Evaluation Feasibility Study
For the National Institute on Aging's Book and Videotape, *Exercise: A Guide from the National Institute on Aging*

Submitted to: The Office of Communications and Public Liaison
National Institute on Aging

Submitted by: The Academy for Educational Development

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1. Introduction

Since 1998, the National Institute on Aging's (NIA) Office of Communications and Public Liaison (OCPL) has promoted and distributed the book, *Exercise: A Guide from the National Institute on Aging* and an accompanying video. The materials were developed in response to an increasing number of requests about exercise for older people from the public, the media, and private-sector health and fitness providers. A kick-off event in 1998, including representatives from NIA, NASA, DHHS Office on Women's Health, and featuring Senator/Astronaut John Glenn, marked the initial availability of the *Guide*. Since then, the *Guide* has become one of NIA's most popular publications. NIA distributed 72,994 copies of the *Guide* in 2001 alone. Based on the clear public health need, NIA plans to update the *Guide* and continue its efforts to promote the beneficial effects of exercise among older Americans.

Informal comments from users consistently provide a wealth of positive feedback and anecdotal information about the usefulness of the *Guide*. However, there had been no consideration of the feasibility of a formal evaluation of the *Guide*. In 2001, the publications cluster staff requested and received funds from the NIH evaluation office to conduct a study to determine the possibility of implementing an effective outcome evaluation of the *Guide* and accompanying video. The goal of the feasibility study, as stated in NIA's proposal was to:

> "Determine if it is possible to devise an evaluation that can accurately speak to the assumption that there are performance measures that will reveal whether or not the goal of influencing sustained exercise is being achieved. In addition, this project will consider if there is adequate justification to conduct a large-scale outcome evaluation , and if so, the best approach to use. Finally, this project proposes to identify the best way to proceed to implement an outcome evaluation without imposing an excessive burden on program staff or the public."

In addition, NIA proposed that the feasibility study assess whether an evaluation could be designed to answer questions about how people are using the *Guide* and video, the demographics of users, reactions and suggestions for improving the materials from users, key benefits identified by users of their new exercise routine, and changes in users' knowledge, attitudes and behavior.

If an evaluation proved to be feasible, NIA would use the results of the evaluation to gain insights for improving each section of the *Guide* to make it more useful to target audiences and to effectively expand outreach and education efforts. NIA would also share information from the evaluation with other appropriate government and voluntary organizations involved in creating or managing exercise programs for older people. In addition, NIA would use the results to improve future education and outreach efforts related to exercise and older people.

NIA contracted with the Academy for Educational Development (AED) to conduct this feasibility assessment.

2. AED Methods and Activities for the Feasibility Study

To determine the feasibility of an outcome evaluation of the *Guide*, AED employed a framework for program evaluation presented at the 1999 NIH Health Communication Forum on Incorporating Evaluation into Health Communication programs. (Appendix A) The framework is a practical tool that provides a clear process for designing an appropriate evaluation that meets standards of utility, feasibility, propriety and accuracy.

The framework includes the following six steps:

1. Engage stakeholders.
2. Describe the program.
3. Focus the evaluation design.
4. Gather credible evidence.
5. Justify conclusions.
6. Ensure use and share lessons learned.

In conducting the feasibility study, AED employed the first three steps in the above framework. Steps four through six will be employed by NIA during the implementation of an evaluation. A summary of AED's activities within each of these three steps is provided below.

1. Engage the stakeholders.

AED began this study by meeting with NIA staff to review the project's background. NIA provided developmental papers related to the *Guide* and video for AED to review. AED held several meetings with NIA staff to confirm the evaluation goals and to clarify both potential users and uses of the evaluation results. Finally, AED and NIA reviewed the information needs of immediate program staff in OPCL, as well as those of NIA senior staff and of NIH sister offices.

2. Describe the program.

In meeting with OPCL staff, AED learned of the extensive scientific review and documentation that led to the development of the *Guide*. Subsequent to the expert review process, however, there was no formal documentation of the program development or implementation process, or of program plans, target audiences, or program objectives for the *Guide*.

