 (0.3)*
County with plurality or majority Hispanic population	8.6	11.1 (3.7)	10.9 (3.6)	10.2 (3.4)	12.5 (4.2)	24.5 (10.0)
County with majority but less than 90% non-Hispanic white population	41.9	44.1 (5.9)	44.3 (5.9)	44.3 (6.0)	44.3 (6.1)	29.9 (9.5)
County with racially/ethnically mixed population, no majority group	32.0	28.4 (5.0)	28.3 (5.0)	28.6 (5.2)	27.7 (5.2)	32.2 (9.2)
County with at least 90% non–Hispanic white population	14.6	14.3 (3.8)	14.4 (3.8)	15.0 (4.0)	12.8 (3.5)	13.2 (7.2)

Table 5 *(continued)*

Variable	Frame Percent	Entire Sample Percent (se)	Eligible Sample Percent (se)	Respondent Percent (se)	Nonrespondent Percent (se)	Ineligible Percent (se)
Economic Characteristics of County						
Government-dependent economy county	13.3	11.1 (3.5)	11.1 (3.5)	11.7 (3.8)	9.7 (3.5)	7.5 (5.3)
Service-dependent economy county	40.9	45.4 (5.7)	45.4 (5.8)	45.0 (5.9)	46.5 (5.8)	44.4 (10.3)
Nonspecialized-dependent economy	23.8	25.9 (5.0)	25.9 (5.0)	25.0 (4.9)	27.9 (5.6)	26.8 (9.8)
County with housing stress	42.7	45.2 (5.5)	45.2 (5.6)	44.8 (5.7)	45.9 (5.8)	48.4 (10.3)
County with low education	11.4	12.4 (3.6)	12.2 (3.6)	11.0 (3.3)	15.2 (4.5)	25.2 (9.8)
Population-loss county	9.9	9.5 (3.2)	9.6 (3.2)	8.9 (3.0)	11.4 (4.0)	2.9 (1.2)*
Nonmetropolitan county	11.0	13.8 (4.0)	13.9 (4.0)	13.4 (3.9)	15.0 (4.4)	11.7 (7.6)
Metropolitan						
Metropolitan area of 1 million population or more	48.8	43.0 (5.6)	43.1 (5.6)	42.6 (5.7)	44.3 (5.9)	38.8 (9.8)
Metropolitan area of 250,000 to 999,999 population	22.4	26.8 (5.0)	26.8 (5.0)	26.1 (5.0)	28.7 (5.5)	26.7 (9.5)
Metropolitan area of fewer than 250,000 population	12.1	16.7 (5.1)	16.6 (5.1)	17.2 (5.2)	15.2 (5.2)	25.4 (10.2)
Nonmetropolitan area adjacent to large metropolitan area	2.2	4.7 (2.0)	4.7 (2.0)	5.1 (2.2)	3.6 (1.8)	6.4 (4.7)
Nonmetropolitan area adjacent to medium or small metropolitan area	8.3	3.7 (1.1)*	3.7 (1.1)*	4.1 (1.3)*	2.8 (0.9)*	1.4 (1.2)*
Nonmetropolitan area not adjacent to metropolitan area	6.2	5.1 (2.6)	5.1 (2.6)	5.0 (2.7)	5.5 (2.6)	1.2 (0.7)*
Census Region						
West	20.3	23.6 (5.2)	23.7 (5.2)	23.2 (5.2)	24.8 (5.7)	19.8 (8.1)
South	33.5	35.7 (5.5)	35.6 (5.5)	35.6 (5.7)	35.6 (5.8)	40.7 (10.4)
Northeast	22.6	16.3 (4.0)	16.4 (4.1)	16.2 (4.2)	16.9 (4.4)	7.9 (4.1)*
Midwest	23.5	24.4 (4.7)	24.3 (4.7)	25.0 (4.9)	22.7 (4.6)	31.6 (9.3)
Census Division						
East North Central	15.2	16.9 (4.2)	16.9 (4.2)	17.5 (4.4)	15.2 (4.0)	20.5 (8.5)
West North Central	8.3	7.5 (2.8)	7.5 (2.8)	7.5 (2.9)	7.4 (2.8)	11.1 (6.3)
New England	8.0	6.4 (2.9)	6.5 (3.0)	7.2 (3.3)	4.9 (2.2)	1.4 (0.9)*
Middle Atlantic	14.7	9.8 (3.3)	9.9 (3.3)	9.0 (3.1)	12.0 (4.1)	6.5 (3.9)*
South Atlantic	16.1	20.0 (4.3)	20.0 (4.3)	19.6 (4.3)	20.8 (4.8)	21.8 (8.9)
East South Central	4.9	4.9 (1.8)	5.0 (1.8)	4.5 (1.7)	6.0 (2.4)	3.4 (1.9)
West South Central	12.5	10.7 (3.8)	10.6 (3.8)	11.4 (4.1)	8.8 (3.3)	15.5 (8.5)
Mountain	5.8	6.6 (3.2)	6.6 (3.3)	6.7 (3.3)	6.5 (3.3)	1.7 (1.0)*
Pacific	14.5	17.0 (4.6)	17.0 (4.6)	16.5 (4.5)	18.3 (5.1)	18.1 (8.1)
Payment Type						
Milestone/outcome	18.6	18.6 (1.5)	18.5 (1.5)	18.4 (1.5)	18.8 (2.0)	25.0 (5.6)
Outcome-only	0.8	0.8 (0.1)	0.8 (0.1)	0.7 (0.1)	0.9 (0.2)	0.9 (0.7)
Traditional	80.7	80.7 (1.6)	80.8 (1.6)	80.9 (1.6)	80.4 (2.0)	74.1 (5.7)

* Denotes a difference between the sample and frame value of more than two standard deviations.

Table 6. Percents with Various Attributes (categorical variables) Using Initial Weights, Traditional Participants

Variable	Frame Percent	Entire Sample Percent (se)	Eligible Sample Percent (se)	Respondent Percent (se)	Nonrespondent Percent (se)	Ineligible Percent (se)
Beneficiary Type						
SSI only	34.3	33.5 (2.1)	33.6 (2.1)	32.7 (2.6)	35.7 (3.2)	29.0 (11.9)
SSDI only	39.6	43.2 (2.0)	43.0 (2.0)	43.1 (2.2)	42.5 (3.0)	64.4 (12.4)*
Both SSI and SSDI	26.2	23.2 (1.1)*	23.4 (1.1)*	24.1 (1.2)	21.8 (2.2)	6.6 (6.5)*
Constructed Disability Status						
Hearing	4.1	4.1 (0.6)	4.0 (0.6)	3.0 (0.6)	6.4 (1.2)	16.7 (10.8)
Mental	57.2	58.3 (1.4)	58.7 (1.4)	59.3 (1.6)	57.1 (2.5)	29.1 (12.7)*
Physical	38.7	37.5 (1.5)	37.3 (1.5)	37.7 (1.7)	36.5 (2.4)	54.2 (14.1)
Sex						
Male	54.2	55.0 (1.2)	55.0 (1.2)	55.5 (1.3)	53.8 (2.9)	54.3 (13.6)
Beneficiary's Age						
18–29 years	34.3	33.5 (2.0)	33.8 (2.0)	34.3 (2.4)	32.8 (2.9)	7.4 (7.1)*
30–39 years	17.5	15.8 (1.2)	15.7 (1.2)	14.3 (1.4)*	19.2 (2.4)	25.6 (11.4)
40–49 years	23.6	25.2 (1.3)	24.9 (1.4)	25.7 (1.8)	22.7 (2.9)	53.5 (13.4)*
50–64 years	24.6	25.5 (1.5)	25.6 (1.5)	25.7 (1.9)	25.3 (2.6)	13.6 (9.0)
Race/Ethnicity						
White	63.6	67.0 (3.0)	67.1 (2.9)	65.6 (3.2)	70.8 (3.8)	59.3 (12.7)
Black	25.1	21.1 (2.4)	21.1 (2.4)	23.7 (2.7)	14.7 (2.8)*	20.1 (10.8)
Asian	1.4	0.6 (0.3)*	0.7 (0.3)*	0.6 (0.3)*	0.9 (0.6)	0.0 (0.0)
Other	3.2	4.0 (0.8)	4.0 (0.8)	3.8 (0.8)	4.5 (1.6)	0.0 (0.0)
Indian	0.5	0.4 (0.3)	0.4 (0.3)	0.1 (0.1)*	1.1 (0.8)	0.0 (0.0)
Hispanic	6.2	6.9 (1.8)	6.7 (1.8)	6.1 (1.8)	8.1 (2.3)	20.6 (10.4)
Phase						
Phase 1	33.7	30.2 (3.1)	30.3 (3.1)	29.4 (3.4)	32.4 (4.0)	26.1 (10.7)
Phase 2	27.8	29.3 (3.5)	29.4 (3.5)	28.9 (3.8)	30.7 (4.0)	21.3 (10.4)
Phase 3	38.5	40.5 (3.9)	40.3 (3.9)	41.7 (4.1)	36.9 (4.8)	52.6 (12.5)
County Racial/Ethnic Profile						
County with at least 20% American Indian population	0.3	0.2 (0.2)	0.2 (0.2)	0.2 (0.2)	0.3 (0.3)	0.0 (0.0)
County with plurality or majority non-Hispanic black population	2.1	1.2 (0.8)	1.2 (0.8)	1.0 (0.6)	1.7 (1.1)	0.0 (0.0)
County with plurality or majority Hispanic population	8.5	11.4 (4.2)	11.2 (4.1)	10.4 (3.9)	13.1 (4.9)	30.8 (13.0)
County with majority but less than 90% non-Hispanic white population	43.6	46.2 (6.8)	46.5 (6.8)	46.2 (7.0)	47.0 (7.1)	28.8 (12.3)
County with racially/ethnically mixed population, no majority group	31.1	26.7 (5.6)	26.7 (5.6)	27.3 (5.9)	25.3 (5.7)	26.1 (11.7)
County with at least 90% non-Hispanic white population	14.4	14.3 (4.5)	14.3 (4.5)	15.0 (4.7)	12.5 (4.2)	14.3 (9.4)

