

# NIH GUIDE

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**U.S. DEPARTMENT OF HEALTH  
AND HUMAN SERVICES**

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The NIH Guide announces scientific initiatives and provides policy and administrative information to individuals and organizations who need to be kept informed of opportunities, requirements, and changes in extramural programs administered by the National Institutes of Health.

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NIH/FDA REGIONAL WORKSHOPS - PROTECTION OF HUMAN SUBJECTS

P.T. 42; K.W. 0783005, 0783010

National Institutes of Health  
Food and Drug Administration

The National Institutes of Health (NIH) and the Food and Drug Administration (FDA) are continuing to sponsor a series of workshops on responsibilities of researchers, Institutional Review Boards (IRBs), and institutional officials for the protection of human subjects in biomedical and behavioral research. The workshops are open to everyone with an interest in research. The meetings should be of special interest to those persons currently serving or about to begin serving as a member of an IRB. The current schedule includes:

o Dates: April 6-7, 1989

Location: Cincinnati, Ohio

Title of Workshop: "Regulations, Ethics, and Compassion"

Contact:

Mrs. Emogene deMaagd  
Assistant to Associate Dean  
for AHEC/CONMED  
University of Cincinnati  
140 Health Professions Bldg.  
Cincinnati, Ohio 45267  
Telephone: (513) 558-5259

o Date: April 13-14, 1989

Location: Honolulu, Hawaii

Title of Workshop: "Protecting the Rights of Human Subjects in Research: A Shared Responsibility"

Contact:

Ms. Vicki Shambaugh  
Director, Research and Development  
846 South Hotel St. (#303)  
Honolulu, Hawaii 96813-2512  
Telephone: (808) 524-4411

o Dates: May 4-5, 1989

Location: Omaha, Nebraska

Title of Workshop: "Current Ethical Issues in the Protection of Vulnerable Human Subjects in Clinical, Behavioral, and Sociological Research"

Contact:

Ms. Marge Adey  
Center for Continuing Education  
University of Nebraska Medical Center  
42nd and Dewey Avenue  
Omaha, Nebraska 68105-1065  
Telephone: (402) 559-4152

o Dates: June 1-2, 1989

Location: Indianapolis, Indiana

Title of Workshop: "Protection from Research Risks: Whom Are We Protecting?"

**Contact:**

Mrs. Roxanne Loomis  
Research Risk Coordinator  
Indiana University  
355 Lansing Street  
Administration Building (Rm. 126)  
Indianapolis, Indiana 46202  
Telephone: (317) 274-8289

o Dates: June 15-16, 1989

Location: Philadelphia, Pennsylvania

Title of Workshop: "NIH/FDA Regional Workshop on the Protection of Human Subjects"

**Contact:**

Mrs. Ruth Clark  
Assistant Director for Regulatory Affairs  
University of Pennsylvania  
The Office of Research Administration  
133 South 36th St. (Suite 300)  
Philadelphia, Pennsylvania 19104  
Telephone: (215) 898-2614

o Dates: July 10-11, 1989

Location: Syracuse, New York

Title of Workshop: "Research Involving Human Subjects"

**Contact:**

Ms. Linda Weaver  
Senior Administrator  
Syracuse University  
College of Arts and Science  
329 Hall of Languages  
Syracuse, New York 13244-1170  
Telephone: (315) 443-2202

Additional workshops will be announced later. For further information regarding human subjects education programs contact:

Darlene Marie Ross  
Education Program Coordinator  
Office for Protection from Research Risks  
National Institutes of Health  
Building 31, Room 5B62  
9000 Rockville Pike  
Bethesda, Maryland 20892  
Telephone: (301) 496-8101

DATED ANNOUNCEMENTS (RFPs AND RFAs)

PRODUCTION OF POLYCLONAL ANTIBODIES DIRECTED AGAINST RAT PITUITARY HORMONES

RFP AVAILABLE: RFP-NIH-NIDDK-89-3

P.T. 34; K.W. 0780005, 0760025, 0760070

National Institute of Diabetes, and Digestive and Kidney Diseases

The National Institute of Diabetes, and Digestive and Kidney Diseases has a requirement for the Production of Polyclonal Antibodies Directed Against Rat Pituitary Hormones.