AED worked with OPCL staff involved in the initial program development to formally capture original program goals and objectives and to document implementation plans, promotional efforts, and distribution data. AED used this information to construct a conceptual framework for the program that could be used as the basis for developing an evaluation. The program description and conceptual framework are summarized in Section 3.

3. Focus the evaluation design.

Once the program objectives, target audiences, and conceptual framework were articulated and agreed upon, AED reviewed the literature on program evaluation methods and case studies applicable to health communication programs to assess appropriate evaluation methodologies (see attached bibliography). The simple answer to NIA's question — "Can an appropriate outcome evaluation be designed without imposing an excessive burden on program staff or the public?" — is *yes*. The literature review and assessment of comparable communication efforts revealed several methodological options for OPCL to consider**.** AED presented four options to NIA. Section 4 describes the four options and their respective advantages and disadvantages.

AED reviewed each of these options with NIA staff in light of considerations such as evaluation goals and objectives, potential use of findings by stakeholders, and potential burden on staff and the public. Based on this review, NIA staff selected one option for further development. AED prepared a draft evaluation proposal for NIA based on this option. The NIH Office of Evaluation informally reviewed the proposal and provided NIA with constructive comments to strengthen and improve the proposal. Section 5 presents recommendations based on this feedback and in light of new opportunities to collect evaluation data that are now available to NIA.

3. Program Description and Conceptual Framework

In 1996, NIA's OCPL began developing *Exercise: A Guide from the National Institute on Aging* in response to increasing numbers of requests about exercise for older people from the public, the media, and private-sector health and fitness providers. An informal assessment of the Institute's research portfolio revealed a growing body of studies that could lead to specific recommendations regarding exercise and older people. To formalize this assessment, NIA convened an expert panel to discuss the overall need and direction for the project and to identify appropriate target audiences, messages, content issues, and potential partners. The panel concluded that developing a book containing a specific exercise program for healthy, community-dwelling, older people was scientifically supportable.

The primary target audience for the *Guide* includes individuals who are:

- age 65 or older,
- currently are inactive but who are ready to begin an exercise program,
- in good general health, and
- living in residential or community (not institutional) settings.