Table 6 *(continued)*

Variable	Frame Percent	Entire Sample Percent (se)	Eligible Sample Percent (se)	Respondent Percent (se)	Nonrespondent Percent (se)	Ineligible Percent (se)
Economic Characteristics of County						
Government-dependent economy county	13.2	11.4 (4.2)	11.4 (4.2)	11.9 (4.6)	10.2 (4.2)	7.4 (7.1)
Service-dependent economy county	39.6	44.8 (6.7)	44.9 (6.7)	44.8 (6.9)	45.0 (6.9)	40.0 (13.2)
Nonspecialized-dependent economy	24.4	26.7 (5.9)	26.6 (5.9)	25.2 (5.8)	29.9 (6.7)	31.1 (13.0)
County with housing stress	42.5	45.7 (6.4)	45.6 (6.4)	45.4 (6.6)	46.1 (6.7)	49.7 (13.5)
County with low education	11.3	12.0 (4.1)	11.7 (4.0)	10.4 (3.7)	15.0 (5.2)	29.2 (12.7)
Population-loss county	9.6	9.0 (3.7)	9.2 (3.8)	8.2 (3.5)	11.5 (4.7)	0.0 (0.0)
Nonmetropolitan county	10.7	14.3 (4.7)	14.3 (4.7)	13.7 (4.6)	15.9 (5.1)	10.8 (10.1)
Metropolitan Status of County						
Metropolitan area of 1 million population or more	47.4	40.8 (6.4)	40.9 (6.4)	40.5 (6.6)	41.9 (6.8)	32.3 (12.5)
Metropolitan area of 250,000 to 999,999 population	22.9	27.4 (5.8)	27.3 (5.8)	26.6 (5.8)	29.1 (6.4)	29.0 (12.3)
Metropolitan area of fewer than 250,000 population	12.6	18.4 (6.0)	18.2 (6.0)	18.8 (6.1)	16.8 (6.3)	32.3 (13.3)
Nonmetropolitan area adjacent to large metropolitan area	2.3	5.3 (2.4)	5.2 (2.4)	5.8 (2.5)	4.0 (2.2)	6.4 (6.2)
Nonmetropolitan area adjacent to medium or small metropolitan area	8.5	3.0 (1.2)*	3.0 (1.2)*	3.4 (1.4)*	2.2 (0.9)*	0.0 (0.0)*
Nonmetropolitan area not adjacent to metropolitan area	6.2	5.2 (3.1)	5.2 (3.2)	4.9 (3.2)	6.0 (3.2)	0.0 (0.0)
Census Region						
West	21.0	25.1 (6.1)	25.2 (6.1)	24.7 (6.0)	26.2 (6.7)	20.2 (10.6)
South	32.7	35.0 (6.3)	34.9 (6.3)	34.9 (6.4)	34.8 (6.7)	39.5 (13.5)
Northeast	24.0	16.7 (4.7)	16.8 (4.7)	16.6 (4.9)	17.4 (5.1)	5.0 (5.0)
Midwest	22.3	23.3 (5.5)	23.1 (5.4)	23.8 (5.7)	21.5 (5.4)	35.3 (12.3)
Census Division						
East North Central	14.8	16.8 (4.9)	16.7 (4.9)	17.3 (5.2)	15.2 (4.7)	22.7 (11.3)
West North Central	7.5	6.5 (3.2)	6.4 (3.2)	6.4 (3.2)	6.4 (3.3)	12.6 (8.5)
New England	8.2	6.2 (3.4)	6.3 (3.5)	7.3 (3.9)	3.9 (2.5)	0.0 (0.0)
Middle Atlantic	15.8	10.4 (3.9)	10.5 (3.9)	9.3 (3.6)	13.5 (5.0)	5.0 (5.0)
South Atlantic	14.5	18.8 (4.7)	18.7 (4.7)	18.5 (4.9)	19.3 (5.2)	22.1 (11.4)
East South Central	4.9	5.0 (2.0)	5.0 (2.0)	4.5 (1.9)	6.4 (2.9)	0.0 (0.0)
West South Central	13.3	11.2 (4.3)	11.2 (4.3)	12.0 (4.6)	9.1 (3.9)	17.4 (11.3)
Mountain	5.8	6.8 (3.8)	6.9 (3.9)	6.9 (3.9)	6.7 (3.8)	0.0 (0.0)
Pacific	15.3	18.3 (5.4)	18.3 (5.4)	17.8 (5.3)	19.6 (6.1)	20.2 (10.6)
Payment Type						
Milestone/outcome	0.0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Outcome-only	0.0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Traditional	100.0	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)

* Denotes a difference between the sample and frame value of more than two standard deviations.

Table 7. Percents with Various Attributes (categorical variables) Using Initial Weights, Non- SVRA EN Participants

Variable	Frame Percent	Entire Sample Percent (se)	Eligible Sample Percent (se)	Respondent Percent (se)	Nonrespondent Percent (se)	Ineligibles Percent (se)
Beneficiary Type						
SSI only	22.8	21.5 (1.2)	21.5 (1.2)	20.0 (1.4)*	25.2 (1.9)	18.6 (6.0)
SSDI only	53.4	57.0 (1.6)*	56.8 (1.6)*	59.8 (1.7)*	49.5 (2.7)	68.1 (8.2)
Both SSI and SSDI	23.8	21.6 (1.1)*	21.7 (1.1)	20.3 (1.2)*	25.3 (2.1)	13.3 (5.2)*
Constructed Disability Status						
Hearing	0.9	0.8 (0.2)	0.8 (0.2)	0.4 (0.2) *	1.8 (0.5)	1.5 (1.5)
Mental	51.3	50.2 (1.5)	50.4 (1.5)	48.4 (1.6)	55.4 (2.9)	36.3 (7.8)
Physical	47.8	49.0 (1.5)	48.8 (1.5)	51.2 (1.6)*	42.8 (2.9)	62.1 (8.0)
Sex						
Male	50.5	51.2 (1.3)	50.9 (1.3)	50.6 (1.5)	51.7 (2.4)	65.3 (7.7)
Beneficiary's Age						
18–29 years	17.4	16.9 (1.0)	17.1 (1.0)	16.0 (1.2)	19.8 (2.0)	9.6 (3.7)*
30–39 years	18.5	19.8 (1.1)	19.9 (1.2)	19.1 (1.2)	21.8 (2.2)	13.8 (6.2)
40–49 years	27.4	25.6 (1.3)	25.5 (1.3)	25.3 (1.5)	26.2 (2.3)	30.3 (7.3)
50–64 years	36.6	37.7 (1.4)	37.5 (1.4)	39.7 (1.6)	32.2 (2.3)	46.3 (8.2)
Race						
White	51.5	50.3 (2.2)	50.2 (2.2)	50.5 (2.3)	49.4 (3.5)	57.5 (8.3)
Black	37.5	38.6 (2.3)	38.7 (2.3)	37.9 (2.4)	40.6 (3.5)	36.3 (7.9)
Asian	1.0	0.7 (0.2)	0.7 (0.2)	0.5 (0.2)*	1.3 (0.5)	0.0 (0.0)
Other	4.9	5.3 (0.6)	5.4 (0.6)	5.8 (0.7)	4.4 (1.0)	3.2 (3.0)
Indian	0.2	0.1 (0.1)	0.1 (0.1)	0.2 (0.1)	0.0 (0.0)	0.0 (0.0)
Hispanic	4.8	4.9 (0.8)	4.9 (0.8)	5.1 (0.9)	4.4 (1.2)	3.0 (2.9)
Phase						
Phase 1	32.9	35.0 (2.6)	35.0 (2.6)	34.5 (2.4)	36.3 (3.8)	31.4 (7.6)
Phase 2	25.3	24.6 (2.1)	24.7 (2.1)	26.0 (2.0)	21.7 (3.3)	20.4 (6.9)
Phase 3	41.8	40.4 (2.3)	40.2 (2.3)	39.5 (2.3)	42.0 (3.6)	48.2 (8.2)
County Racial/Ethnic Profile						
County with at least 20% American Indian population	0.1	0.3 (0.3)	0.3 (0.3)	0.4 (0.4)	0.0 (0.0)	0.0 (0.0)
County with plurality or majority non-Hispanic black population	5.4	5.8 (2.2)	5.9 (2.2)	5.7 (2.0)	6.5 (2.7)	1.4 (1.4)*
County with plurality or majority Hispanic population	11.1	12.3 (2.8)	12.4 (2.8)	12.2 (2.8)	12.9 (3.1)	7.6 (3.9)
County with majority but less than 90% non-Hispanic white population	33.6	34.6 (3.6)	34.7 (3.6)	35.1 (3.6)	33.7 (4.5)	30.1 (8.0)
County with racially/ethnically mixed population, no majority group	41.6	40.1 (3.8)	39.8 (3.8)	39.0 (3.7)	41.8 (4.8)	53.6 (8.7)
County with at least 90% non-Hispanic white population	8.1	6.9 (1.2)	6.9 (1.1)	7.6 (1.4)	5.1 (1.1)*	7.4 (5.2)

