

NATIONAL SURVEY OF OAA PROGRAMS, 2003
SAMPLE DESIGN AND SURVEY METHODOLOGY

Introduction

This document presents the methodology for the 2003 National Survey of Older Americans Act Participants. It includes descriptions of questionnaire development, recruitment of the AAAs, interviewer training, data collection, and data quality control measures.

Questionnaire Development

The questionnaires developed under AoA's Performance Outcomes Measures Project (POMP) served as a basis for the majority of the questions included in the national survey. The purpose of the POMP project was to involve the network in developing performance measures that truly reflected the intent of the services. Network staff in collaboration with AoA and Westat developed questionnaires in the following areas: nutrition, information and assistance, caregiver, social functioning, and emotional well-being. Two modules from the Home Care Satisfaction Module (e.g., home-delivered meals and homemaker) were included in the survey instruments. These questionnaires were piloted by AAAs participating in POMP, and their suggestions for revisions were incorporated into the survey instruments. The survey instrument also included measures of physical functioning and background characteristics.

Questions for several of the modules of the survey instrument were adapted from national surveys, including the Survey of Income and Program Participation (SIPP), (e.g., the ADL and Instrumental Activities of Daily Living (IADL) questions), the Behavioral Risk Factor Surveillance System (BRFSS) surveys conducted within each state using United States Department of Health and Human Services/ Centers for Disease Control and Prevention (HHS/CDC) standard questions, (e.g., the emotional well-being measures), and other existing surveys such as the SF 36 outcomes survey.

The interview was structured and contained specific questions about services the respondent had received, his or her assessment of those services, and areas of service needs. The majority of the questions were closed-ended. However, probes were used to facilitate obtaining complete responses. Table A-1 provides an overview of the questionnaires and respondent group.

Table A-1. Description of Questionnaires

Performance measures	Description of questionnaire items	Respondent group
Caregiver Well-being	<p>Care recipient:</p> <ul style="list-style-type: none"> ■ Services received by care recipient and satisfaction with services <p>Caregiver:</p> <ul style="list-style-type: none"> ■ Caregiver support (formal and informal) ■ Needs for additional help and/or information ■ Type of help caregiver provided ■ Amount of time devoted to caregiving ■ Benefits and drawbacks of caregiving. 	Family caregivers of homemaker service recipients and home-delivered meals clients.
Nutritional Risk	<ul style="list-style-type: none"> ■ The number of meals received ■ Daily food intake ■ Consumer satisfaction with meals ■ Unmet needs ■ Food security 	Home-delivered and congregate meals clients.
Home Care Satisfaction	<p>Two modules from the Home Care Satisfaction Measure (HCSM) were administered to clients.</p> <p>Home-delivered meals clients:</p> <ul style="list-style-type: none"> ■ Assessment of the food (taste, smell, temperature, quality, variety) ■ Assessment of timeliness of delivery ■ Assessment of staff ■ Unmet needs <p>Home care clients:</p> <ul style="list-style-type: none"> ■ Timeliness of service ■ Adequacy of the service ■ Assessment of staff ■ Unmet needs 	Recipients of home-delivered meals and homemaker services.
Transportation	<ul style="list-style-type: none"> ■ Acceptability (e.g., reliability, security, treatment) ■ Accessibility (e.g., comfort, proximity to home, ability to obtain information) ■ Adaptability (e.g., flexibility, responsiveness of services, assistance with special needs) ■ Availability (e.g., frequency of service) ■ Outcomes (e.g., increase in independence) 	Users of transportation services.

Table A-1. Description of Questionnaires (continued)

Performance measures	Description of questionnaire items	Respondent group
Information and Assistance	<ul style="list-style-type: none"> ■ Responsiveness of service ■ Timeliness of service ■ Usefulness of information received ■ Consumer assessment of service 	Users of information and assistance services.
Physical functioning	<ul style="list-style-type: none"> ■ Activities of Daily Living (e.g., dressing, toileting eating) ■ Instrumental Activities of Daily Living (e.g., ability to shop, prepare meals, take medication) 	Recipients of home-delivered meals and home care services.
Emotional well-being	<ul style="list-style-type: none"> ■ Number of days in month feeling sad or depressed ■ Assessment of amount of rest ■ Overall emotional well-being 	All service recipients except caregivers and users of information and assistance.
Social functioning	<ul style="list-style-type: none"> ■ Extent of social contacts (e.g., friends, family) ■ Extent of participation in activities (e.g., religious, recreational, etc.) ■ Self-rating of adequacy of social contacts 	All service recipients except caregivers and users of information and assistance.
Demographic Information	<ul style="list-style-type: none"> ■ Urbanicity ■ Age ■ Gender ■ Race ■ Living arrangements ■ Income 	All service recipients, except professionals who used information and assistance services.