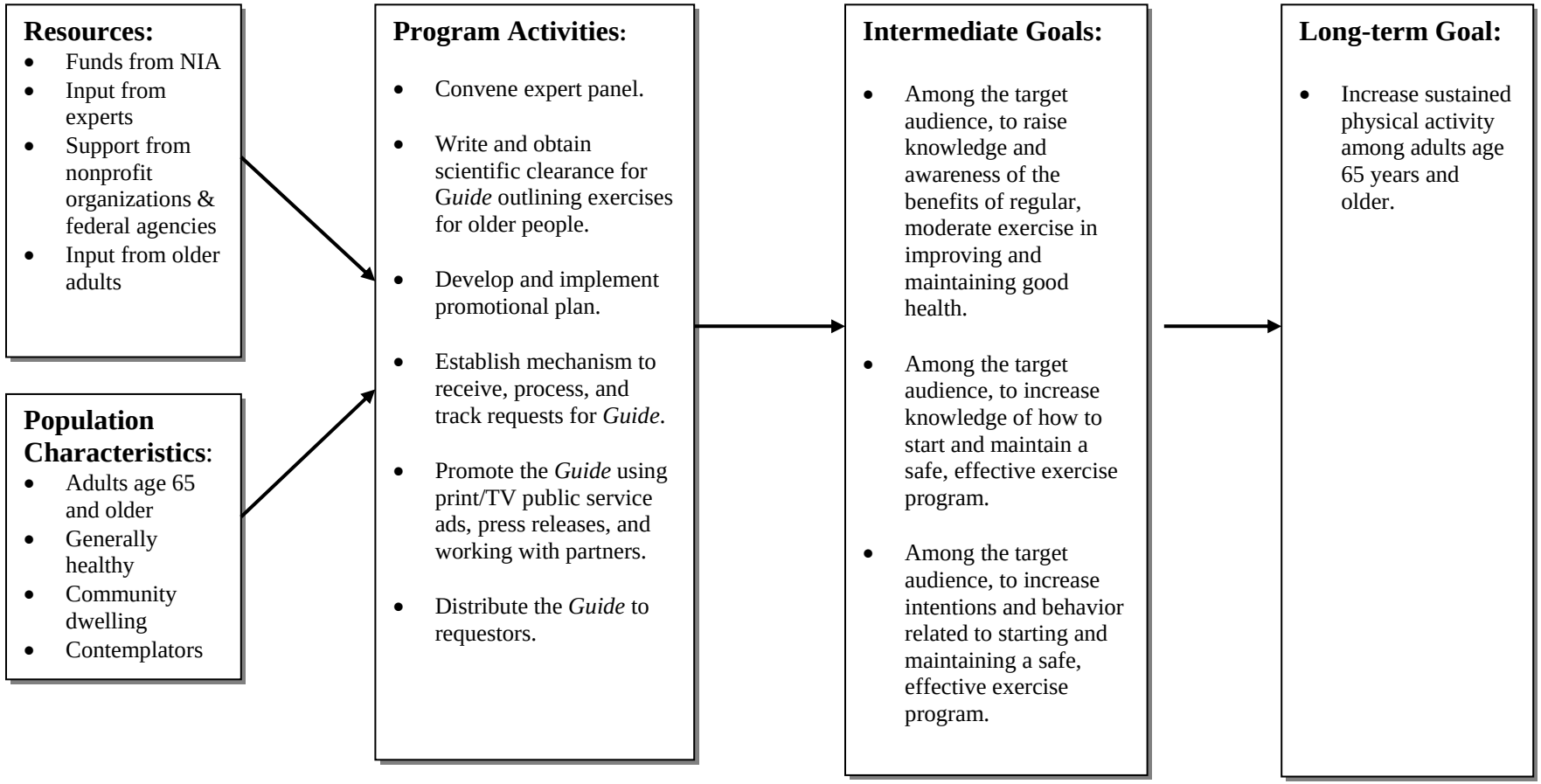
OCPL prepared *Exercise: A Guide from the National Institute on Aging* using findings from NIA-supported research, recommendations from the U.S. Surgeon General's *1996 Report on Physical Activity and Health***,** recommendations from the Centers for Disease Control and Prevention and the American College of Sports Medicine, and the published scientific literature on exercise and the elderly. The *Guide* conveys that regular exercise may help reduce falls and prevent frailty, and may help prevent many disabilities and illnesses that occur frequently in older people. It addresses several key issues gleaned from the scientific review, including that older adults who exercise regularly can improve:

- Flexibility and coordination, which help maintain a normal range of motion and allow for continued participation in everyday activities.
- Strength, which helps prevent falls and related injuries and maintains functional independence.
- Endurance, which is important to the health and functioning of the heart, lungs, and blood vessels.

The *Guide* also provides readers with a myriad of resources and charts to help them develop an exercise plan and measure their progress. Also included is a tear-out certificate that readers can mail in to receive "official" NIA congratulations for having sustained exercise practice for at least one month. In April 2000, an accompanying exercise video that demonstrates the exercises described in the *Guide* was produced and made available to the public.

Based on discussions with NIA and a review of materials, AED developed a conceptual framework (Exhibit 1) for the program that articulates NIA's program development activities and goals.

Exhibit 1:
Exercise: A Guide from the National Institute on Aging
Conceptual Framework



4. Evaluation Options

Based on a review of the literature on the design of effective evaluations for communication programs, AED concluded that an outcome evaluation was indeed feasible for meeting NIA's needs, and that several methodological options existed from which they could choose**.** Because this was the first formal evaluation of the exercise initiative (no process or outcome studies, other than tracking data, had yet been collected), AED suggested that NIA simplify the initial evaluation design by focusing on an evaluation of the *Guide* only. The Institute agreed. After an initial evaluation was completed, subsequent evaluation efforts could assess the book and video together or compare consumer response to each product.

Four options to evaluate the *Guide* were presented and discussed with NIA. These options are summarized below with a brief description of the methodology, its potential value to NIA in meeting specific evaluation objectives, and any limitations of the methodology. Table 1 summarizes the four options. All four options would require OMB approval.