Table 7 *(continued)*

Variable	Frame Percent	Entire Sample Percent (se)	Eligible Sample Percent (se)	Respondent Percent (se)	Nonrespondent Percent (se)	Ineligibles Percent (se)
Economic Characteristics of County						
Government-dependent economy county	14.5	10.6 (1.5)*	10.7 (1.5)*	11.4 (1.7)	8.9 (1.9)*	6.5 (4.5)
Service-dependent economy county	52.0	54.9 (3.5)	54.8 (3.6)	52.0 (3.6)	61.4 (4.3)*	60.8 (8.8)
Nonspecialized-dependent economy	18.6	19.1 (2.6)	19.2 (2.6)	21.3 (2.8)	13.9 (2.7)	15.0 (6.4)
County with housing stress	53.3	52.4 (3.9)	52.4 (3.9)	51.6 (3.8)	54.6 (4.9)	50.9 (8.7)
County with low education	14.3	16.5 (3.2)	16.5 (3.2)	15.9 (3.1)	17.7 (3.7)	16.5 (6.4)
Population-loss county	9.9	10.5 (2.4)	10.5 (2.4)	10.7 (2.4)	10.2 (2.9)	6.5 (3.8)
Nonmetropolitan county	13.7	13.8 (2.4)	13.7 (2.4)	14.0 (2.4)	13.1 (2.9)	15.5 (5.9)
Metropolitan Status of County						
Metropolitan area of 1 million population or more	61.3	58.8 (3.8)	58.8 (3.8)	58.3 (3.8)	60.0 (4.7)	61.7 (8.6)
Metropolitan area of 250,000 to 999,999 population	21.6	24.4 (3.5)	24.5 (3.5)	23.6 (3.4)	26.7 (4.5)	19.3 (6.4)
Metropolitan area of fewer than 250,000 population	7.9	7.7 (1.6)	7.8 (1.6)	8.1 (1.8)	7.0 (1.8)	3.9 (3.8)
Nonmetropolitan area adjacent to large metropolitan area	1.4	2.3 (0.8)	2.2 (0.8)	2.4 (1.0)	1.7 (1.1)	7.5 (5.3)
Nonmetropolitan area adjacent to medium or small metropolitan area	4.7	4.2 (1.0)	4.2 (1.0)	4.6 (1.0)	3.2 (1.4)	5.1 (4.9)
Nonmetropolitan area not adjacent to metropolitan area	3.2	2.5 (0.6)	2.5 (0.6)	3.0 (0.8)	1.4 (0.6)*	2.6 (2.5)
Census Region						
West	22.5	22.3 (3.2)	22.3 (3.2)	21.4 (3.1)	24.6 (4.1)	22.0 (6.6)
South	42.4	44.7 (4.0)	44.6 (4.0)	44.7 (3.9)	44.6 (5.0)	48.9 (8.8)
Northeast	17.8	15.7 (2.8)	15.6 (2.8)	15.5 (2.6)	15.9 (3.6)	18.9 (6.7)
Midwest	17.3	17.2 (2.5)	17.4 (2.6)	18.4 (2.7)	14.9 (3.0)	10.1 (5.1)
Census Division						
East North Central	12.0	12.8 (2.3)	12.9 (2.3)	13.5 (2.4)	11.4 (2.9)	7.5 (4.5)
West North Central	5.2	4.5 (1.1)	4.5 (1.2)	4.9 (1.5)	3.5 (0.9)*	2.6 (2.5)
New England	5.1	6.1 (2.3)	6.1 (2.4)	5.3 (2.0)	8.0 (3.3)	6.5 (3.8)
Middle Atlantic	12.7	9.6 (1.7)	9.6 (1.6)	10.3 (1.7)	7.9 (1.8)*	12.5 (5.9)
South Atlantic	25.8	28.5 (3.9)	28.6 (3.9)	28.0 (3.8)	30.2 (4.8)	23.3 (7.4)
East South Central	5.7	6.1 (1.5)	5.9 (1.4)	6.1 (1.4)	5.5 (2.2)	13.9 (7.3)
West South Central	11.0	10.2 (2.2)	10.1 (2.2)	10.6 (2.4)	8.9 (2.1)	11.7 (5.1)
Mountain	7.6	7.2 (2.2)	7.2 (2.3)	7.0 (2.2)	7.7 (2.5)	7.7 (4.3)
Pacific	14.9	15.1 (2.5)	15.1 (2.5)	14.4 (2.4)	16.9 (3.4)	14.4 (5.4)
Payment Type						
Milestone/outcome	95.3	95.3 (0.7)	95.3 (0.7)	95.7 (0.7)	94.2 (1.5)	97.4 (2.5)
Outcome-only	4.7	4.7 (0.7)	4.7 (0.7)	4.3 (0.7)	5.8 (1.5)	2.6 (2.5)
Traditional	0.0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)

* Denotes a difference between the sample and frame value of more than two standard deviations.

Table 8. Percents with Various Attributes (categorical variables) Using Initial Weights, SVRA EN Participants

	Frame Percent	Entire Sample Percent (se)	Eligible Sample Percent (se)	Respondent Percent (se)	Nonrespondent Percent (se)	Ineligibles Percent (se)
Beneficiary Type						
SSI only	27.4	25.5 (1.8)	25.5 (1.8)	24.3 (1.9)	28.1 (4.8)	26.6 (11.9)
SSDI only	46.5	47.3 (2.1)	47.2 (2.1)	47.0 (2.4)	47.8 (3.6)	54.6 (13.5)
Both SSI and SSDI	26.0	27.2 (1.7)	27.3 (1.7)	28.7 (2.4)	24.1 (2.7)	18.8 (10.8)
Constructed Disability Status						
Hearing	3.8	3.0 (0.5)	3.1 (0.5)	1.8 (0.6)	5.8 (1.2)	0.0 (0.0)
Mental	61.3	64.2 (2.0)	64.2 (2.0)	64.6 (2.0)	63.2 (4.7)	64.2 (14.0)
Physical	34.9	32.8 (1.8)	32.8 (1.9)	33.6 (1.9)	31.0 (4.7)	35.8 (14.0)
Sex						
Male	52.0	51.0 (1.9)	50.6 (1.9)	51.9 (2.2)	47.7 (3.1)	81.6 (10.2)
Beneficiary's Age						
18–29 years	30.6	27.7 (2.1)	27.8 (2.1)	27.9 (2.3)	27.4 (3.9)	21.8 (10.8)
30–39 years	16.3	20.1 (2.0)	20.1 (2.1)	17.5 (1.8)	26.0 (5.0)	16.4 (10.6)
40–49 years	25.0	23.9 (1.6)	24.1 (1.6)	25.1 (1.6)	21.7 (3.7)	15.4 (10.0)
50–64 years	28.1	28.3 (1.7)	28.1 (1.7)	29.5 (2.3)	24.9 (2.4)	46.4 (13.6)
Race/Ethnicity						
White	74.4	73.2 (3.5)	73.1 (3.6)	74.0 (3.1)	71.1 (5.5)	78.1 (11.2)
Black	21.8	23.7 (3.5)	23.7 (3.5)	22.6 (2.9)	26.2 (5.7)	21.9 (11.2)
Asian	0.6	0.4 (0.2)	0.4 (0.2)	0.4 (0.3)	0.4 (0.4)	0.0 (0.0)
Other	1.1	0.5 (0.3)*	0.5 (0.3)*	0.1 (0.1)*	1.5 (1.0)	0.0 (0.0)
Indian	1.0	1.6 (0.8)	1.6 (0.8)	2.1 (1.1)	0.4 (0.4)	0.0 (0.0)
Hispanic	1.1	0.7 (0.3)	0.7 (0.3)	0.7 (0.4)	0.5 (0.4)	0.0 (0.0)
Phase						
Phase 1	25.7	25.3 (4.4)	25.5 (4.4)	27.0 (4.7)	22.3 (4.7)	8.2 (7.8)*
Phase 2	25.6	24.2 (4.6)	24.0 (4.7)	22.8 (3.3)	26.7 (8.6)	32.8 (13.1)
Phase 3	48.7	50.5 (6.0)	50.4 (6.1)	50.1 (5.4)	51.0 (8.9)	59.0 (13.7)
County Racial/Ethnic Profile						
County with at least 20% American Indian population	0.2	0.2 (0.1)	0.2 (0.2)	0.2 (0.2)	0.3 (0.3)	0.0 (0.0)
County with plurality or majority non-Hispanic black population	3.3	2.0 (0.5)*	2.0 (0.5)*	2.2 (0.6)*	1.7 (0.8)*	0.0 (0.0)*
County with plurality or majority Hispanic population	0.5	0.4 (0.2)	0.4 (0.2)	0.3 (0.2)	0.4 (0.4)	0.0 (0.0)
County with majority but less than 90% non-Hispanic white population	38.6	36.4 (5.5)	36.3 (5.6)	38.7 (5.5)	30.8 (6.4)	49.4 (13.9)
County with racially/ethnically mixed population, no majority group	16.5	19.6 (5.0)	19.5 (5.0)	17.8 (3.9)	23.3 (8.5)	25.9 (12.0)
County with at least 90% non-Hispanic white population	40.7	41.4 (6.6)	41.7 (6.6)	40.8 (5.9)	43.4 (9.3)	24.6 (12.2)