The Sampling Plan

Overview. Based on reconnaissance and the POMP project, it was known that agencies had varying numbers of clients for each service offered. Westat’s senior statistician recommended an accurate unobtrusive method for securing a representative sample of agencies and respondents from those agencies. The total number of State and Local Area Agencies was known from administrative reports to the Administration of Aging (AoA). From this list of Area Agencies on Aging (AAA’s), 150 AAAs were selected for the sample, proportionate to size, as determined by their annual budgets. In the selected AAAs, clients were sampled within a particular service of interest.

The project statistician determined that at least 120 AAAs were needed for the survey to achieve the statistical power needed to compare outcomes from the program. One-hundred and fifty AAAs were selected to participate in the study to ensure an adequate sample size if any of the selected AAAs refused to participate in the survey. There was an 88 percent response rate for AAAs (132 out of 150), and a 77 percent cooperation rate for clients. Information on response rates is in. The following sections describe the recruitment of AAAs and the sampling of clients.

Recruiting the AAAs

In May 2002, selected AAAs received a letter from the Administration on Aging, signed by the Assistant Secretary, introducing the study and encouraging the AAAs to participate. In July 2002, a packet was sent via Fed-Ex that included a copy of the Assistant Secretary's letter, instructions for selecting respondents by service, spreadsheets to record the selected respondents, and a prenotification letter for the selected respondents. The AAAs were instructed to copy the prenotification letter onto their letterhead and mail it in mid-October 2002.

Recruitment of the AAAs began the day after the packets were mailed. Westat staff called each AAA and asked to speak with the director or the person who was going to be responsible for selecting respondents for each service. Recruitment continued until mid-February 2003.

Each AAA was asked to develop a numbered list of respondents receiving each service:

- New home-delivered meals (clients receiving home-delivered meals for 30 days or less),
- Existing home-delivered meals (clients receiving home-delivered meals for more than 30 days), and
- Home care (clients receiving homemaker services)

For all three categories, the AAAs were also asked to provide the names of caregivers, as well as contact information, for the selected clients receiving the services.

The rest of the services were:

- Congregate meals,
- Transportation, and
- Information and assistance callers (the AAAs were assigned time slots to record callers and were given forms on which to do so)

Among AAA's, there was a range of sophistication in how information about program participants was tracked (e.g. electronic versions, paper and pencil lists). Many employed numerous contractors and obtaining lists of clients from them proved difficult. Some of the AAAs did not keep lists of I&A callers. Westat provided instruction on how to sample clients.

When the AAA representative had the numbered lists of clients by service (except caregiver, since that list was based on the selected clients), Westat was notified. The Westat staff person entered the total number of clients by service into a custom Intranet program. The program was designed to randomly select a predetermined number (again, based on the size of the AAA) of client lines. The line numbers by service were given to the AAA representative. The AAA representative then gave Westat the contact information for each person that was selected, as well as caregiver contact information for new and existing home-delivered meals clients and home care clients.

Computer-Assisted Telephone Interviewing

The survey was conducted using Computer Assisted Telephone Interviewing (CATI). In CATI, the survey instrument is programmed with specialized software which allows interviewers to read the questions from a monitor and enter the respondents' answers into a computer as they are given. Skip patterns are programmed into CATI so that the next appropriate question appears on the interviewers' screen. CATI also offers the following advantages:

- Computerized scheduling of interviewing assignments and callbacks;
- Computerized reports of production, call status, and response rates;
- Call detail reporting for control and billing purposes;
- A supervisor monitoring system that displays the status of all active interviewers;

- An auto-dialing function for interviews as they are delivered by the scheduling system to interviewers; and
- Toll-free numbers assigned to a specific project to be answered directly by interviewers trained by the project.