The RFP will be available on or about March 27, 1989, and responses will be due approximately 45 days thereafter. The Institute expects to award one contract from this solicitation. To receive a copy of this RFP, please supply this office with two self-addressed mailing labels.

Requests for copies of the RFP should be sent to the following address:

Robert Webber  
Contract Specialist  
Contracts Management Branch  
National Institute of Diabetes, and Digestive and Kidney Diseases  
Westwood Building, Room 602  
Bethesda, Maryland 20892

This advertisement does not commit the Government to make an award.

OPERATION OF A HAEMOPHILUS INFLUENZAE TYPE B REFERENCE LABORATORY

RFP AVAILABLE: RFP-NIH-NIAID-MIDP-90-17

P.T. 34; K.W. 0780005, 0755010

National Institute of Allergy and Infectious Diseases

The Microbiology and Infectious Diseases Program of the National Institute of Allergy and Infectious Diseases has a requirement for the operation of a Haemophilus influenzae type b reference laboratory. The successful offeror should have the capabilities and facilities to: (1) operate a serologic reference laboratory for performance of assays of Haemophilus influenzae type b capsular polysaccharide antibodies; and (2) provide radiolabeled and reagent-grade PRP antigen to other investigators for performance of radioimmunoassays. This NIAID-sponsored project will take approximately four years to complete. One cost-reimbursement type contract is anticipated.

RFP-NIH-NIAID-MIDP-90-17 will be issued on or about April 6, 1989, with a closing date for receipt of proposals tentatively set for May 22, 1989. To receive a copy of the RFP please supply this office with two (2) self-addressed mailing labels. All responsible sources may submit a proposal which will be considered by NIAID.

Request for the RFP shall be directed to:

Mr. William C. Roberts  
National Institute of Allergy and Infectious Diseases  
National Institutes of Health  
Westwood Building, Room 707  
5333 Westbard Avenue  
Bethesda, Maryland 20892  
Telephone: (301) 496-2508

This advertisement does not commit the Government to award a contract.

COORDINATING CENTER FOR COLLABORATIVE STUDIES ON THE GENETICS OF ALCOHOLISM

RFA: 89-AA-01A

P.T. 04; K.W. 0404003, 1002019, 0745020, 0760003

National Institute on Alcohol Abuse and Alcoholism

New Application Receipt Date: April 24, 1989

The National Institute on Alcohol Abuse and Alcoholism has changed the receipt date for Request for Applications 89-AA-01A, Coordinating Center for Collaborative Studies on the Genetics of Alcoholism from April 3, 1989, to April 24, 1989, to allow additional time to complete the preparation of applications.

For further information, see NIH Guide, Volume 17, December 23, 1988, page 5 or contact:

W. Sue Badman Shafer, Ph.D.  
Acting Director, Division of Basic Research, NIAAA  
14 C 10 Parklawn Building  
5600 Fishers Lane  
Rockville, Maryland 20857  
Telephone: (301) 443-2530

EXTRAMURAL RESEARCH GROUPS FOR COLLABORATIVE STUDIES ON THE GENETICS OF ALCOHOLISM

RFA: 89-AA-01B

P.T. 34; K.W. 0404003, 1002019, 0760002

National Institute on Alcohol Abuse and Alcoholism

New Application Receipt Date: April 24, 1989

The National Institute on Alcohol Abuse and Alcoholism has changed the receipt date for Request for Applications 89-AA-01B, Extramural Research Groups for Collaborative Studies on the Genetics of Alcoholism from April 3, 1989, to April 24, 1989, to allow additional time to complete the preparation of applications.