Option 1: Quantitative Demographic Assessment of Requestors

To determine the extent to which the *Guide* is reaching its intended target audience though various promotion and outreach efforts, the NIA Information Center staff could collect basic demographic information from callers requesting the *Guide*. Specifically, NIA could collect information from approximately 500 requestors within a set time frame following each promotion. This approach would provide an acceptable margin of error to give NIA a good sense of the audience reached and the relative effectiveness of each promotional strategy. The information collected could include:

- age
- gender
- living situation
- general health (self-rated)
- physical activity status
- proposed use for the book (self, elderly friend or relative, job)
- source of promotion

Advantages: Collecting the data listed above would allow NIA to compare and analyze the actual audience reached with the proposed target audience. It would also allow NIA to compare the success of various promotional strategies in motivating calls for the *Guide* overall and among selected audience segments.

Limitations: This data collection effort alone would not provide any information on consumer use of or satisfaction with the materials, or on changes in knowledge, attitudes or behavior.

Option 2: Qualitative Research

NIA could conduct focus groups, a form of qualitative research, with different segments of the audience to assess their reactions to and use of the *Guide*. Participants could be grouped according to age (e.g., ages 50-64 or 65+) and physical activity status (e.g., those who exercised a specified number of times during the previous week versus those who did not exercise). AED recommends using telephone focus groups as an alternative to traditional in-person groups. Telephone focus groups allow a wider pool of recipients from across the United States to participate in the study, rather than only recipients in a few geographic areas. AED recommends conducting sixteen focus groups if NIA wants to explore the two age segments and the two exercise status segments mentioned above.

Advantages: Since the publication was not pre-tested with consumers, this research could provide valuable insight into audience reaction to the *Guide*, use of the overall *Guide* and specific chapters, and reported changes in knowledge, attitudes and behavior. The strengths of this approach lie in the flexible method of questioning, which provides a depth of understanding as to why consumers give particular responses.

Limitations: The major limitations stem from the way in which participants are selected and the flexible questioning that is used. The individuals interviewed do not represent a random, representative sample and interviews follow a discussion guide rather than a set of identically administered questions. Consequently, results can not be generalized to the target population at-large, and should be considered suggestive and directional, rather than definitive.

Option 3: Post Test, Quantitative Survey on Requestor Use and Reactions to the Guide

To provide outcome information on consumer use, satisfaction, and reported changes in knowledge, attitudes, and behavior, NIA could conduct a 10-15 minute phone interview with a representative sample of 500 people who request the *Guide*. The interview should be conducted approximately 30 days after receipt of the materials to allow recipients time to read and use the *Guide*. AED recommends this post-test only approach because the administration of a pre-test would sensitize participants to the topic, thus jeopardizing the validity of the post-test results.

Information gathered during the interview could address the following variables:

- Channels (e.g., How did you find out about the *Guide*?)
- Exposure to sections of the *Guide* (e.g., Did you read the *Guide*? Which sections did you read?)
- Reactions (e.g., Did you like the *Guide*? What did you like most? What did you like least?)
- Recommended improvements (e.g., How would you improve the *Guide*?)
- Knowledge (e.g., What did you learn from the *Guide*?)
- Attitudes or beliefs about exercise (e.g., Do you believe small changes in exercise can have an impact on health?)

- Self-reported behavior change (e.g., Did you alter your physical activity?)
- Respondent's stage of change
- Age, gender, living situation, general health (self-rated), physical activity status, source of promotion

Advantages: This design would allow NIA to describe the population who requested the *Guide*; compare the value of various promotional channels; gather information to help improve sections of design and content; describe reactions to the *Guide* among requestors; and describe reported changes in knowledge, attitudes and behavior. This design would provide basic outcome information to NIA and the findings could be generalized to the population of requestors. Many of the questions used in this study could be taken from the exercise component of the Behavioral Risk Factor Surveillance System (BRFSS), thus allowing some comparison to national data. (The BRFSS is an ongoing surveillance system sponsored by CDC. The survey, which contains a module on exercise, is administered in all 50 states. BRFSS data help public health professionals in various health issues.) Appendix B provides a list of recommended questions.

Limitations: Since there is not an experimental design with a control group, reported changes in knowledge, attitudes and behavior could not be attributed conclusively to the NIA materials.