Interviewer Training

The training materials that were developed for the 2002 National Survey of Older Americans Act Participant interviewers included but were not limited to the following:

- **Interviewers' Manual.** This manual documented all survey procedures for the interviewer. The manual served as the reference document and training device that provided an overview of the survey, along with question-by-question specifications for each item in each questionnaire. It contained a section on being sensitive to the needs of the elderly which may include people with disabilities (e.g., interviewing those who have hearing, other physical, or cognitive impairments). There were also instructions for getting past "gatekeepers." The manual also provided detailed information on contacting respondents and avoiding refusals. Finally, the manual provided space for memos and procedural updates to be filed.
- **Training Agenda.** This agenda was a detailed document that divided the training into timed sessions on specific topics. It listed both the trainer and trainee materials that were required for each and indicated the overhead transparencies that were used in each presentation.
- **Introduction to the study.** AoA provided this introduction and welcome.
- **Demonstration interview.** The trainers completed an interview; one trainer acted as a respondent and the other as an interviewer. This was done to give the interviewers a feel for the types of questions being asked during the interview.
- **Interactives.** The trainer acted as a respondent and called on the trainees to act as interviewers for parts of the survey. This was done to help familiarize the interviewers with the questionnaire, especially by having them read the questions and enter the answers into CATI (which was programmed to allow this during training.) All the interviewers were expected to enter the responses into CATI, whether they were acting as the interviewer or not.
- **Commonly asked questions.** This was training in refusal avoidance. The interviewers were given responses to questions and objections respondents usually have to participating in a survey.
- **Training on interviewing people living with disabilities.** Since some of the respondents might have disabilities, the interviewers needed to be familiar with how

those disabilities might affect a respondent's ability to participate in a telephone survey. The interviewers were trained to encourage the respondent to complete the interview even if it meant having to call back. A respondent's answers are always preferable to a proxy's.

With people who are elderly, it is easy to decide the person cannot complete the interview because of difficulty communicating (possibly due to a stroke, a hearing impairment, or a cognitive disability). However, in some cases a proxy would respond for a client:

- The respondent was too confused, forgetful, or disoriented to answer the questions, even with the aid of an interpreter.
- The person had intellectual limitations, which affected his or her ability to comprehend and respond to the questions, even with the aid of an interpreter.
- The person refused to answer the questions, indicating a preference to have a proxy respond.
- The "gatekeeper" or other family member refused to allow the interviewer to speak with the respondent. In this case, interviewers were trained to probe to find out exactly why the family member/caretaker was taking this position. If necessary, interviewers reminded the gatekeeper that all answers were confidential, the interview could be completed in several sessions, etc. If the additional information the interviewer provided did not change the respondent's mind, the interviewer got the full name and telephone number of the proxy and coded the case for a supervisor to review.

One situation that was *not* a good reason for a proxy: The interview was taking a long time because of the use of an interpreter or some other communication challenges. Unless the respondent insisted on a proxy, the interviewer stressed that speaking directly with the service recipient was preferable and that the interviewer was willing to take as long as necessary to complete the interview.

If a proxy was needed to complete the interview, the interviewer was trained to remind the proxy that he or she was answering the questions *AS IF* he or she were the respondent. The interviewer instructed the proxy to:

- Answer as objectively as possible based on his or her knowledge of the respondent;
- Not interject his/her own views or opinions;
- Answer "DON'T KNOW" whenever he or she was unsure of how the respondent felt on a given subject (e.g., questions pertaining to emotional states or satisfaction with services).

- **Contact procedures.** This part of the training covered instances when a respondent was not at home, a busy signal was encountered, the respondent needed to stop in the middle of the interview or needed an appointment for another time, and so on.
- **Role plays.** During this final part of training, the interviewers were paired and took turns acting as interviewer and respondent. The telephone center supervisors monitored these role plays to be sure all of the interviewers were ready to administer the questionnaire.

Interviewing the AAA Clients

Telephone interviewing of the selected AAA clients began on Monday, November 25, 2002. The Westat Telephone Research Center had information from 98 AAAs when interviewing began. All but two of the cooperating AAAs had submitted lists by the second week of December. The lists from the last two AAAs were entered into CATI by the middle of February. The study came out of the field on March 2, 2003. Administration time ranged from 20 to 30 minutes.

Informed Consent

When the respondent was called to be interviewed, the introductory statement the interviewer read stated the voluntary nature of the interview, assured the respondent his or her participation would not affect the services he or she received, and assured the respondent that all of the responses would be kept confidential.