For further information, see NIH Guide, Volume 17, December 23, 1988, page 6 or contact:

W. Sue Badman Shafer, Ph.D.  
Acting Director, Division of Basic Research, NIAAA  
14 C 10 Parklawn Building  
5600 Fishers Lane  
Rockville, Maryland 20857  
Telephone: (301) 443-2530

MEASURING THE IMPACT OF ALCOHOL WARNING LABELS

RFA AVAILABLE: AA-89-06

P.T. 34; K.W. 0404003, 0411005, 0404000

National Institute on Alcohol Abuse and Alcoholism

Application Receipt Date: July 17, 1989

To increase awareness of possible hazards associated with alcohol consumption, all alcoholic beverages manufactured, imported, or bottled for sale or distribution in the United States, after November 18, 1989, are required by law to bear the following statement on the sealed containers in which they are offered for sale to the general public: GOVERNMENT WARNING: (1) According to the Surgeon General, women should not drink alcoholic beverages during pregnancy because of the risk of birth defects. (2) Consumption of alcoholic beverages impairs your ability to drive a car or operate machinery, and may cause health problems.

National Institute on Alcohol Abuse and Alcoholism (NIAAA) requests applications for research on the impact of warning labels on the knowledge, attitudes, behavior, and alcohol-related morbidity and mortality of relevant American populations. The statutory authorities for anticipated awards are sections 301 and 510 of the Public Health Service Act (42 USC 241 and 290bb).

BACKGROUND STUDIES AND RESEARCH DIRECTIONS

Although health warning labels have been used on alcoholic beverages in other countries, the literature reveals no studies of their impact. Research on labeling of other substances, such as foods or cigarettes, shows behavior change in the desired direction. To attribute this directly to warning labels, however, is precarious because of the many other countermeasures being applied in close conjunction. It becomes difficult to measure causality and to distinguish independent and interactive effects. Further, the effectiveness of labeling seems to vary with characteristics of the message (e.g., length and complexity) and the audience (e.g., reading and educational levels). Research on mass communication and marketing also have implications for the effective use of alcohol labels. Media interventions appear to be particularly effective when combined with interpersonal communication or community mobilization efforts. In addition, theory and research methods in such disciplines as psychology, sociology and anthropology are germane to alcohol warning label research.

NIAAA is most interested in determining the impact of warning labels on drinking behavior and its adverse health consequences. The endpoints should include process outcomes that serve as mediating variables in the cognition-action chain. Also of interest is whether and in what manner warning labels might affect the "cultural position" of alcohol in American

society--how society perceives, defines, responds to, and controls alcohol use and abuse.

Investigators are encouraged to examine the independent effects of warning labels and interactions with other concurrent prevention efforts such as counteradvertising. Researchers should attempt to measure shorter- and longer-term consequences of the labeling intervention, paying particular attention to possible systematic and unpredictable variations in impact. Longitudinal designs that employ time-series analyses would be relevant. If policy makers change the form and content of warning labels over time, the intervention might be viewed as a continuing process with multiple components and effects.

It is important to determine how different subgroups will react to warning labels, especially those at high risk for the specific problems that the warning labels address. Studies might additionally focus on groups who are not themselves at high risk, but who are in a key position to help those who are.

Another research opportunity concerns the relative impact of different types of warning labels. Variations in content, form, and readability might be studied to determine which messages have the greatest impact on various target populations.

Funds under this RFA will not be available in time to support the collection of baseline data prior to the implementation of warning labels in November 1989. Thus, the gathering of baseline data is not a requirement for applications submitted under this RFA. Applicants are encouraged, however, to obtain baseline data in other ways, e.g., by securing seed monies to conduct pilot studies or by identifying relevant information from existing data sets.