Option 4: Experimental Design: Post Test, Quantitative Survey

A control group could be added to Option 3, described above. Requestors who agree to participate in the survey could be randomly assigned to:

- The treatment group, which would receive the NIA materials immediately
- A control group, which would receive the NIA materials after a delay

Both groups would be surveyed approximately 30 days after the treatment group received the materials. Information gathered during the interview could address the same variables described in Option 3.

Advantages: This is a stronger design if the main purpose of the evaluation is to demonstrate that changes in knowledge, attitudes, or behaviors are attributable to NIA materials.

Limitations: There are several logistical and ethical considerations to this approach that may make it less desirable, including higher costs because of the added control group and the delay of mailing materials to requestors.

Table 1. Summary of Evaluation Design Options			
Design Options	**Description**	**Advantages**	**Limitations**
1. Demographic assessment of requestors	Conduct short telephone interview with individuals calling to request the *Guide*	• Can describe who requests the *Guide* • Can compare marketing channels and promotions	• No follow-up information on use or change in knowledge, attitudes or behavior
2. Qualitative research	Focus groups	• Depth of understanding and insight—can describe and probe reactions to *Guide*, use, etc.	• Cannot assume findings represents population of requestors • Cannot conclude any reported changes are the result of the *Guide*
3. Post Test Quantitative Survey	Conduct telephone interview with a probability sample of requestors (n=500) one month after they receive the *Guide*	• Can assume findings represent population of requestors • Can describe who requests • Can compare the marketing channels • Can describe reactions to *Guide*, use, etc.	• Cannot conclusively conclude that reported changes are the result of exposure to the *Guide*
4. Experimental Design	Randomly assign requestors to receive *Guide* immediately (Treatment) or after one-month delay (Control); send *Guide* to Treatment group; conduct telephone interview after one month; send *Guide* to control group	• Can demonstrate that any reported changes in attitudes and behaviors are due to the *Guide*	• Cost, logistical and ethical issues (with delay of intervention)

5. Recommendations

AED presented four broad options for evaluating the *Guide* to NIA. AED and NIA staff engaged in several discussions to assess the advantages and disadvantages of each option, in light of NIA's evaluation objectives. NIA wants an evaluation to provide meaningful feedback on the audience's use and reactions to the *Guide*, and to assess the *Guide's* influence on knowledge, attitudes and behavior. Criteria for selection of a design included that the evaluation budget not exceed $100,000 and that the design not impose unnecessary burdens on individuals calling in to request the *Guide*.

NIA decided on to pursue an evaluation design that combined Option 2 and Option 3. Option 2, focus groups, would provide rich and detailed information on audience reactions to the *Guide*, and Option 3, a post-test quantitative survey of requestors, would provide information on the audience's use and reactions to the *Guide* that could be generalized to the overall population of requestors.

Based on this decision, AED began to prepare a draft proposal for NIA to submit to the NIH Office of Evaluation for one-percent evaluation set-aside funds. NIA submitted a draft of the proposal to the Office for an informal review and received helpful feedback to improve and strengthen the proposal. The suggestions included linking the evaluation design more closely to the conceptual framework, adding an evaluation advisory group, and submitting a tested set of questions as part of the proposal.

During the period of time that this feasibility study was being conducted, NIA was offered the opportunity to participate in an evaluation of the *Guide* and video as part of an Older Women's League (OWL) project funded by the Centers for Disease Control and Prevention. A full description of the sample size and methodology to be used by OWL was not available at the time of this report; however, a draft questionnaire was shared with NIA. The draft questionnaire was designed to explore the same set of questions that is of interest to NIA – use of the *Guide* and video, reactions to the materials, changes in knowledge, and changes in intent to exercise.

The opportunity to use the OWL project to gather evaluation information on the *Guide* and video affects the recommended course of action for NIA at this time. AED recommends that NIA postpone submission of a proposal for one-percent evaluation funding until further information from OWL is available. Depending on the actual scope and design of the OWL evaluation, the results may be used in place of an NIA-sponsored evaluation, or the results can be used to further refine an NIA evaluation design that builds on the OWL experience and findings.