Eliciting Cooperation

Westat used proven methods to ensure good response rates from older persons. These included special techniques covered during interviewer training, such as communicating simply and clearly, repeating questions when necessary, and assuring legitimacy and confidentiality. A toll-free number was provided for the respondents to call to verify the study. At all times the respondents were assured of the voluntary nature of the study and the confidentiality of their responses. They were also assured that their decision on whether or not to participate in the study would have no effect on their eligibility for services.

Other elements for achieving a high response rate included acquiring an experienced, sensitive interviewing staff; developing a training program that prepared them for the survey tasks; implementing appropriate interviewing procedures; being sufficiently flexible to accommodate respondents' requests; and implementing sound management and quality control procedures. Factors that specifically influenced reluctant individuals to participate included the following:

Interviewers' ability to obtain cooperation—Westat used all experienced interviewers. All interviewers were monitored, evaluated, and provided with instant feedback on their performance to eliminate interaction patterns or telephone demeanor that might be detrimental to achieving cooperation.

Flexibility in scheduling interviews—Being available to speak with people when it is most convenient for them is sometimes overlooked as a factor that can tip the balance in favor of cooperation for an individual who has doubts about participating. Interviewing activities for the survey were scheduled to coincide with the hours people were most likely to be at home.

Procedures to encourage participation—Perhaps the most significant technique for persuading reluctant individuals to participate was the interviewer training segment that encouraged participation. Nearly as important was a well-planned and concerted effort to convert each refusal to final cooperation.

For each case in which the respondent refused to participate, the interviewer completed a Non-Interview Response Form (NIRF). The form captured information about key characteristics of the refusing respondent and the stated reason(s) for refusing to participate.

Special interviewer training sessions led by highly experienced supervisors were held for a select group of interviewers. The sessions included participating in the analysis of survey-specific and generic reasons for refusal, preparing answers and statements that were responsive to the objections, effective use of voice and manner on the telephone, and role-playing of different situations. This team of customer cooperation interviewers recontacted the reluctant respondents. Westat's conversion program has consistently yielded conversion rates of 25 to 30 percent for individual interviews. For this survey, the conversion rate was close to 50 percent.

Use of proxies and interpreters—Very few interviews were conducted using a proxy or an interpreter. If she or he is able to respond, the respondent's own responses are preferable to those of a

proxy. Therefore, Westat attempted to first determine if someone in the respondent's household could act as an interpreter. If that was not possible, then a proxy was interviewed. Westat allowed the use of proxies when the sampled persons could not or would not respond for themselves. Interviewers were trained to recognize situations where proxies were appropriate. However, the final decision on using a proxy to complete the interview was made only by supervisory personnel.

Quality Assurance

Westat incorporated quality control into the design and implementation of each component of the survey. Westat views quality control as a continuous process that is integrated seamlessly into the development and conduct of the survey design, testing, training, interviewing, project management, production monitoring, data cleaning, data delivery, reporting, and documentation.

The Westat staff who contacted the agencies were thoroughly trained on the purpose of the study and the steps the agencies needed to take to develop their lists, select clients, and give that information to Westat. Their progress was checked daily, until the supervisor felt they understood what needed to be done. After that, they were checked weekly.

Telephone interviewers were monitored by management and supervisory staff throughout the data collection period. They were unaware of the monitoring while it occurred. Their handling of contacts, administration of the questionnaire, probing, and demeanor were assessed. Each monitoring session was recorded on a monitoring form. After monitoring, interviewers were apprised of their strengths and areas needing improvement. General adjustments or specific instructions for the interviewing process were made as a result of the monitoring findings.

Westat implemented procedures to review and edit questionnaire responses. Responses to key items were visually inspected on completion of the interviews. Responses were subjected to several levels of quality control, including range and logic checks between items.

Interviewer Debriefing

Two interviewer debriefing sessions were held with the CATI interviewers. One occurred while data collection was in progress, on January 8, 2003, and the other was just after data collection ended on March 5, 2003. The first session was held because the interviewers had questions about some of the items on the questionnaire and wanted to talk about the comments some of the respondents had, such as respondents stating they did not have enough money to pay for food. The purpose of the second debriefing session was to discuss suggestions for modifications to survey procedures.