#### MECHANISM OF SUPPORT

It is estimated \$600,000 will be available to make awards for the first year of funding, including direct and indirect costs. If more applications are worthy of support, funds can be made available from the larger R01 pool. Awards will be made as soon as possible after final review in the fall of 1989.

#### REVIEW PROCEDURES AND CRITERIA

The standard scientific and technical merit review procedures of the Alcohol, Drug Abuse, and Mental Health Administration will be followed for applications responding to this RFA. Criteria to be used in the merit review include:

1. Relevance of the research to the central focus of the RFA: measuring the impact of alcohol warning labels in increasing awareness of the health hazards of alcohol abuse and in reducing deleterious behavior;
2. Responsiveness of the research approach to possible changes over time in the effects of the warning labels and in the labels themselves;
3. Evidence that the investigators are familiar with the state-of-the-art and existing knowledge gaps in their proposed area of research;
4. Degree of scientific rigor in the design and implementation of the study;
5. Adequacy of the methods used to collect and analyze data;
6. Qualifications and research experience of the principal investigator and other key research personnel;
7. Evidence of availability of facilities, resources, collaborative arrangements, and subjects appropriate to the goals of the research;
8. Adequacy of procedures to protect human subjects;
9. Appropriateness of budget estimates for the proposed research activities.

Applicants are urged to include females and ethnic and racial minorities in study populations and at sufficient numbers to generalize the results. If females and minorities are excluded, a clear rationale should be provided.

#### APPLICATION PROCEDURES

The standard research grant application form PHS 398 (revised 9/86) must be used to apply for these awards. When applying, type the name of this RFA, "Measuring the Impact of Alcohol Warning Labels, RFA AA-89-06," on page 1, item 2, of PHS 398. State and local government agencies should use form PHS 5161-1 (revised 11/88), and insert the name and number of this RFA on line 9 under Name of Federal Agency. The RFA label in the kit must be affixed to the bottom of the original face page and be duplicated on all copies.

Application kits containing the necessary forms and instructions (PHS 398) may be obtained from institutional business offices or offices of sponsored research at most universities, colleges, medical schools, and other major

research facilities. Application forms may also be obtained from the National Clearinghouse for Alcohol and Drug Information, Reference Department, P.O. Box 2345, Rockville, Maryland 20852 (telephone: 301-468-2600).

The signed original and four permanent, legible copies (original and two copies if using form PHS 5161-1) of the complete application and any appendices should be submitted to: Division of Research Grants, NIH Westwood Building, Room 240, Bethesda, Maryland 20892\*\*.

In addition, it is requested that the applicant send two copies directly to:

Office of Scientific Affairs, NIAAA  
Parklawn Building, Room 16-C-20  
Rockville, Maryland 20857  
Telephone: (301) 443-4375

For a copy of the complete RFA and preapplication consultation contact:

Dr. Mary Ganikos  
Prevention Research Branch, NIAAA  
5600 Fishers Lane  
Parklawn Building, Room 16C-03  
Rockville, Maryland 20857  
Telephone: (301) 443-1677

#### AVOIDABLE MORTALITY FROM CANCERS IN NATIVE AMERICAN POPULATIONS

RFA AVAILABLE: 89-CA-10

P.T. 34, FE; K.W. 0715035, 0745027, 0404000

National Cancer Institute

Letter of Intent Receipt Date: May 1, 1989  
Application Receipt Date: August 3, 1989

The Special Populations Studies Branch of the Division of Cancer Prevention and Control, National Cancer Institute (NCI) announces the availability of a Request for Applications (RFA) on the above subject. Note that awards will not be made to foreign institutions.

