



# INSTITUTE OF MEDICINE

OF THE NATIONAL ACADEMIES

Judith A. Salerno, M.D., M.S.  
Leonard D. Schaeffer Executive Officer

February 14, 2013

Re: NAS Proposal No. 10001424

J. Lee Dockery, M.D.  
Trustee  
McKnight Brain Research Foundation  
5200 SW 25<sup>th</sup> Boulevard  
Suite 3215  
Gainesville, FL 32608-8923

Dear Dr. Dockery:

We are pleased to submit the enclosed proposal, prepared by our Board on Health Sciences Policy, requesting support for The Public Health Dimensions of Cognitive Health and Aging. The estimated total costs of the project are \$1,361,978. We are requesting that the McKnight Brain Research Foundation provide support in the amount of \$1,361,978 for the period from June 1, 2013 to May 31, 2015.

Acceptance of funds for this activity is subject to approval by the Executive Committee of the National Research Council Governing Board at the meeting on March 13, 2013.

The responsible staff officer for this study is Catharyn Liverman, Senior Program Officer. She may be contacted at 202-334-3986 regarding program matters. Business negotiations are the responsibility of Linda Kilroy, Contract Manager, Office of Contracts and Grants. She may be reached at 202-334-2428.

We appreciate your consideration of this matter.

Sincerely,

Judith A. Salerno, M.D., M.S.

Enclosures

**THE NATIONAL ACADEMIES**  
*Advisers to the Nation on Science, Engineering, and Medicine*

INSTITUTE OF MEDICINE

BOARD ON HEALTH SCIENCES POLICY

Proposal No. 10001424

THE PUBLIC HEALTH DIMENSIONS OF COGNITIVE HEALTH AND AGING

FEBRUARY 2013

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Office of Contracts and Grants  
National Academy of Sciences  
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 *Andrew M. Pope*

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Board on Health Sciences Policy  
Institute of Medicine  
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E-mail: apope@nas.edu

The National Academies consists of four organizations: the National Academy of Sciences, the National Academy of Engineering, the Institute of Medicine, and the National Research Council. The National Research Council is the principal operating agency of the National Academy of Sciences and the National Academy of Engineering. **This proposal is submitted by the NATIONAL ACADEMY OF SCIENCES (NAS), which assumes full technical and legal responsibility under its Act of Incorporation for the work to be carried out under any resultant agreement.** We are a nonprofit publicly supported organization exempt from federal income tax under Internal Revenue Service Code section 501(C)(3). The Taxpayer Identification Number is 53-0196932. DUNS Number is 04-196-4057. **Awards resulting from this proposal should be issued to NATIONAL ACADEMY OF SCIENCES and payment directed to:**

**National Academy of Sciences**  
Accounting Office  
ATTN: Cash Management Section  
500 Fifth Street, NW, Room T 433C  
Washington, DC 20001  
Telephone: 202-334-3351 or 202-334-1476

(rev. 2/27/09)

**THE NATIONAL ACADEMIES  
NATIONAL ACADEMY OF SCIENCES/NATIONAL ACADEMY OF ENGINEERING  
INSTITUTE OF MEDICINE/NATIONAL RESEARCH COUNCIL**

**Proposal No. 10001424**

**The Public Health Dimensions of Cognitive Health and Aging**

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**ATTACHMENTS:** Curricula Vitae for Andrew M. Pope, Ph.D.  
Curricula Vitae for Catharyn T. Liverman, M.L.S.

## Institute of Medicine

### The Public Health Dimensions of Cognitive Health and Aging

#### A. Summary

As requested by the McKnight Brain Research Foundation the Institute of Medicine (IOM) will convene an ad hoc committee of experts to produce a report on the public health dimensions of cognitive health and aging.

#### B. Background

The potential changes in cognitive abilities resulting from the aging process are a concern to everyone. Older adults make up the fastest growing age group worldwide. Currently there are an estimated 700 million people over age 60 with projections for the size of the age group to increase to two billion individuals by 2050. A 2006 report by the Federal Interagency Forum on Aging-Related Statistics noted that less than one in five people over age 65 experience moderate to severe memory impairment while for those age 85 and older, approximately one-third are affected. The wide variations in cognitive function with increasing age have led to extensive research on the genetic and lifestyle factors that may play a role in cognitive decline with a focus on preventive and ameliorative measures.