Table 8 *(continued)*

	Frame Percent	Entire Sample Percent (se)	Eligible Sample Percent (se)	Respondent Percent (se)	Nonrespondent Percent (se)	Ineligibles Percent (se)
Economic Characteristics of County						
Government-dependent economy county	10.0	7.1 (1.2)*	7.0 (1.2)*	8.3 (1.4)	4.1 (1.3)*	16.4 (10.6)
Service-dependent economy county	27.5	23.3 (3.9)	23.2 (4.0)	23.0 (3.8)	23.6 (5.2)	34.2 (13.1)
Nonspecialized-dependent economy	31.1	35.3 (6.6)	35.6 (6.7)	34.2 (5.8)	38.8 (9.3)	10.6 (8.2)
County with housing stress	10.0	12.0 (4.3)	12.1 (4.3)	10.1 (2.5)	16.4 (8.5)	8.2 (7.8)
County with low education	3.8	6.8 (4.3)	6.9 (4.4)	5.0 (2.3)	10.9 (8.8)	0.0 (0.0)
Population-loss county	16.4	15.8 (3.7)	15.5 (3.7)	16.1 (3.7)	14.3 (4.2)	36.5 (13.2)
Nonmetropolitan county	7.3	5.9 (1.0)	5.9 (1.0)	6.5 (1.1)	4.7 (1.3)*	8.2 (7.9)
Metropolitan Status of County						
Metropolitan area of 1 million population or more	31.8	30.1 (5.4)	30.0 (5.5)	27.8 (4.4)	35.0 (8.9)	34.2 (13.1)
Metropolitan area of 250,000 to 999,999 population	16.0	25.3 (7.5)	25.3 (7.6)	23.8 (6.5)	28.5 (10.3)	24.8 (11.7)
Metropolitan area of fewer than 250,000 population	17.8	16.8 (4.2)	16.8 (4.3)	18.3 (4.8)	13.5 (3.7)	16.4 (10.6)
Nonmetropolitan area adjacent to large metropolitan area	3.5	2.5 (0.7)	2.5 (0.7)	2.6 (0.8)	2.4 (1.0)	0.0 (0.0)
Nonmetropolitan area adjacent to medium or small metropolitan area	15.8	13.8 (2.0)	13.8 (2.0)	15.0 (2.2)	11.3 (2.6)	8.2 (7.9)
Nonmetropolitan area not adjacent to metropolitan area	15.0	11.7 (1.8)	11.6 (1.8)	12.6 (2.0)	9.4 (2.3)*	16.4 (10.6)
Census Region						
West	0.5	0.6 (0.3)	0.7 (0.3)	0.6 (0.3)	0.7 (0.5)	0.0 (0.0)
South	16.6	17.6 (4.6)	17.6 (4.7)	16.3 (3.2)	20.4 (8.9)	16.4 (10.5)
Northeast	14.8	11.6 (1.7)	11.7 (1.7)	11.5 (1.6)*	12.1 (2.8)	0.0 (0.0)
Midwest	68.1	70.2 (4.9)	70.0 (5.0)	71.5 (3.9)	66.9 (8.6)	83.6 (10.5)
Census Division						
East North Central	33.3	33.3 (5.4)	33.0 (5.4)	35.0 (5.2)	28.7 (6.6)	50.8 (13.8)
West North Central	34.8	37.0 (7.1)	37.0 (7.2)	36.5 (6.6)	38.1 (9.7)	32.8 (13.3)
New England	14.4	11.3 (1.6)	11.5 (1.7)	11.2 (1.6)*	12.1 (2.8)	0.0 (0.0)
Middle Atlantic	0.3	0.2 (0.2)	0.2 (0.2)	0.3 (0.2)	0.0 (0.0)	0.0 (0.0)
South Atlantic	11.9	14.3 (4.7)	14.4 (4.7)	12.7 (3.0)	18.2 (9.0)	8.2 (7.9)
East South Central	1.1	0.5 (0.2)	0.4 (0.2)*	0.5 (0.3)*	0.3 (0.3)*	8.2 (7.9)
West South Central	3.7	2.7 (0.9)	2.8 (0.9)	3.2 (1.2)	1.9 (0.8)*	0.0 (0.0)
Mountain	0.4	0.5 (0.2)	0.5 (0.2)	0.4 (0.3)	0.7 (0.5)	0.0 (0.0)
Pacific	0.1	0.1 (0.1)	0.1 (0.1)	0.2 (0.2)	0.0 (0.0)	0.0 (0.0)
Payment Type						
Milestone/outcome	98.5	98.6 (0.4)	98.7 (0.4)	98.3 (0.5)	99.7 (0.3)*	91.8 (7.8)
Outcome-only	1.5	1.4 (0.4)	1.3 (0.4)	1.7 (0.5)	0.3 (0.3)*	8.2 (7.8)
Traditional	0.0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)

* Denotes a difference between the sample and frame value of more than two standard deviations.

Despite a handful of differences between the participant sample and the frame (beneficiary type, proportion Asian, and one of the metropolitan status proportions), the participant frame seems on the whole to be well represented by the weighted participant sample. In addition, we observed no major differences between the participant subpopulations and the overall participant population. On the other hand, the weighted proportions in the higher-priority variables were all close to the frame in the beneficiary sample, but there were several significant differences in the lower-priority geography-based variables.

2. Comparison of Eligible Sample with Frame

If there are systematic differences between the sampled eligible and ineligible cases, this could point to a problem in the frame, where the sample frame covers a different population than the target population. For example, if the sample frame consists of a large number of individuals that were found to be deceased due to a particular disability, the target population (as measured by the eligible sample) could have a smaller proportion with that disability than the sample frame. Any systematic differences would make it meaningless to compare final estimates with frame values without accounting for the differences resulting from the removal of ineligible cases. In Tables 4 through 8, we have placed asterisks by the estimates from eligible sample cases (using initial weights) that differ from the frame by more than two standard deviations. (We assume that the eligibility of nonrespondents is unknown, even though the eligibility of some nonrespondents is known.) For these samples, it appears that the eligible sample does not differ markedly from the initial sample; the patterns of deviation from the frame that were observed in the initial sample are also observed with eligible cases.[15]

3. Comparison of Respondents to Nonrespondents and of Respondents to Population Before Nonresponse Adjustment

Given that observed differences between the original frame and the eligible population appear to be insignificant, we can make comparisons among respondents, nonrespondents, and the original frame, although some major differences may be observed between respondents and nonrespondents. In particular, from Table 4, for the nongeographic variables, beneficiary sample nonrespondents were more likely than respondents to be (1) younger, (2) Asian, or (3) Hispanic; that is, we observed significant differences from the frame for nonrespondents but not for respondents. Differences among the nongeographic variables were less pronounced for participants (Table 5), though participant nonrespondents were more likely than respondents to be hearing disabled and less likely than respondents to be black. In addition, participant respondents were less likely than nonrespondents to be 30 to 39 years old; the proportion that was 30 to 39 years old was significantly smaller than the frame for respondents while nonrespondents accounted for a larger proportion than the frame (though the result was not significant). Differences were pronounced among the geographic variables, especially in the beneficiary sample. For example, beneficiary sample nonrespondents tended to come from counties with different economic and population characteristics than those of respondents' counties. (Nonrespondents were less likely than the general beneficiary population and the overall sample to come from counties with population loss and nonspecialized-dependent economies; respondents were more likely than the general beneficiary population and the overall sample to come from service-dependent economies. Differences were

[15] In other words, the pattern of asterisks between the "Entire Sample Percent (se)" column and the "Eligible Sample Percent (se)" column are nearly identical.

also evident in the metropolitan status variable.) In addition, we observed regional differences. In the beneficiary sample, nonrespondents were more likely than the general beneficiary population and the overall sample to come from the West region and Pacific division and less likely to come from the South Central Census divisions (East South Central and West South Central). Respondents were more likely than the general beneficiary population and the overall sample to come from the East North Central division.

4. Nonresponse Adjustment

Nonresponse adjustments reduce the potential for bias that might result from differential nonresponse among levels of the variables used in the nonresponse adjustment. We calculated eight separate nonresponse adjustments. We fitted location and cooperation logistic propensity models for the beneficiary sample and for the three subpopulations of the participant sample (traditional, SVRA EN, and non–SVRA EN). The predicted value from the model was the probability that a sample member was either located or responded to the survey. We used a Chi-square Automatic Interaction Detector (CHAID) analysis in SPSS to find possible significant interactions.[16] If an interaction was included in a candidate model, then the main effects associated with that interaction were also always included. At a particular level of a given covariate or interaction, if all respondents either were located or unlocated (for the location models), complete or not complete (for the cooperation models), or the total number of sample members at that level was fewer than 20, we collapsed levels if collapsing was possible. If collapsing was not possible, we excluded the covariate or interaction from the pool.[17]

We used forward and backward stepwise selection procedures to reduce the pool of covariates, which included both main effects and the interactions from CHAID. Next, we carefully evaluated a series of models by comparing the following measures of predictive ability and goodness of fit: the Generalized Coefficient of Determination (also known as the Generalized R-squared statistic),[18] Akaike's Information Criterion (AIC),[19] percentage of concordant and discordant pairs,[20] and the

[16] CHAID normally is attributed to Kass (1980) and Biggs et al. (1991), and its application in SPSS is described in Magidson (1993). The CHAID procedure iteratively segments a data set into mutually exclusive subgroups that share similar characteristics based on their effect on nominal or ordinal dependent variables. It automatically checks all variables in the data set and creates a hierarchy that shows all statistically significant subgroups. The procedure generates a tree that identifies the set of variables and interactions among the variables that have an association with the ability to locate a sample member (and the propensity of a located sample member to respond or be ineligible). We first ran CHAID with all covariates and then re-ran it a few times with the top variable in the tree removed in order to ensure that all potentially important interactions were retained for further consideration.

[17] Deafness historically has been shown to be an important indicator of both locating a sample member and of whether the sample member completed the interview. For that reason, we permitted deafness to remain in the covariate pool even though the number of deaf cases was sometimes as low as 18.

[18] The Generalized Coefficient of Determination (Cox and Snell 1989) is a measure of the adequacy of the model, where higher numbers indicate a greater difference between the likelihood of the model in question and the likelihood of the null model. The Max rescaled R-Square scales this value to have a maximum of 1.

[19] Akaike's Information Criterion is defined as AIC = -2LogL + 2(k+s), where LogL is the log-likelihood of the binomial distribution using the parameters from the given model, k is the total number of response levels minus one, and s is the number of explanatory effects (Akaike 1974). AIC is a relative number and has no meaning on its own. For a given model, smaller values of AIC are preferable to larger values.

[20] A pair of observations is concordant if a responding subject has a higher predicted value than the nonresponding subject, discordant if not, and tied if both members of the pair are either respondents, nonrespondents, or have the same predicted values. The "predicted value" is the probability of location or response from the logistic propensity model. It is desirable to have as many concordant and as few discordant pairs as possible (Agresti 1990).

Hosmer-Lemeshow goodness-of-fit test.[21] The selection of the final model involved evaluating these measures in concert, choosing a parsimonious model that was among the best in all of these measures. Model fitting also involved a review of the statistical significance of the coefficients of the covariates in the model and avoidance of any unusually large adjustment factors. In addition, we manipulated the set of variables to avoid data warnings in SUDAAN.[22] Once we finalized the model, we calculated the location and cooperation adjustments as the inverse of the propensity scores. We then trimmed the nonresponse-adjusted weights (if necessary) to reduce the variance attributable to outlier weights.[23] In the beneficiary sample, we post-stratified the weights so that the weighted totals for beneficiary type, age category, and gender added up to frame totals. When applying the nonresponse-adjusted weights to counts of these variables, we observed that they did not match the frame exactly because the post-stratification included ineligible cases, which were removed from these counts. The counts should, however, be close. The three participant subpopulations were too small for the weights to be post-stratified to all three variables; the participant weights were post-stratified to frame totals for age category and gender within each of the three subpopulations.