The Division of Cancer Prevention and Control (DCPC) invites cooperative agreement applications for investigators to participate, with the assistance of the National Cancer Institute (NCI), in studies to determine the effectiveness of cancer control and prevention intervention strategies in Native American Populations. The subjects for the studies will be Native Hawaiians, Alaskan Natives and American Indians and the research will involve studies which address the effectiveness and efficacy of cancer control and prevention intervention strategies to increase appropriate use of screening procedures to reduce cancer rates and or risks among Native Americans. Interventions in Avoidable Mortality are characterized by methods which will circumvent or reduce barriers to cancer prevention and control services. Such barriers include but are not limited to: (1) Behavioral/Cultural Barriers, i.e., language differences, social psychological considerations, particular cultural beliefs which may affect accessing cancer control services, lack of knowledge and understanding of cancer prevention and control opportunities; and (2) Health System/Structural Barriers, i.e., availability of cancer control services, financial limitations, and transportation barriers. The assistance mechanism used to support these studies will be the cooperative agreement, which is similar to the traditional NIH research grant but which differs from a research grant principally in the extent and nature of NCI staff involvement with investigators. Two elements are critical for obtaining support for a study. Respondents must demonstrate the ability to: 1) access and obtain the participation of the Native American population in which the cancer intervention study will be conducted, and 2) develop and evaluate a culturally compatible intervention in the target population. Intervention Studies will encompass the definition of a Phase Three Cancer Control Study: Controlled Intervention Study. Interested institutions may request copies of the RFA.

Approximately \$1,200,000 in total costs per year for 5 years will be committed to specifically fund applications which are submitted in response to the RFA. Requests for copies of the RFA should be addressed to:



Gregory M. Christenson, Ph.D.  
Special Populations Studies Branch  
Division of Cancer Prevention and Control  
National Cancer Institute  
Executive Plaza North, Room 240  
9000 Rockville Pike  
Bethesda, Maryland 20897  
Telephone: (301) 496-8589

PRIMARY PREVENTION: SMOKING/SMOKELESS TOBACCO USE AND DIETARY CHANGE IN  
NATIVE AMERICAN POPULATIONS

RFA AVAILABLE: 89-CA-11

P.T. 34, FE; K.W. 0715035, 0745027, 0404019, 0404000

National Cancer Institute

Letter of Intent Receipt Date: May 1, 1989  
Application Receipt Date: August 3, 1989

The Special Populations Studies Branch of the Division of Cancer Prevention and Control, National Cancer Institute (NCI), announces the availability of a Request for Applications (RFA) on the above subject. Note that awards will not be made to foreign institutions.

The Division of Cancer Prevention and Control (DCPC) invites cooperative agreement applications for investigators to participate, with the assistance of the NCI, in studies to determine the effectiveness of cancer control and prevention intervention strategies in Native American populations. The subjects for the studies will be Native Hawaiians, Alaskan Natives and American Indians and the research will involve studies which address the effectiveness and efficacy of smoking/smokeless tobacco prevention and cessation or dietary change intervention strategies. The assistance mechanism used to support these studies will be the cooperative agreement, which is similar to the traditional NIH research grant. It differs from a research grant principally in the extent and nature of NCI staff involvement with investigators. Two elements are critical for obtaining support for a study. Respondents must demonstrate the ability to: 1) access and obtain the participation of the Native American population in which the cancer intervention study will be conducted, and 2) develop and evaluate a culturally compatible intervention in the target population. Intervention Studies will encompass the definition of a Phase Three Cancer Control Study: Controlled Intervention Study. Interested institutions may request copies of the RFA.

Approximately \$1,100,000 in total costs per year for 5 years will be committed to specifically fund applications which are submitted in response to the RFA. Requests for copies of the RFA should be addressed to:

Gregory M. Christenson, Ph.D.  
Special Populations Studies Branch  
Division of Cancer Prevention and Control  
National Cancer Institute  
Executive Plaza North, Room 240  
9000 Rockville Pike  
Bethesda, Maryland 20897  
Telephone: (301) 496-8589