Significant progress has been made in the past 50 years in understanding the adaptability of the brain with aging and much more remains to be learned about the impact and interrelationships of genetics, exercise, physical health, stress, socio-cultural context, and mental health on cognitive aging. Efforts are also focusing on differentiating cognitive aging from Alzheimer's disease and the various types of dementias. With the focus on preventing cognitive decline to the extent possible, the emphasis is on translating research findings into actionable guidelines on the appropriate levels and types of physical activities, intellectually stimulating activities, and dietary measures, as well as developing other potential preventive interventions.

On November 27, 2012, the IOM's Board on Health Sciences Policy convened a planning meeting that included 35 individuals who represented a range of relevant disciplines. These experts met to discuss gaps and opportunities in the field of cognitive aging with a focus on the public health aspects of cognitive aging and next steps needed to move the field forward. During the meeting, the participants agreed that cognitive aging is a topic that would greatly benefit from an IOM study. The meeting participants identified a number of public health and clinical challenges throughout the meeting that would benefit from a comprehensive review and corresponding recommendations from the IOM. This discussion led to the development of a draft scope of work, which provides the charge and sets forth the task to an IOM ad hoc committee. The planning meeting participants believed that the timing is right for a thorough review of the public health aspects of cognitive aging given the demographic shifts toward an older population, anticipated changes with health care reform, new advances in cognitive sciences and the neurosciences, and the growing number of options available to consumers that aim to enhance cognitive abilities and prevent or ameliorate cognitive decline.

## C. Plan of Action

### *Statement of Task*

The potential for decline in cognitive abilities with increasing age and the consequences of decline present serious concerns for older adults, their family members, and society. Cognitive decline spans the spectrum from forgetfulness to mild impairments (that do not meet disease criteria, but affect quality of life and functioning) to more serious impairments and dementias. The science and understanding of the natural course of cognitive health, cognitive aging, and cognitive decline, along with risk and protective factors, are limited but growing. The demographic shifts toward higher percentages of older adults--particularly individuals over 85 years of age, the lack of public understanding and awareness, and the challenges associated with educating health care professionals about the multiple facets of cognitive aging are among the many reasons for conducting an IOM study.

The Institute of Medicine is charged with convening an ad hoc committee to examine cognitive health and aging, as distinct from Alzheimer's disease. The committee's work will focus on the public health aspects of cognitive aging with an emphasis on the following:

- Definitions and terminology - The study will explore relevant definitions and terminology with consideration given to preventing unintended consequences of terminology.
- Epidemiology and surveillance - The focus of the study will be on identifying efforts needed to better understand the public health implications of cognitive aging and its risk and preventive factors, as well as the development of relevant surveillance or monitoring tools and methodologies.
- Prevention and intervention opportunities - The study will take into account the multiple aspects of enhancing cognitive capacity, prevention of impairment, amelioration of cognitive decline, and promoting cognitive resilience. Other areas to be considered include the multiple domains of cognition, its non-linear progression, multi-modal interventions, potentially reversible iatrogenic contributors to cognitive decline, role of comorbidities, use of emerging technologies, regulatory and public policy concerns associated with products aimed at enhancing cognition and preventing decline, innovative sites for care delivery in the community, and access to high quality health care.
- Education of health professionals - This study will explore the education of health professionals related to cognitive health and decline and will identify examples of best practices for educating health professions to ensure high quality care and education for older adults and their families about cognitive aging and its possible consequences.
- Public awareness and education - The study will consider new approaches for enhancing awareness and disseminating information (with cultural, ethical, and health literacy considerations) to the public and to older adults and their families and caregivers.

The committee's work should be grounded in the scientific evidence and use practical and real-world approaches that take into account the ethical and cultural considerations relevant to aging and independent living. Further, efforts across scientific disciplines and sectors of the

community that are relevant to decision-making by older adults and their families (e.g., financial, transportation, community services) should be included in the work of the committee.