5. Comparison of Respondents to Population After Nonresponse Adjustment

In this analysis, we have included some variables that were not included in the nonresponse adjustment process. For example, in the beneficiary sample, we did not include disability status and beneficiary type in the nonresponse adjustments and included only some levels of race/ethnicity and the geography-based variables. However, the adjustments included the number of addresses and phone numbers on SSA files for each beneficiary, and information about the relationship between the payee and the beneficiary. We carried out the participant sample nonresponse adjustments separately within the three subpopulations, with different variables included in the logistic propensity models for each subpopulation. We used a greater variety of variables in each participant nonresponse adjustment model than in the beneficiary sample; however, as with the beneficiary sample, we included only some levels of the key variables in the nonresponse adjustments.

As Tables 9 through Table 13 indicate, the nonresponse-adjusted weighted estimate for respondents is usually close to the initial-weighted estimates for the entire sample and the population. In most cases, any weighted estimates (using the nonresponse-adjusted weights) among completed cases that significantly differed from the frame are the same variables that differed from the frame with the entire sample (using the initial weights). The nonresponse adjustments alleviated some of the differences observed between respondents and nonrespondents, particularly most age

[21] The Hosmer-Lemeshow Goodness-of-Fit Test is a test for goodness of fit of logistic regression models. Unlike the Pearson and deviance goodness-of-fit tests, it may be used to test goodness of fit even when some covariates are continuous (Hosmer and Lemeshow 1989).

[22] SUDAAN data warnings usually included one or more of the following: (1) an indication of a response cell with zero count; (2) one or more parameters approaching infinity (which may not be readily observable with the parameter estimates themselves); and (3) degrees of freedom for overall contrast less than the maximum number of estimable parameters. We tried to avoid all such warnings, although avoiding the first two was of highest priority. The warnings almost always were caused by a response cell with a count that was too small, which required dropping covariates or collapsing categories in covariates.

[23] Trimming is a process whereby outlier weights are trimmed to be closer to the rest of the weights in distribution. The trimmed amount is reallocated to the rest of the weights in the sample. The decision about how much to trim is a subjective one, and is based on the balance between reducing the variance in the weights, and minimizing any increase in bias that might result from trimming.

and race differences and most differences involving the geography-based variables. Two exceptions in the beneficiary sample are noteworthy:

1. The nonresponse-adjusted weighted estimate of the beneficiary-type distribution differed significantly from the frame for SSI-only, even though the original weighted estimate using the entire sample did not differ from the frame. The reason is that the distribution of beneficiary types (Table 4) among ineligible cases differed dramatically from the original frame, with many more ineligible SSI-only cases (and fewer SSDI-only cases) than expected if the ineligible cases were like the rest of the population.[24] When the post-stratification to beneficiary type included these ineligible cases, it drove down the weighted proportion of eligible SSI-only cases compared to the frame.
2. The nonresponse-adjusted weighted proportion of Asians is significantly less than the frame value. The likely reason is the high number of Asian nonrespondents relative to the total number of Asians and the fact that the nonresponse adjustment model did not include a separate category for Asians.

For the participant sample, two levels of the beneficiary-type variable differed significantly from the frame with the entire sample (using initial weights) but no differences were apparent when comparing the frame proportions to those derived from completed cases (using nonresponse-adjusted weights). Even though we performed no test to compare the initial sample weighted estimate with the completed case estimates using nonresponse-adjusted weights, it appears that the proportions would not differ significantly. For the remaining variables, the nonresponse adjustments did not correct any deviations from the participant frame that were evident in the original sample, but the weighted totals among completed cases (using nonresponse-adjusted weights) were no worse than those observed in the original sample (using initial weights).

As demonstrated throughout this analysis, no patterns were apparent in the three participant subpopulations that were not already observed with the overall participant sample.

[24] We obtained an updated extraction from SSA files just prior to data collection indicating that a significant number of cases had no payment status because they had been denied benefits, and therefore were considered ineligible. This extraction was limited to SSI files, which likely explains why the payment-type distribution among ineligible cases contains more SSI-only cases and fewer SSDI-only cases than would be expected if the ineligible cases were like the rest of the population.

Table 9. Percents with Various Attributes (categorical variables) Comparing Frame Percent with Final Weighted Estimate (using nonresponse- adjusted weights), Beneficiaries

Variable	Frame Percent	Entire Sample Percent (se)	Eligible Sample Percent (se)	Number with Attribute	Weighted Estimate (se)
Beneficiary Type					
SSI only	31.5	32.6 (1.1)	30.6 (1.1)	905	28.6 (1.3)*
SSDI only	51.9	49.9 (1.3)	51.3 (1.3)	883	54.1 (1.5)
Both SSI and SSDI	16.6	17.5 (0.9)	18.1 (0.9)	510	17.4 (1.1)
Constructed Disability Status					
Hearing	0.9	0.9 (0.2)	0.9 (0.2)	28	0.9 (0.3)
Mental	42.7	42.8 (1.2)	43.0 (1.3)	1,230	42.5 (1.5)
Physical	56.4	56.3 (1.2)	56.1 (1.3)	988	56.6 (1.5)
Sex					
Male	50.5	50.8 (1.3)	50.6 (1.3)	1,154	50.2 (1.6)
Beneficiary's Age					
18–29 years	10.7	10.7 (0.4)	10.6 (0.4)	634	10.6 (0.5)
30–39 years	10.8	10.8 (0.4)	11.0 (0.4)	625	11.0 (0.5)
40–49 years	20.8	20.8 (0.7)	21.0 (0.8)	643	21.2 (0.9)
50–64 years	57.6	57.6 (1.1)	57.4 (1.2)	396	57.3 (1.4)
Race/Ethnicity					
White	67.4	65.8 (1.2)	65.9 (1.3)	1,346	66.7 (1.5)
Black	22.7	23.0 (1.1)	22.8 (1.1)	530	22.6 (1.3)
Asian	1.2	1.1 (0.2)	1.2 (0.2)	25	0.5 (0.1)*
Other	3.5	3.8 (0.5)	3.8 (0.5)	71	4.5 (0.7)
Indian	0.5	0.7 (0.2)	0.8 (0.2)	20	0.8 (0.2)
Hispanic	4.7	5.5 (0.5)	5.4 (0.5)	141	4.9 (0.7)
Phase					
Phase 1					
Phase 2					
Phase 3					
County Racial/Ethnic Profile					
County with at least 20% American Indian population	0.5	1.9 (0.4)*	1.9 (0.4)*	41	1.9 (0.4)*
County with plurality or majority non-Hispanic black population	4.0	4.0 (0.5)	3.9 (1.5)	101	4.6 (0.7)
County with plurality or majority Hispanic population	7.9	10.4 (0.8)*	10.5 (0.8)*	237	10.2 (1.0)*
County with majority but less than 90% non-Hispanic white population	37.9	38.5 (1.2)	38.3 (1.3)	870	37.8 (1.5)
County with racially/ethnically mixed population, no majority group	32.2	28.3 (1.1)*	28.7 (1.2)*	654	28.5 (1.4)*
County with at least 90% non-Hispanic white population	17.5	16.9 (1.0)	16.7 (1.0)	395	17.0 (1.2)

Table 9 *(continued)*

Variable	Frame Percent	Entire Sample Percent (se)	Eligible Sample Percent (se)	Number with Attribute	Weighted Estimate (se)
Economic Characteristics of County					
Government-dependent economy county	11.8	9.7 (0.7)*	9.5 (0.7)*	215	9.2 (0.9)*
Service-dependent economy county	37.9	40.6 (1.2)*	40.7 (1.3)*	923	38.7 (1.5)
Nonspecialized-dependent economy	24.4	27.0 (1.1)*	26.9 (1.2)*	654	27.7 (1.4)*
County with housing stress	40.2	40.4 (1.2)	40.4 (1.3)	929	40.0 (1.5)
County with low education	16.1	15.4 (0.9)	15.5 (1.0)	353	15.1 (1.1)
Population-loss county	12.0	10.8 (0.8)	10.9 (0.8)	261	11.4 (1.0)
Nonmetropolitan county	12.2	13.7 (0.9)	13.9 (0.9)	317	13.7 (1.1)
Phase					
Phase 1	28.7	28.4 (1.1)	28.1 (1.2)	641	27.3 (1.4)
Phase 2	30.9	31.6 (1.2)	31.7 (1.2)	722	32.3 (1.5)
Phase 3	40.3	40.0 (1.2)	40.2 (1.3)	935	40.4 (1.5)
Metropolitan Status of County					
Metropolitan area of 1 million population or more	45.2	42.2 (1.3)*	42.2 (1.3)*	959	42.0 (1.6)*
Metropolitan area of 250,000 to 999,999 population	20.3	25.6 (1.1)*	25.6 (1.1)*	601	25.7 (1.4)*
Metropolitan area of fewer than 250,000 population	11.2	10.7 (0.8)	10.8 (0.8)	246	10.9 (1.0)
Nonmetropolitan area adjacent to large metropolitan area	3.4	7.4 (0.7)*	7.1 (0.7)*	178	7.0 (0.8)*
Nonmetropolitan area adjacent to medium or small metropolitan area	11.7	8.5 (0.8)*	8.6 (0.8)*	188	8.8 (0.9)*
Nonmetropolitan area not adjacent to metropolitan area	8.1	5.5 (0.6)*	5.6 (0.6)*	126	5.5 (0.7)*
Census Region					
West	18.9	18.4 (1.0)	18.5 (1.0)	416	17.6 (1.2)
South	40.9	42.6 (1.3)	42.6 (1.3)	977	43.1 (1.6)
Northeast	18.9	15.5 (0.9)*	15.5 (1.0)*	354	15.6 (1.2)*
Midwest	21.3	23.5 (1.1)*	23.4 (1.1)*	551	23.7 (1.3)
Census Division					
East North Central	15.2	17.0 (1.0)	17.2 (1.0)	401	17.6 (1.2)
West North Central	6.1	6.4 (0.6)	6.2 (0.6)	150	6.1 (0.7)
New England	5.0	4.7 (0.5)	4.8 (0.6)	112	4.9 (0.7)
Middle Atlantic	13.9	10.8 (0.8)*	10.7 (0.8)*	242	10.7 (1.0)*
South Atlantic	19.6	23.3 (1.1)*	23.4 (1.1)*	519	22.7 (1.3)*
East South Central	9.6	8.4 (0.7)	8.2 (0.7)	193	8.5 (0.9)
West South Central	11.7	10.9 (0.8)	11.0 (0.8)	265	11.8 (1.0)
Mountain	5.4	5.0 (0.6)	5.3 (0.6)	121	5.3 (0.7)
Pacific	13.5	13.4 (0.8)	13.3 (0.8)	295	12.3 (1.0)

* Denotes a difference between the sample and frame value of more than two standard deviations.