ONGOING PROGRAM ANNOUNCEMENTS

HUMAN FACTORS RESEARCH ON OLDER PEOPLE

P.T. 34, CC; K.W. 0710010, 0404000, 0710030

National Institute on Aging

I. Introduction

The National Institute on Aging (NIA) seeks applications for research and research training that focus on human factors research on older adults. The announcement is part of the broad program of the Institute which was established by law for the "conduct and support of biomedical, social, and behavioral research and training related to the aging process and the diseases and other special problems and needs of the aged." It supplements NIA's broad announcement on HEALTH AND EFFECTIVE FUNCTIONING IN THE MIDDLE AND LATER

YEARS. (See NIH Guide for Grants and Contracts, Vol. 12, No. 6, June 17, 1983.) It is issued by the Behavioral and Social Research Program in collaboration with the other NIA programs on Neuroscience and Neuropsychology of Aging and on Biomedical Research and Clinical Medicine.

## II. Background

NIA seeks biomedical, behavioral and social applications with a human factors emphasis; that is, applications that relate the skills, capacities, and functioning of older adults to the activities in which they engage and the environments that they encounter. Such a human factors approach to the study of aging should generate a knowledge base that permits optimizing environments, tasks and equipment for older people and identifies interventions designed to improve functioning and enhance quality of life.

Two emerging trends are driving the need for human factors research on older people. The first trend is societal. Because the older population is expanding just as the proportion of younger adults is decreasing, older people are becoming an increasingly large segment of the likely users of new and rapidly changing technologies. For example, there are more older drivers than ever before. Older adults are more and more frequent users of recreation and leisure facilities. Additionally, as cohorts of young adults become too small to meet the demands for workers, the century-long trend towards earlier retirement may be reversed: It already is to the economic advantage of many employers and employees to establish working conditions maximally suited to the experience of older workers. In health care, economic and social pressures are increasingly generating the need to investigate new technologies that can aid in the prevention of disability as well as in its amelioration. Such technologies increasingly must be administered at home by the patient or other family members.

The second trend is individual and reflects recent research findings. It is already clear that even basic perceptual processes in older adults are improved by altering the environmental conditions of reinforcement. Simple changes in task structure improve performance on memory tasks and can eliminate previously existing age differences. Such results imply that human factors research techniques that focus on the person-environment interaction hold considerable promise for enhancing the functioning of older adults. Therefore, NIA encourages researchers to use the techniques of human factors to address the needs of this population.

One central problem for this research area is that the older population is heterogeneous and the environments that they encounter are diverse. Therefore, since it is unlikely that any one set of results will apply to all older people, researchers are encouraged to focus on major subgroups, and on given domains of experience. Likely subgroups include healthy adults living independently, nursing home residents and Alzheimer's patients. Likely domains include home, workplace, leisure activities, transportation, communication, health care and rehabilitation.

Background reading on human factors can be found in the Handbook of Human Factors Engineering, (1987), ed., G. Salvendy, New York, Wiley. Research needs on human factors and aging are discussed in the report issued by the National Research Council, Committee on Human Factors, Human Factors Research Issues for an Aging Population (1989) and in the earlier report by the Committee on Vision, Work, Aging and Vision (1987). Both reports are available from the National Research Council, National Academy of Sciences, 2101 Constitution Ave., NW, Washington, DC, 20418.

## III. Specific Objectives

NIA seeks applications that: (a) build upon the principles obtained from prior research that established that older adults' functioning is sensitive to changes in environment; and (b) use these principles to explore and specify how environments may be modified appropriately. Such applications will likely address the following three related questions. (1) How and why, in given environments, do older and younger adults differ in their activities? (2) What are the most appropriate measures of the functional capacities of older and younger adults in relation to particular tasks and environments? (3) How does modifying the older person-environment interaction alter functional capacity? Applications may combine these topics to develop a comprehensive, theoretically guided approach to a particular problem. Interdisciplinary collaboration among human factors researchers and other scientists from the biomedical and behavioral research community is especially encouraged. NIA also seeks research training applications that combine the areas of research on aging and human factors to produce investigators skilled in both specialties.