DETAILED SAMPLING PLAN

The tables in this document, with the accompanying text, present the details of the sampling plan. These tables show how the number of AAAs included in the sample was determined, as well as the number of clients that were sampled within each AAA, for each of several services. The numbers of AAAs and clients, and the balance between the two, were dictated by a desired level of precision and the funds available for conducting the study. In addition, the home-delivered meals and caregiver samples were 50 percent larger than the other measures to accommodate both newly enrolled and long-term clients in the data collection and analysis. The four samples of the smaller size were nutritional risk-congregate meals participants, home care satisfaction, transportation, and information and assistance. The two larger samples were the nutritional risk-home delivered meals participants and caregiver well-being respondents.

A two-stage sample design was used for the 2002 National Survey of Older Americans Act Participants, with AAAs as the first stage units and the clients as the second stage units. The AAAs were selected with probability proportional to size (PPS) of the total client count, and the clients within each sampled AAA were selected at random. In this way, all clients had a known probability of selection for the sample.

Two, or multistage designs, (instead of a single-stage sample), are frequently used to maximize precision of survey estimates for a given cost. In a two-stage design, the cost of preparing the sampling frame (the universe of all AAAs) is less than that of assembling a list of all clients. The cost of survey operations is also considerably lower because the whole operation remains concentrated in

selected areas (thus, the label: *cluster sample*). Therefore, more clients can be sampled for the same cost in a two-stage design compared with a single-stage design.

The drawback in this two-stage design was that the sampling units (clients) that came from particular first stage AAAs were likely to be quite similar to each other in terms of the survey variables of interest. Consequently, the precision of the estimates in a survey with a two-stage design is somewhat lower than that of the single-stage design of the same sample size. For this reason, the choice between single-stage and two-stage design comes down to balancing statistical precision and cost. For a fixed cost, a two-stage design with optimum allocation of units at the first and second stage is more efficient than a single-stage design.

After deciding on a single versus multistage sample design, the next decision was determining the number of AAAs in the first stage and the number of clients (by service) in the second. The optimum allocation of units at the first versus second stage depended on the extent of similarity of sampling units within the first stage areas and the relative cost of selection at the first stage versus the second stage. The degree of similarity of units within an area is expressed by a measure of homogeneity called *intraclass correlation*. Intraclass correlation reflects the extent to which clients within an area are more similar to each other than to clients in other areas. If all clients within each area are the same in terms of a target characteristic (e.g., race, income, or the number of ADL limitations), then the intraclass correlation is the highest and equal to 1. On the other hand, if the clients within each area are broadly representative of all Older Americans Act (OAA) clients nationwide, then the intraclass correlation is zero.

If the cost of data collection can be explained by the following model

$$C = C_1m + C_2m\bar{n}$$

where, C is the total cost, C_1 is the cost of selecting a first stage unit (i.e., AAAs), C_2 is the cost of selecting and interviewing a second stage unit (a service recipient), and m and \bar{n} are the number of units selected at the first and second stages, respectively, then the optimum numbers of first stage and the second stage units to be selected for a specific intraclass correlation (δ) are determined (following Hansen et al., 1953)¹ by:

¹ Hansen, M.H., Hurwitz, W.N., and Madow, W.G. (1953). *Sample Survey Methods and Theory*. Vol. 1, Chapter 6. John Wiley & Sons, Inc.

$$\text{opt. } \bar{n} = \sqrt{\frac{C_1}{C_2} \frac{1-\delta}{\delta}} \text{ and opt. } m = \frac{C}{(C_1 + C_2 \bar{n})}.$$

For the 2002 National Survey of Older Americans Act Participants, the total amount assumed to be available for data collection was \$330,000 (C).

It was also assumed that the Westat staff time and other logistical costs of selecting and working with each AAA was \$500 (C_1) and the cost of contacting, scheduling, and interviewing each service recipient, including training, supervision, and other interviewer support, was \$80. As the sample sizes for the six client surveys were not all equal—four samples (for nutritional risk-congregate meals participants, home care satisfaction, transportation, and information and assistance) were of the smaller size while the remaining two samples (nutritional risk-home delivered meals participants and caregiver well-being) were 50 percent more—the optimum number of first stage units required for the two groups of samples was different. The home-delivered meals and caregiver samples were 50 percent larger than the other measures to accommodate both newly enrolled and long-term clients in the data collection and analysis.