Table 10. Percents with Various Attributes (categorical variables) Comparing Frame Percent with Final Weighted Estimate (using nonresponse- adjusted weights), Participants

Variable	Frame Percent	Entire Sample Percent (se)	Eligible Sample Percent (se)	Number with Attribute	Weighted Estimate (se)
Beneficiary Type					
SSI only	32.2	31.4 (1.8)	31.4 (1.8)	681	31.6 (2.2)
SSDI only	42.0	45.5 (1.7)*	45.2 (1.7)*	1,452	44.3 (1.9)
Both SSI and SSDI	25.8	23.2 (0.9)*	23.4 (0.9)*	643	24.1 (1.2)
Constructed Disability Status					
Hearing	3.6	3.6 (0.5)	3.5 (0.5)	42	3.3 (0.7)
Mental	56.5	57.4 (1.2)	57.7 (1.2)	1,530	58.4 (1.4)
Physical	39.9	39.1 (1.3)	38.8 (1.3)	1,181	38.3 (1.6)
Sex					
Male	53.6	54.2 (1.0)	54.2 (1.0)	1,448	53.5 (1.2)
Beneficiary's Age					
18–29 years	31.6	30.8 (1.7)	31.1 (1.7)	652	32.1 (2.1)
30–39 years	17.6	16.6 (1.0)	16.5 (1.0)	484	17.4 (1.3)
40–49 years	24.2	25.2 (1.1)	24.9 (1.2)	717	23.7 (1.3)
50–64 years	26.6	27.4 (1.3)	27.5 (1.3)	927	26.7 (1.6)
Race/Ethnicity					
White	62.2	64.6 (2.6)	64.7 (2.6)	1,502	64.8 (2.7)
Black	26.9	24.0 (2.2)	24.0 (2.1)	791	24.4 (2.2)
Asian	1.3	0.6 (0.2)*	0.7 (0.2)*	14	0.7 (0.3)*
Other	3.4	4.0 (0.7)	4.1 (0.7)	110	4.2 (0.8)
Indian	0.5	0.4 (0.3)	0.4 (0.3)	10	0.2 (0.1)
Hispanic	5.7	6.3 (1.5)	6.1 (1.5)	123	5.7 (1.5)
Phase					
Phase 1	33.2	30.7 (2.4)	30.8 (2.5)	880	30.7 (2.7)
Phase 2	27.3	28.4 (2.7)	28.5 (2.7)	654	28.6 (2.9)
Phase 3	39.5	40.9 (3.1)	40.7 (3.1)	1,246	40.7 (3.1)
County Racial/Ethnic Profile					
County with at least 20% American Indian population	0.2	0.2 (0.2)	0.2 (0.2)	5	0.2 (0.2)
County with plurality or majority non-Hispanic black population	2.7	1.9 (0.9)	1.9 (0.9)	101	1.8 (0.8)
County with plurality or majority Hispanic population	8.6	11.1 (3.7)	10.9 (3.6)	283	10.4 (3.5)
County with majority but less than 90% non-Hispanic white population	41.9	44.1 (5.9)	44.3 (5.9)	1,059	43.7 (6.0)
County with racially/ethnically mixed population, no majority group	32.0	28.4 (5.0)	28.3 (5.0)	902	29.0 (5.2)
County with at least 90% non-Hispanic white population	14.6	14.3 (3.8)	14.4 (3.8)	430	14.9 (3.9)

Table 10 *(continued)*

Variable	Frame Percent	Entire Sample Percent (se)	Eligible Sample Percent (se)	Number with Attribute	Weighted Estimate (se)
Economic Characteristics of County					
Government-dependent economy county	13.3	11.1 (3.5)	11.1 (3.5)	276	11.2 (3.6)
Service-dependent economy county	40.9	45.4 (5.7)	45.4 (5.8)	1,340	45.5 (5.9)
Nonspecialized-dependent economy	23.8	25.9 (5.0)	25.9 (5.0)	656	25.1 (5.0)
County with housing stress	42.7	45.2 (5.5)	45.2 (5.6)	1,166	45.3 (5.7)
County with low education	11.4	12.4 (3.6)	12.2 (3.6)	341	11.9 (3.5)
Population-loss county	9.9	9.5 (3.2)	9.6 (3.2)	358	9.7 (3.5)
Nonmetropolitan county	11.0	13.8 (4.0)	13.9 (4.0)	319	13.3 (4.0)
Metropolitan Status of County					
Metropolitan area of 1 million population or more	48.8	43.0 (5.6)	43.1 (5.6)	1,373	43.6 (5.7)
Metropolitan area of 250,000 to 999,999 population	22.4	26.8 (5.0)	26.8 (5.0)	715	26.0 (4.9)
Metropolitan area of fewer than 250,000 population	12.1	16.7 (5.1)	16.6 (5.1)	324	16.6 (5.0)
Nonmetropolitan area adjacent to large metropolitan area	2.2	4.7 (2.0)	4.7 (2.0)	78	5.0 (2.1)
Nonmetropolitan area adjacent to medium or small metropolitan area	8.3	3.7 (1.1)*	3.7 (1.1)*	154	3.9 (1.2)*
Nonmetropolitan area not adjacent to metropolitan area	6.2	5.1 (2.6)	5.1 (2.6)	136	5.0 (2.7)
Census Region					
West	20.3	23.6 (5.2)	23.7 (5.2)	522	22.9 (5.0)
South	33.5	35.7 (5.5)	35.6 (5.5)	929	35.7 (5.6)
Northeast	22.6	16.3 (4.0)	16.4 (4.1)	435	17.2 (4.4)
Midwest	23.5	24.4 (4.7)	24.3 (4.7)	894	24.2 (4.8)
Census Division					
East North Central	15.2	16.9 (4.2)	16.9 (4.2)	587	16.8 (4.3)
West North Central	8.3	7.5 (2.8)	7.5 (2.8)	307	7.4 (2.8)
New England	8.0	6.4 (2.9)	6.5 (3.0)	212	7.2 (3.3)
Middle Atlantic	14.7	9.8 (3.3)	9.9 (3.3)	223	10.0 (3.5)
South Atlantic	16.1	20.0 (4.3)	20.0 (4.3)	579	19.1 (4.2)
East South Central	4.9	4.9 (1.8)	5.0 (1.8)	104	5.1 (1.9)
West South Central	12.5	10.7 (3.8)	10.6 (3.8)	246	11.4 (4.0)
Mountain	5.8	6.6 (3.2)	6.6 (3.3)	158	6.6 (3.2)
Pacific	14.5	17.0 (4.6)	17.0 (4.6)	364	16.3 (4.4)
Payment Type					
Milestone/outcome	18.6	18.6 (1.5)	18.5 (1.5)	1,959	18.5 (1.5)
Outcome-only	0.8	0.8 (0.1)	0.8 (0.1)	71	0.7 (0.1)
Traditional	80.7	80.7 (1.6)	80.8 (1.6)	750	80.8 (1.6)

* Denotes a difference between the sample and frame value of more than two standard deviations.

Table 11. Percents with Various Attributes (categorical variables) Comparing Frame Percent with Final Weighted Estimate (using nonresponse- adjusted weights), Traditional Participants

Variable	Frame Percent	Entire Sample Percent (se)	Eligible Sample Percent (se)	Number with Attribute	Weighted Estimate (se)
Beneficiary Type					
SSI only	34.3	33.5 (2.1)	33.6 (2.1)	248	33.8 (2.7)
SSDI only	39.6	43.2 (2.0)	43.0 (2.0)	321	42.0 (2.3)
Both SSI and SSDI	26.2	23.2 (1.1)*	23.4 (1.1)*	181	24.2 (1.4)
Constructed Disability Status					
Hearing	4.1	4.1 (0.6)	4.0 (0.6)	23	3.9 (0.8)
Mental	57.2	58.3 (1.4)	58.7 (1.4)	439	59.5 (1.7)
Physical	38.7	37.5 (1.5)	37.3 (1.5)	277	36.7 (1.9)
Sex					
Male	54.2	55.0 (1.2)	55.0 (1.2)	417	54.3 (1.4)
Beneficiary's Age					
18–29 years	34.3	33.5 (2.0)	33.8 (2.0)	258	34.9 (2.5)
30–39 years	17.5	15.8 (1.2)	15.7 (1.2)	107	17.3 (1.6)
40–49 years	23.6	25.2 (1.3)	24.9 (1.4)	192	23.0 (1.6)
50–64 years	24.6	25.5 (1.5)	25.6 (1.5)	193	24.9 (1.9)
Phase					
Phase 1	33.7	30.2 (3.1)	30.3 (3.1)	231	30.2 (3.5)
Phase 2	27.8	29.3 (3.5)	29.4 (3.5)	208	29.5 (3.7)
Phase 3	38.5	40.5 (3.9)	40.3 (3.9)	311	40.3 (3.9)
Race/Ethnicity					
White	63.6	67.0 (3.0)	67.1 (2.9)	427	67.3 (3.1)
Black	25.1	21.1 (2.4)	21.1 (2.4)	154	21.7 (2.5)
Asian	1.4	0.6 (0.3)*	0.7 (0.3)*	4	0.7 (0.4)
Other	3.2	4.0 (0.8)	4.0 (0.8)	26	4.1 (1.0)
Indian	0.5	0.4 (0.3)	0.4 (0.3)	1	0.1 (0.1)*
Hispanic	6.2	6.9 (1.8)	6.7 (1.8)	45	6.1 (1.9)
County Racial/Ethnic Profile					
County with at least 20% American Indian population	0.3	0.2 (0.2)	0.2 (0.2)	2	0.2 (0.2)
County with plurality or majority non-Hispanic black population	2.1	1.2 (0.8)	1.0 (0.6)	7	1.0 (0.6)
County with plurality or majority Hispanic population	8.5	11.4 (4.2)	11.2 (4.1)	86	10.5 (3.9)
County with majority but less than 90% non-Hispanic white population	43.6	46.2 (6.8)	46.5 (6.8)	346	45.9 (7.0)
County with racially/ethnically mixed population, no majority group	31.1	26.7 (5.6)	26.7 (5.6)	208	27.5 (5.8)
County with at least 90% non-Hispanic white population	14.4	14.3 (4.5)	14.3 (4.5)	101	14.9 (4.6)