### (1) Activities of Older and Younger Adults

In order to identify those changes to the older person-environment interaction that will have the most impact it is necessary to identify where older and younger adults' activities differ and the reasons for such differences. It is known, for example, that older adults drive substantially less than younger and middle-aged adults. This self-imposed restriction might be removed by better lighting and signs on the highways. However, this intervention would be premature until it is shown that existing lighting and signs contribute to the restriction.

In domains, other than driving, less is known about how adults modify their activities as they grow older. For example, the ability to prepare one's own meals is an important aspect of independent functioning that reduces the need for costly care or service delivery. Cross-sectional survey data indicate that many frail older women report difficulty preparing meals. Without observing this activity in detail and specifying major problem areas it is impossible to be certain that a particular intervention strategy is appropriate. A redesigned work area, lighter weight equipment, or simpler operating procedures for appliances, all may help frail older women to prepare meals. However, without prior supporting observation such interventions may prove to be costly errors.

Careful description of older and younger adults' activities, then, can do much to establish the base for successful intervention. Researchers should be aware, however, that a purely descriptive study usually will be inappropriate. Instead such applications should be presented in the context of identifying possible intervention strategies.

### (2) Measures of Functional Capacity

Functional capacity refers here to the limits on performance set by an individual's capacities as they fit particular environments and tasks e.g., musculoskeletal flexibility and strength in relation to reaching for heavy objects, or memory performance in relation to adherence to medication schedules. An important part of such functional capacity includes physical health status and its relation to functioning in different kinds of tasks and environments. Change in functional capacity is the goal of any strategy that involves modifying the environment.

Applications targeting functional capacity could focus on detailed analyses of performance in certain tasks. Such microanalysis will help to reveal the mechanisms that underlie age differences and may be used to predict how performance will be affected by changes in task structure. Also, analyses that reveal the skills required can be used, together with performance assessments of older humans, to predict those tasks that older adults will find problematic. Measures of reaction time, sensory acuity, accuracy of tracking and pursuit movements, musculoskeletal range of motion and other measures can be integrated into an overall model of older human operators that shows not only the mean performance of particular groups of older adults in given tasks, but also the range of variation expected with changes in health status or declines in sensory systems. Such a model could then be used in environmental design or for intervention programs.

### (3) Modifying the Older Person-Environment Interaction

The primary aim of this announcement is to encourage research that seeks to improve the functioning of older adults through modifying the person-environment interaction. Research on how and why the activities of older and younger adults differ and on the functional capacities of older adults is an important adjunct to that research goal. However, the primary intent is to encourage research that seeks strategies to modify the older person-environment interaction.

Such research must be based on integrative theoretical principles that permit detailed predictions, and the results should generalize beyond the specific task or equipment that is investigated. Thus, for example, it is not sufficient to evaluate a particular machine to determine its suitability for use by older people. Instead the research must address the principles that determine when a class of machine will be well suited to older individuals and when it will not.

Some applications, focused on aspects of older adults that are task relevant, may test modifications that suit the capacities of older people. Other applications may focus on methods of training older adults in particular skills. Such research on skill learning should again be based on an integrative theory. Showing that a particular training approach is effective

on one occasion is not sufficient. Instead the research should investigate why the training approach is effective.

#### (4) Need for Research Training

NIA encourages institutional applications for research training from interdisciplinary groups that have considerable research experience both in human factors research and aspects of research on aging. Institutional training applications for predoctoral support leading to biomedical and behavioral doctorates with human factors and aging specialties are especially encouraged. There is also a need for postdoctoral training and fellowship applications that allow individuals trained in one of the specialties to gain knowledge and experience of the other specialty.