The optimum number of AAAs was determined to be selected targeting the majority group, (i.e., the four samples of the smaller size (for nutritional risk-congregate meals participants, home care satisfaction, transportation, and information and assistance), and for the remaining group of two larger samples (nutritional risk, home-delivered meals participants, and caregiver well-being), 50 percent more sample was selected from each AAA. Therefore, the cost of completing a single replicate of interviews at the second stage for the six surveys was assumed to be $\$80 \times (1 \times 4 + 1.5 \times 2) = \560 (C_2).

Based on the above-mentioned values of C , C_1 , and C_2 , Table 2 presents the optimum allocation of units at the first stage and second stage by varying the values of intraclass correlation (δ) in the range of 0.05 to 0.20, a range usually observed in this type of population. For instance, under an intraclass correlation of 0.10, the optimum number of clients (cluster size) selected was three per service per AAA and the corresponding number of AAAs to be selected was 151. As mentioned earlier, the optimum number of AAAs and the cluster size were derived targeting the four smaller samples. For the two larger samples, the cluster size was 1.5 times of the cluster sizes shown in Table B-1.

Table B-1. Optimum number of AAAs and clients in each AAA to be selected in a two-stage design for different values of intraclass correlation

Intraclass correlation	Sample Size			Design effect
	No. of AAAs	Recipients Per AAA Per Service*	Total Sample Size Per Service*	
0.05	120	4	480	1.15
0.10	151	3	453	1.20
0.20	204	2	408	1.20

* For the two larger samples, number of recipients per AAA per service was 1.5 times the numbers shown in the table

As discussed above, for a fixed cost, a two-stage design is better than a single-stage design. The relative efficiency of such a complex design, compared to a single-stage simple random sample design, is expressed in terms of *design effect*. Design effect is the ratio of the variances of an estimate under a complex design (for instance, two-stage) compared to a simple random sample of the same size. The larger the design effect, the smaller the effective sample size (i.e., the sample size divided by the design effect).

The design effect is a function of the cluster size (i.e., number of clients selected within each AAA) and the intraclass correlation. It increases with an increase in either the intraclass correlation or the cluster size. The last column in Table 2 presents the design effects for three different designs. The corresponding design effect for the two larger samples was slightly higher.

Table B-2 presents the standard errors (sampling error) that would be achieved for estimates of target characteristics ranging from 10 percent to 50 percent under the three designs by assumed and actual intraclass correlations. The 50 percent target is a worst-case scenario, where respondents are expected to be fairly evenly split on a particular response item, limiting the reliability of the estimate, (e.g., trying to predict the outcome of an election where the voters are about evenly divided between two candidates).

A comparison of standard errors by assumed and actual intraclass correlations would indicate the cost of making a wrong assumption about the intraclass correlation. For instance, if design 2 is used under the assumption of an intraclass correlation equal to 0.10, and if the assumption is right, then the standard error of an estimate for a particular characteristic (e.g., having one or more ADL limitations) of around 30 percent would be 2.36 percent. However, if the assumption is wrong and the actual intraclass

correlation is 0.20 (for example) then the standard error would be 2.55 percent. But if design 3 is used, which is the optimal design when intraclass correlation is 0.20, the standard error of the corresponding estimate would be 2.49 percent. The difference in standard errors for using a less than optimum design in this case, however is not large (2.55% - 2.49% = 0.06%).

Table B-2. Standard errors that would be achieved under different designs, by various levels of intraclass correlations and percentages of target characteristics, for the estimates from the four smaller samples

Design	Sample size		Intraclass Correlation		Standard Errors for Various Survey Response Item Percentages				
	No. of AAAs	Recipients per AAA	Assumed	Actual	10%	20%	30%	40%	50%
1	120	4.0	0.05	0.05	1.47%	1.96%	2.24%	2.40%	2.45%
1	120	4.0	0.05	0.10	1.56%	2.08%	2.38%	2.55%	2.60%
1	120	4.0	0.05	0.20	1.73%	2.31%	2.65%	2.83%	2.89%
2	151	3.0	0.10	0.05	1.48%	1.97%	2.26%	2.41%	2.46%
2	151	3.0	0.10	0.10	1.54%	2.06%	2.36%	2.52%	2.57%
2	151	3.0	0.10	0.20	1.67%	2.22%	2.55%	2.72%	2.78%
3	204	2.0	0.20	0.05	1.52%	2.03%	2.32%	2.49%	2.54%
3	204	2.0	0.20	0.10	1.56%	2.08%	2.38%	2.54%	2.60%
3	204	2.0	0.20	0.20	1.63%	2.17%	2.49%	2.66%	2.71%