Table 11 *(continued)*

Variable	Frame Percent	Entire Sample Percent (se)	Eligible Sample Percent (se)	Number with Attribute	Weighted Estimate (se)
Economic Characteristics of County					
Government-dependent economy county	13.2	11.4 (4.2)	11.4 (4.2)	87	11.4 (4.3)
Service-dependent economy county	39.6	44.8 (6.7)	44.9 (6.7)	346	45.0 (6.8)
Nonspecialized-dependent economy	24.4	26.7 (5.9)	26.6 (5.9)	190	25.6 (5.9)
County with housing stress	42.5	45.7 (6.4)	45.6 (6.4)	355	45.8 (6.5)
County with low education	11.3	12.0 (4.1)	11.7 (4.0)	88	11.4 (3.9)
Population-loss county	9.6	9.0 (3.7)	9.2 (3.8)	61	9.1 (4.1)
Nonmetropolitan county	10.7	14.3 (4.7)	14.3 (4.7)	106	13.7 (4.7)
Metropolitan Status of County					
Metropolitan area of 1 million population or more	47.4	40.8 (6.4)	40.9 (6.4)	311	41.4 (6.6)
Metropolitan area of 250,000 to 999,999 population	22.9	27.4 (5.8)	27.3 (5.8)	198	26.4 (5.7)
Metropolitan area of fewer than 250,000 population	12.6	18.4 (6.0)	18.2 (6.0)	143	18.2 (5.9)
Nonmetropolitan area adjacent to large metropolitan area	2.3	5.3 (2.4)	5.2 (2.4)	41	5.6 (2.5)
Nonmetropolitan area adjacent to medium or small metropolitan area	8.5	3.0 (1.2)*	3.0 (1.2)*	23	3.3 (1.3)*
Nonmetropolitan area not adjacent to metropolitan area	6.2	5.2 (3.1)	5.2 (3.2)	34	5.1 (3.3)
Census Region					
West	21.0	25.1 (6.1)	25.2 (6.1)	188	24.3 (5.8)
South	32.7	35.0 (6.3)	34.9 (6.3)	263	34.9 (6.4)
Northeast	24.0	16.7 (4.7)	16.8 (4.7)	133	17.8 (5.2)
Midwest	22.3	23.3 (5.5)	23.1 (5.4)	166	23.0 (5.6)
Census Division					
East North Central	14.8	16.8 (4.9)	16.7 (4.9)	121	16.6 (5.1)
West North Central	7.5	6.5 (3.2)	6.4 (3.2)	45	6.4 (3.1)
New England	8.2	6.2 (3.4)	6.3 (3.5)	55	7.2 (3.9)
Middle Atlantic	15.8	10.4 (3.9)	10.5 (3.9)	78	10.6 (4.2)
South Atlantic	14.5	18.8 (4.7)	18.7 (4.7)	137	17.6 (4.6)
East South Central	4.9	5.0 (2.0)	5.0 (2.0)	33	5.3 (2.2)
West South Central	13.3	11.2 (4.3)	11.2 (4.3)	93	12.0 (4.6)
Mountain	5.8	6.8 (3.8)	6.9 (3.9)	54	6.9 (3.9)
Pacific	15.3	18.3 (5.4)	18.3 (5.4)	134	17.4 (5.1)
Payment Type					
Milestone/outcome	0.0	0.0 (0.0)	0.0 (0.0)	0	0.0 (0.0)
Outcome-only	0.0	0.0 (0.0)	0.0 (0.0)	0	0.0 (0.0)
Traditional	100.0	100.0 (0.0)	100.0 (0.0)	750	100.0 (0.0)

* Denotes a difference between the sample and frame value of more than two standard deviations.

Table 12. Percents with Various Attributes (categorical variables) Comparing Frame Percent with Final Weighted Estimate (using nonresponse- adjusted weights), Non- SVRA EN Participants

Variable	Frame Percent	Entire Sample Percent (se)	Eligible Sample Percent (se)	Number with Attribute	Weighted Estimate (se)
Beneficiary Type					
SSI only	22.8	21.5 (1.2)	21.5 (1.2)	268	21.9 (1.4)
SSDI only	53.4	57.0 (1.6)*	56.8 (1.6)*	803	56.5 (1.8)
Both SSI and SSDI	23.8	21.6 (1.1)*	21.7 (1.1)	277	21.6 (1.3)
Constructed Disability Status					
Hearing	0.9	0.8 (0.2)	0.8 (0.2)	6	0.6 (0.3)
Mental	51.3	50.2 (1.5)	50.4 (1.5)	649	50.7 (1.6)
Physical	47.8	49.0 (1.5)	48.8 (1.5)	685	48.7 (1.7)
Sex					
Male	50.5	51.2 (1.3)	50.9 (1.3)	677	50.0 (1.5)
Beneficiary's Age					
18–29 years	17.4	16.9 (1.0)	17.1 (1.0)	210	17.6 (1.4)
30–39 years	18.5	19.8 (1.1)	19.9 (1.2)	255	18.7 (1.1)
40–49 years	27.4	25.6 (1.3)	25.5 (1.3)	352	27.3 (1.6)
50–64 years	36.6	37.7 (1.4)	37.5 (1.4)	535	36.3 (1.5)
Race/Ethnicity					
White	51.5	50.3 (2.2)	50.2 (2.2)	632	49.9 (2.3)
Black	37.5	38.6 (2.3)	38.7 (2.3)	483	38.6 (2.4)
Asian	1.0	0.7 (0.2)	0.7 (0.2)	8	0.7 (0.3)
Other	4.9	5.3 (0.6)	5.4 (0.6)	83	5.6 (0.7)
Indian	0.2	0.1 (0.1)	0.1 (0.1)	2	0.2 (0.2)
Hispanic	4.8	4.9 (0.8)	4.9 (0.8)	73	5.0 (0.9)
Phase					
Phase 1	32.9	35.0 (2.6)	35.0 (2.6)	493	34.8 (2.6)
Phase 2	25.3	24.6 (2.1)	24.7 (2.1)	302	24.8 (2.1)
Phase 3	41.8	40.4 (2.3)	40.2 (2.3)	557	40.3 (2.5)
County Racial/Ethnic Profile					
County with at least 20% American Indian population	0.1	0.3 (0.3)	0.3 (0.3)	2	0.3 (0.3)
County with plurality or majority non-Hispanic black population	5.4	5.8 (7.2)	5.9 (2.2)	80	6.2 (2.3)
County with plurality or majority Hispanic population	11.1	12.3 (2.8)	12.4 (2.8)	194	12.4 (2.9)
County with majority but less than 90% non-Hispanic white population	33.6	34.6 (3.6)	34.7 (3.6)	451	34.2 (3.7)
County with racially/ethnically mixed population, no majority group	41.6	40.1 (3.8)	39.8 (3.8)	547	40.1 (3.9)
County with at least 90% non-Hispanic white population	8.1	6.9 (1.2)	6.9 (1.1)	78	6.8 (1.3)

Table 12 *(continued)*

Variable	Frame Percent	Entire Sample Percent (se)	Eligible Sample Percent (se)	Number with Attribute	Weighted Estimate (se)
Economic Characteristics of County					
Government-dependent economy county	14.5	10.6 (1.5)*	10.7 (1.5)*	135	10.7 (1.6)*
Service-dependent economy county	52.0	54.9 (3.5)	54.8 (3.6)	806	54.6 (3.7)
Nonspecialized-dependent economy	18.6	19.1 (2.6)	19.2 (2.6)	243	19.4 (2.7)
County with housing stress	53.3	52.4 (3.9)	52.4 (3.9)	749	53.1 (3.9)
County with low education	14.3	16.5 (3.2)	16.5 (3.2)	226	16.6 (3.3)
Population-loss county	9.9	10.5 (2.4)	10.5 (2.4)	146	11.2 (2.6)
Nonmetropolitan county	13.7	13.8 (2.4)	13.7 (2.4)	173	13.5 (2.5)
Metropolitan Status of County					
Metropolitan area of 1 million population or more	61.3	58.8 (3.8)	58.8 (3.8)	847	59.3 (3.9)
Metropolitan area of 250,000 to 999,999 population	21.6	24.4 (3.5)	24.5 (3.5)	331	24.0 (3.6)
Metropolitan area of fewer than 250,000 population	7.9	7.7 (1.6)	7.8 (1.6)	87	7.5 (1.6)
Nonmetropolitan area adjacent to large metropolitan area	1.4	2.3 (0.8)	2.2 (0.8)	20	2.2 (0.9)
Nonmetropolitan area adjacent to medium or small metropolitan area	4.7	4.2 (1.0)	4.2 (1.0)	41	4.2 (0.9)
Nonmetropolitan area not adjacent to metropolitan area	3.2	2.5 (0.6)	2.5 (0.6)	26	2.7 (0.7)
Census Region					
West	22.5	22.3 (3.2)	22.3 (3.2)	329	21.8 (3.2)
South	42.4	44.7 (4.0)	44.6 (4.0)	563	45.0 (4.1)
Northeast	17.8	15.7 (2.8)	15.6 (2.8)	224	15.6 (2.8)
Midwest	17.3	17.2 (2.5)	17.4 (2.6)	236	17.7 (2.7)
Census Division					
East North Central	12.0	12.8 (2.3)	12.9 (2.3)	188	13.2 (2.4)
West North Central	5.2	4.5 (1.1)	4.5 (1.2)	48	4.4 (1.3)
New England	5.1	6.1 (2.3)	6.1 (2.4)	81	5.7 (2.3)
Middle Atlantic	12.7	9.6 (1.7)	9.6 (1.6)	143	9.9 (1.8)
South Atlantic	25.8	28.5 (3.9)	28.6 (3.9)	367	28.7 (4.0)
East South Central	5.7	6.1 (1.5)	5.9 (1.4)	68	5.8 (1.3)
West South Central	11.0	10.2 (2.2)	10.1 (2.2)	128	10.5 (2.6)
Mountain	7.6	7.2 (2.2)	7.2 (2.3)	101	6.9 (2.2)
Pacific	14.9	15.1 (2.5)	15.1 (2.5)	228	14.9 (2.5)
Payment Type					
Milestone/outcome	95.3	95.3 (0.7)	95.3 (0.7)	1292	95.9 (0.7)
Outcome-only	4.7	4.7 (0.7)	4.7 (0.7)	60	4.1 (0.7)
Traditional	0.0	0.0 (0.0)	0.0 (0.0)	0	0.0 (0.0)