#### V. Methodology

Research applications should be designed to yield findings that generalize beyond the particular setting in which older adults are tested. Applications will therefore benefit from developing a conceptual model of the relevant person-environment interaction and designing studies to evaluate or extend this model. In this way the resulting knowledge base can be applied to new situations as they arise. Researchers may choose different approaches to examine the diverse areas of research described in this announcement. Appropriate methodologies include, but are not limited to, task analysis, critical incident analysis, accident analysis, or simulation of task components.

#### VI. Review Criteria and Application Procedures

Research project grant (R01) and FIRST (R29) applications, fellowships (F32, F33), and research career development awards (K04) will be reviewed for scientific and technical merit by an appropriate study section in the Division of Research Grants. All other applications will be reviewed by an appropriate institute review group. Secondary review will be by the corresponding National Advisory Council.

Applications compete on the basis of scientific merit with all other applications. Researchers considering an application in response to this announcement are encouraged to discuss their project, and the range of grant mechanisms available, with staff in advance of formal submission.

Investigators should be aware that NIH urges applicants for grants to give added attention (where feasible and appropriate) to the inclusion of minorities in study populations. If minorities are not included in a given study, a clear rationale for their exclusion should be provided. Merely including an arbitrary number of minority group participants in a given study is insufficient to guarantee generalization of results.

Applicants should use the regular research project and program project grant application form (PHS 398, Rev. 9/86), available at the applicant's institutional Application Control Office or from the Office of Grants Inquiries, Division of Research Grants, NIH (see address below). In order to expedite the application form's routing within NIH, please (1) check the box #2 on the face sheet of the application indicating that your proposal is in response to this announcement and print (next to the checked box) HUMAN FACTORS RESEARCH ON OLDER PEOPLE. In assigning applications to NIA or other Institutes, accepted referral guidelines will be followed.

Mail the completed application (with 6 copies) to:

Division of Research Grants  
National Institutes of Health  
Westwood Building, Room 240  
Bethesda, Maryland 20892\*\*  
Telephone: (301) 496-7441

Receipt dates for the Research Project Grant, the Research Program Project Grant and the First Independent Research Support and Transition Award applications are February 1, June 1, and October 1; those for the National Research Service Awards applications are January 10, May 10, and September 10.

Correspondence and inquiries (please indicate Human Factors Research in your inquiry) should be directed to:

Dr. Robin Barr  
Behavioral and Social Research  
National Institute on Aging  
Building 31, Room 5C32  
Bethesda, Maryland 20892  
Telephone: (301) 496-3136

or

Dr. Richard Weindruch  
Biomedical Research and Clinical Medicine  
National Institute on Aging  
Building 31, Room 5C25  
Bethesda, Maryland 20892  
Telephone: (301) 496-9350

or

Dr. Leonard Jakubczak  
Neurosciences and Neuropsychology of Aging  
National Institute on Aging  
Building 31, Room 5C35  
Bethesda, Maryland 20892  
Telephone: (301) 496-9350

This program is described in the Catalog of Federal Domestic Assistance No. 13.866, Aging Research. Awards will be made under the authority of the Public Health Service Act, Title III, Section 301 (Public Law 78-410, as amended; 42 USC 241) and administered under PHS grant policies and Federal Regulations 42 CFR Part 52 and 45 CFR Part 74. This program is not subject to Health Systems Agency review.

\*\*THE MAILING ADDRESS GIVEN FOR SENDING APPLICATIONS TO THE DIVISION OF RESEARCH GRANTS OR CONTACTING PROGRAM STAFF IN THE WESTWOOD BUILDING IS THE CENTRAL MAILING ADDRESS FOR THE NATIONAL INSTITUTES OF HEALTH. APPLICANTS WHO USE EXPRESS MAIL OR A COURIER SERVICE ARE ADVISED TO FOLLOW THE CARRIER'S REQUIREMENTS FOR SHOWING A STREET ADDRESS. THE ADDRESS FOR THE WESTWOOD BUILDING IS:

5333 Westbard Avenue  
Bethesda, Maryland 20816