Given that the cluster size under design 1 is already low (only four recipients per service, per AAA), any further decrease in the cluster size by increasing the sample of AAAs is not likely to reduce the standard errors significantly even if the intraclass correlation is higher. This is supported by the analysis of standard errors presented in Table B-2. There is also operational convenience in keeping the cluster size as big as possible. Therefore, a sample of 150 AAAs was selected from which 132 were selected. Attempts were made to interview an average of four recipients per service per AAA, i.e., a total sample of size 480 per service for the four smaller surveys.

To achieve the increased sample size for the two other surveys, an average of six recipients per service per AAA was selected, i.e., a total sample of size 720 per service. The design, for the amount of funds available for data collection, was optimum in terms of maximizing the precision of survey

estimates and achieving an acceptable level of statistical power to compare estimates from various programs.

The first panel corresponding to design 1 in Table B-2 provides the standard errors that would be achieved under the design with the sample size of 480 per service. The corresponding standard errors that would be achieved when the sample size is 720 per service are presented in Table B-3.

Table B-3. Standard errors that would be achieved under the proposed design, by various intraclass correlations and percentages of target characteristics, for the estimates from the larger sample size of 720 per service

Sample size per Service	Sample Allocation		Intraclass Correlation		Standard Errors for Various Survey Response Item Percentages				
	No. of AAAs	Recipients per AAA	Assumed	Actual	10%	20%	30%	40%	50%
720	120	6.0	0.05	0.05	1.25%	1.67%	1.91%	2.04%	2.08%
720	120	6.0	0.05	0.10	1.37%	1.83%	2.09%	2.24%	2.28%
720	120	6.0	0.05	0.20	1.58%	2.11%	2.42%	2.58%	2.64%

The standard errors presented in Tables 3 and 4 were for overall estimates. If the estimates are required for individual subgroups, then sample sizes will decrease, and consequently, the standard errors will increase. The standard error is used to construct confidence intervals for an estimate. The 95 percent confidence interval for an estimate is (estimate \pm 2 x standard error).

The standard error (SE) that would be achieved for the difference between two estimates (e.g., A and B) can be obtained by $SE(A - B) = \sqrt{SE^2(A) + SE^2(B)}$. For example, if SE(A)=1.91 percent and SE(B)=1.67 percent then SE(A-B)=2.53 percent. This formula can be used to see the likely standard error of the difference between two estimates from two different services or two different years. To conclude, an actual difference (for instance, change from year 1 to year 2) between two characteristics in the universe of clients, the difference between two sample estimates has to be greater than (2 x SE). The formula for comparing a subset total of a survey to the overall survey total is somewhat more complicated and depends on the relative size of the subset.

Telephone Contact with State and Local Agencies on Aging prior to Sampling

This survey was a probability sample of all State and Local Agencies on Aging proportional to size (PPS) of the total annual budget. Information was collected in a two-step process. Each State Unit on Aging (SUA) was contacted by telephone to obtain the annual budget for each AAA in the state. The budget was broken into the following categories:

- OAA Title III B
- OAA Title III C1
- OAA Title III C2
- Medicaid Waiver
- Other Federal
- State funds
- Other funds
- Title VI

Then 150 AAAs (out of 649) were randomly selected proportionate to size.

RESPONSE RATES

After 6 months of telephone calls, emails, and faxes, 132 out of 150 AAAs were recruited (88 percent). Not every AAA sent information on all services. If they submitted a client list for at least one service, they were considered cooperative. Twelve AAAs refused to participate; three promised to send lists, but never did; and three did not return calls or reply to emails or faxes asking them to either cooperate or state that they refused to do so.

Respondents. Westat had an overall cooperation rate of 77 percent. All client names were released from the sample and were fully worked to achieve the highest cooperation rate possible. The number of completed interviews, by service, was as follows:

SERVICE	COMPLETES
New Home-Delivered Meals	251
Existing Home-Delivered Meals	485
Homecare (Homemaker)	407
Caregiver	413
Congregate Meals	473
Transportation	397
Information and Assistance	337
Total	2,763