The committee will hold information-gathering workshops open to the public during the course of its work. The report will not focus on setting an agenda for basic and biomedical science research as this has been the topic of recent reports and forums. Biomedical research will, however, inform the committee's deliberations and will serve as the foundation for the evidence base of the report. The committee's report will provide recommendations relevant to the topics discussed above and to other public health aspects of cognitive health and aging as identified by the committee.

### *Expertise*

A committee of approximately 12 to 16 members will be appointed with expertise in cognitive aging and health, primary care, geriatrics, nursing, pharmacy, and other health care fields; technology applications and interventions; basic and clinical research; public health; health surveillance and epidemiology; health care and human services; and health education. The committee will be selected to ensure the presence of individuals with expertise in a variety of fields, with knowledge in cognitive aging research and health care services for older adults. Committee nominations will be solicited from a variety of sources, including the membership of the National Academies, relevant organizations and associations, federal agencies, and other experts in the areas to be addressed in the study.

### *Workplan*

The committee will hold five meetings throughout the course of the study as outlined below in the draft timeline. Two of the meetings will include public workshops where researchers, practitioners, advocacy organizations, and many others will be invited to provide input to the committee. Additionally, the public workshops will have time for public comment and the committee will identify other avenues for receiving input from the wide range of interested stakeholders.

The first full committee meeting will be organizational and will include the required bias and conflict of interest discussion, provide an overview of the study requirements, and discuss available sources of information. The sponsors will be asked to provide the charge to the committee and provide background and context for the study. In addition, the committee will organize its first workshop and identify potential speakers. It is anticipated that the second and third meetings will be held in conjunction with public workshops and will also include time for the committee to discuss the outcomes of the workshop and task in closed session. The fourth meeting will provide time for the committee's working groups to meet and for the full committee to continue its deliberations and begin to finalize recommendations. The fifth meeting will allow the committee to finalize the report and its recommendations. The report will then go through the National Research Council's peer review process and be subject to appropriate institutional review procedures. A prepublication copy of the report will be delivered to the sponsors after 18 months with the perfect bound books delivered after 20 months. Report dissemination efforts will occur between months 18 and 24 with committee members and staff at smaller increment.

## Draft timeline:

Months	Action
0-3	Seek committee nominations, assemble committee, begin background research; contact stakeholders; initial discussions with sponsors
3-5	Hold first committee meeting; hold bias and conflict of interest discussion, discuss charge to the committee and context for the study, plan workshops – identify topics and potential speakers; identify information needs; develop plans for receiving stakeholder input
6-10	Hold second and third committee meetings with workshops; develop report outline and workplan; hold working group conference calls; seek and receive input from stakeholders
11-16	Hold fourth and fifth committee meetings; draft and revise the report; draft recommendations
16-18	Report review and response to review; finalize report
18	Deliver prepublication (uncorrected proof) to the sponsors; public release of the report; post report online
19-20	Prepare report for publication and send to publishers; deliver perfect bound books to the sponsors; report dissemination
20-24	Report dissemination

*Personnel*

The study will be conducted under the IOM Board on Health Sciences Policy, which is directed by Andrew Pope, Ph.D. The study team would consist of a senior program officer, program officer, research associate, and program associate, with support from a financial associate, board administrative assistant, and editorial assistant. A curricula vita for Andrew M. Pope, Ph.D., Director, Board on Health Sciences Policy, is attached as is the CV for Catharyn Liverman, study director, Board on Health Sciences Policy.

**D. Period of Performance**

The period of performance is 24 months from June 1, 2013 through May 31, 2015.

### **E. Estimate of Costs**

The total estimated cost of this project is \$1,361,978 for the 24-month period (see attached cost estimate). We are requesting that McKnight Brain Research Foundation provide support in the amount of \$1,361,978.

### **F. Deliverables and Dissemination Plan**

The primary product of this study will be a technical report, reviewed in accordance with National Research Council (NRC) procedures. Sponsors, Congressional members and staff, government agencies, and other relevant organizations will be briefed by committee members on the conclusions and recommendations contained within the final report. Reports resulting from this effort will be prepared in sufficient quantity to ensure their distribution to the sponsor and to other relevant parties, in accordance with Academy policy. The National Academies Press will publish the final report, and will assist in broader dissemination by making the report available on the Internet\* through the National Academies Press ([www.nap.edu](http://www.nap.edu)). Commissioned papers will also be prepared and distributed in accordance with NRC procedures.