AED strongly recommends that NIA pursue an evaluation of the *Guide*, either by using the OWL findings, if they meet NIA needs, or by pursuing an additional evaluation that builds on the OWL project. The public's interest in exercise and aging continues to grow. The continued high level of requests for the *Guide* each month indicates that the materials are responding the public's need for information on these topics. Given the initial investment in these communication materials and the possibility of revising and reprinting the *Guide*, an evaluation will provide NIA with the opportunity to further improve this product and to share lessons learned with other federal agencies working in the area of exercise for the adult population.

Appendix A

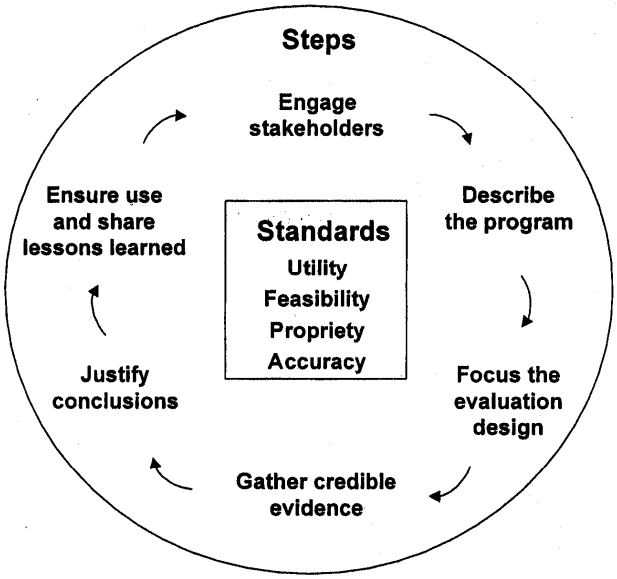
CDC EVALUATION WORKING GROUP

http://www.cdc.gov/eval

Revision: November 2, 1999

Overview of the Framework for Program Evaluation

ELEMENTS OF THE FRAMEWORK



REFERENCE CARD

Steps in Evaluation Practice	Standards for Effective Evaluation
• **Engage stakeholders** Those involved, those affected, primary intended users • **Describe the program** Need, expected effects, activities, resources, stage, context, logic model • **Focus the evaluation design** Purpose, users, uses, questions, methods, agreements • **Gather credible evidence** Indicators, sources, quality, quantity, logistics • **Justify conclusions** Standards, analysis/synthesis, interpretation, judgment, recommendations • **Ensure use and share lessons learned** Design, preparation, feedback, follow-up, dissemination	• **Utility** Serve the information needs of intended users • **Feasibility** Be realistic, prudent, diplomatic, and frugal • **Propriety** Behave legally, ethically, and with due regard for the welfare of those involved and those affected • **Accuracy** Reveal and convey technically accurate information

L:\CDC\Eval Group\framework overview.wpd Printed: November 2, 1999

Appendix B: Evaluation Variables and Proposed Questions for Option 3 & 4	
Variables	**Questions**
1. Channels of information	• How did you find out about the *Guide*?
2. Exposure to the *Guide*	• How much of the *Guide* did you read? • Did you read the section on …?
3. Comprehension	• What was the main idea of the *Guide*?
4. Reactions to the *Guide*	• How would you rate the *Guide* overall? • What parts did you find the most useful? • What parts did you find the least useful? • Would you recommend the *Guide* to a friend? •
5. Suggestions for improvement	• What would you change in the *Guide* to make it more effective? • What else would you need to help you or people like you exercise?
6. Self-reported change	• Has the *Guide* altered your physical activity? How?
7. Use of the *Guide*	• In the past 30 days, did you: • Assess your endurance, strength, or balance using the tests in the book? • Complete a physical activity progress chart? • Ask for more information or write away for more information on physical activity? • Do any strengthening activities? • Do any flexibility activities? • Do any balance activities? • Do any endurance activities?
8. Knowledge about exercise	• What information in the *Guide* was new to you? • Specific questions about information in the *Guide*, for example: • Can you name three specific benefits of exercise for older people? • Can you identify any physical activities that improve strength? • Can you identify any physical activities that improve balance? • Can you identify any physical activities that improve mobility? • Can you identify any physical activities that improve endurance?
9. Demographic information	• Questions will elicit data concerning: • Age • Gender • Marital status • Living situation • Race/Ethnicity
10. General health	How would you rate your overall health? Excellent? Good? Fair? Poor?

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