* Denotes a difference between the sample and frame value of more than two standard deviations.

Table 13. Percents with Various Attributes (categorical variables) Comparing Frame Percent with Final Weighted Estimate (using nonresponse- adjusted weights), SVRA EN Participants

Variable	Frame Percent	Entire Sample Percent (se)	Eligible Sample Percent (se)	Number with Attribute	Weighted Estimate (se)
Beneficiary Type					
SSI only	27.4	25.5 (1.8)	25.5 (1.8)	165	25.1 (2.1)
SSDI only	46.5	47.3 (2.1)	47.2 (2.1)	328	46.0 (2.4)
Both SSI and SSDI	26.0	27.2 (1.7)	27.3 (1.7)	185	28.9 (2.5)
Constructed Disability Status					
Hearing	3.8	3.0 (0.5)	3.1 (0.5)	13	2.8 (0.9)
Mental	61.3	64.2 (2.0)	64.2 (2.0)	442	64.1 (2.1)
Physical	34.9	32.8 (1.8)	32.8 (1.9)	219	33.1 (1.9)
Sex					
Male	52.0	51.0 (1.9)	50.6 (1.9)	354	51.5 (2.3)
Beneficiary's Age					
18–29 years	30.6	27.7 (2.1)	27.8 (2.1)	184	30.7 (2.3)
30–39 years	16.3	20.1 (2.0)	20.1 (2.1)	122	16.3 (1.7)
40–49 years	25.0	23.9 (1.6)	24.1 (1.6)	173	25.2 (1.7)
50–64 years	28.1	28.3 (1.7)	28.1 (1.7)	199	27.8 (2.1)
Race/Ethnicity					
White	74.4	73.2 (3.5)	73.1 (3.6)	443	73.9 (3.6)
Black	21.8	23.7 (3.5)	23.7 (3.5)	154	22.7 (3.4)
Asian	0.6	0.4 (0.2)	0.4 (0.2)	2	0.5 (0.4)
Other	1.1	0.5 (0.3)*	0.5 (0.3)*	1	0.1 (0.1)*
Indian	1.0	1.6 (0.8)	1.6 (0.8)	7	2.0 (1.0)
Hispanic	1.1	0.7 (0.3)	0.7 (0.3)	5	0.7 (0.3)
Phase					
Phase 1	25.7	25.3 (4.4)	25.5 (4.4)	156	25.7 (4.5)
Phase 2	25.6	24.2 (4.6)	24.0 (4.7)	144	24.3 (4.1)
Phase 3	48.7	50.5 (6.0)	50.4 (6.1)	378	50.0 (5.9)
County Racial/Ethnic Profile					
County with at least 20% American Indian population	0.2	0.2 (0.1)	0.2 (0.2)	1	0.1 (0.1)
County with plurality or majority non-Hispanic black population	3.3	2.0 (0.5)*	2.0 (0.5)*	14	2.2 (0.6)
County with plurality or majority Hispanic population	0.5	0.4 (0.2)	0.4 (0.2)	3	0.3 (0.2)
County with majority but less than 90% non-Hispanic white population	38.6	36.4 (5.5)	36.3 (5.6)	262	35.9 (5.5)
County with racially/ethnically mixed population, no majority group	16.5	19.6 (5.0)	19.5 (5.0)	147	19.7 (4.7)
County with at least 90% non-Hispanic white population	40.7	41.4 (6.6)	41.7 (6.6)	251	41.7 (6.5)

Table 13 *(continued)*

Variable	Frame Percent	Entire Sample Percent (se)	Eligible Sample Percent (se)	Number with Attribute	Weighted Estimate (se)
Economic Characteristics of County					
Government-dependent economy county	10.0	7.1 (1.2)*	7.0 (1.2)*	54	8.0 (1.4)
Service-dependent economy county	27.5	23.3 (3.9)	23.2 (4.0)	188	23.3 (4.2)
Nonspecialized-dependent economy	31.1	35.3 (6.6)	35.6 (6.7)	223	35.2 (6.5)
County with housing stress	10.0	12.0 (4.3)	12.1 (4.3)	62	11.3 (3.4)
County with low education	3.8	6.8 (4.3)	6.9 (4.4)	27	6.0 (3.3)
Population-loss county	16.4	15.8 (3.7)	15.5 (3.7)	151	15.8 (3.9)
Nonmetropolitan county	7.3	5.9 (1.0)	5.9 (1.0)	40	6.7 (1.2)
Metropolitan Status of County					
Metropolitan area of 1 million population or more	31.8	30.1 (5.4)	30.0 (5.5)	215	29.7 (5.2)
Metropolitan area of 250,000 to 999,999 population	16.0	25.3 (7.5)	25.3 (7.6)	186	24.5 (7.3)
Metropolitan area of fewer than 250,000 population	17.8	16.8 (4.2)	16.8 (4.3)	94	16.8 (4.6)
Nonmetropolitan area adjacent to large metropolitan area	3.5	2.5 (0.7)	2.5 (0.7)	17	2.4 (0.8)
Nonmetropolitan area adjacent to medium or small metropolitan area	15.8	13.8 (2.0)	13.8 (2.0)	90	14.3 (2.3)
Nonmetropolitan area not adjacent to metropolitan area	15.0	11.7 (1.8)	11.6 (1.8)	76	12.2 (1.9)
Census Region					
West	0.5	0.6 (0.3)	0.7 (0.3)	5	0.7 (0.4)
South	16.6	17.6 (4.6)	17.6 (4.7)	103	18.2 (4.1)
Northeast	14.8	11.6 (1.7)	11.7 (1.7)	78	11.6 (1.7)
Midwest	68.1	70.2 (4.9)	70.0 (5.0)	492	69.5 (4.6)
Census Division					
East North Central	33.3	33.3 (5.4)	33.0 (5.4)	278	33.4 (5.3)
West North Central	34.8	37.0 (7.1)	37.0 (7.2)	214	36.1 (7.2)
New England	14.4	11.3 (1.6)	11.5 (1.7)	76	11.4 (1.7)
Middle Atlantic	0.3	0.2 (0.2)	0.2 (0.2)	2	0.2 (0.2)
South Atlantic	11.9	14.3 (4.7)	14.4 (4.7)	75	13.8 (3.9)
East South Central	1.1	0.5 (0.2)	0.4 (0.2)*	3	0.4 (0.3)*
West South Central	3.7	2.7 (0.9)	2.8 (0.9)	25	3.9 (1.6)
Mountain	0.4	0.5 (0.2)	0.5 (0.2)	3	0.5 (0.3)
Pacific	0.1	0.1 (0.1)	0.1 (0.1)	2	0.3 (0.2)
Payment Type					
Milestone/outcome	98.5	98.6 (0.4)	98.7 (0.4)	667	98.5 (0.5)
Outcome-only	1.5	1.4 (0.4)	1.3 (0.4)	11	1.5 (0.5)
Traditional	0.0	0.0 (0.0)	0.0 (0.0)	0	0.0 (0.0)

* Denotes a difference between the sample and frame value of more than two standard deviations.

E. Summary and Implications for Analyses

In this analysis, we have shown that, despite a few minor differences between the sample frame and the weighted estimates from the sample using initial weights, the selected sample was representative of the population of interest, particularly for variables used for either implicit or explicit stratification. Given that we did not achieve an 80-percent response rate, the main purpose of this nonresponse bias analysis was to determine if systematic differences between respondents and nonrespondents were alleviated by nonresponse adjustments to the weights, or if the potential for nonresponse bias still existed in weighted estimates.

We found that the nonresponse adjustment alleviated nearly all differences observed between respondents and nonrespondents in both the beneficiary and participant samples. We noted two exceptions for the beneficiary sample. First, the nonresponse-adjusted weighted estimate of the beneficiary type differed significantly from the frame for SSI-only cases, even though the original estimate (including all sampled cases) did not differ from the frame. This was caused by the unusual distribution of ineligible cases, discussed in detail in Section D.[5] Analysts should be aware that the weighted proportion of SSI-only beneficiaries may be a slight underestimate of the true value and, although differences between the frame and weighted estimates of the proportion of SSDI-only and concurrent beneficiaries were not significant in the nonresponse bias analysis, these proportions also might be slightly off from the true values. Second, the nonresponse-adjusted weighted proportion of Asians is significantly less than the frame value. The proportion of Asian beneficiaries thus will be underestimated, so that analyses involving the Asian subgroup might not be appropriate.

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