Additional deliverables for this study:

- Quarterly electronic progress reports and meetings – The reports shall append meeting or workshop agendas and shall include discussion of problems encountered, expected solutions, status of progress toward completion, and milestones attained. Phone or in-person meetings will be held quarterly or less often as deemed to be needed.

### **G. Federal Advisory Committee Act (FACA)**

The Academy has developed policies and procedures to implement Section 15 of the Federal Advisory Committee Act, 5 U.S.C. App., Section 15. Section 15 includes certain requirements regarding public access and conflicts of interest that are applicable to agreements under which the Academy, using a committee, provides advice or recommendations to a Federal agency. In accordance with its Congressional Charter and the requirements of Section 15, the Academy must provide independent, unbiased advice without actual or perceived interference or management of the outcome (findings and recommendations). Therefore, the Academy requires the right to publish all unclassified materials without any restriction over content and release, including any restriction that may require prior approval from the sponsoring agency. In accordance with Section 15 of FACA, the Academy shall submit to the government sponsor(s) following delivery of each applicable report a certification that the policies and procedures of the Academy that implement Section 15 of FACA have been substantially complied with in the performance of the contract/grant/cooperative agreement with respect to the applicable report.

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\* HHS Acquisition Regulations require the posted electronic copy to comply with Section 508 of the Rehabilitation Act of 1973 (29U .S.C.7 94d).



## **H. Public Information about the Project**

In order to afford the public greater knowledge of Academy activities and an opportunity to provide comments on those activities, the Academy may post on its website (<http://www.national-academies.org>) the following information as appropriate under its procedures: (1) notices of meetings open to the public; (2) brief descriptions of projects; (3) committee appointments, if any (including biographies of committee members); (4) report information; and (5) any other pertinent information.

## **I. Experience and Qualifications**

### *Organizational Experience*

The National Academy of Sciences (NAS) was established by an Act of Congress and signed by President Lincoln in March 1863 to "investigate, examine, experiment, and report upon any subject of science or art....whenever called upon by any department of the Government." The National Research Council was established by executive order under President Wilson in 1916, expanding the operational capacity of the National Academy of Sciences. The Institute of Medicine was chartered in 1970 by the National Academy of Sciences, under the terms of the 1863 Congressional charter.

One central purpose of the NAS, NRC, and IOM is to advise the government on issues of science, medicine, and technology. The Academy and its affiliated organizations are private, independent, nonprofit institutions that jointly possess a unique status as congressionally chartered advisers to the government. Every year many studies are requested of the Academy and its sister organizations. In addition to federal sources, requests for studies are also received from foundations and other private sector organizations. A small number of studies receive internal support.

The NRC and IOM have a long tradition of providing policy advice from a national perspective. This tradition rests on the ability of the NAS/IOM to convene committees of experts who are charged to deliberate important issues of health and health care policy in an objective and independent environment that assures rigorous analysis. IOM can serve an important function by bringing representatives from diverse groups together to achieve consensus on complex issues.

The NRC/IOM is also able to convene experts at workshops to discuss important science and health-related topics. The workshop summary highlights the key issues raised by presenters and by workshop attendees in ways that help to inform experts and the general public alike.

### *Facilities and Equipment*

The meeting facilities of the Institute of Medicine are available to the constituent organizations of the Academy complex. These include the National Academy of Sciences Main Building, 2101 Constitution Avenue, N.W., Washington, D.C.; 500 Fifth Street, N.W. Washington, D.C.; The

Arnold and Mabel Beckman Center in Irvine, California; and the J. Erik Jonsson Woods Hole Center in Woods Hole, Massachusetts. These facilities are used to conduct hundreds of committee meetings each year. Thus, the National Academy of Sciences will provide facilities and equipment required for the proposed project, for both committee members and staff.

## CATHARYN T. LIVERMAN

9607 Jomar Drive  
Fairfax, VA 22032  
Cell: 571.331.9430

Institute of Medicine  
Keck 833  
500 5<sup>th</sup> Street, NW  
Washington, DC 20001  
Phone: 202.334.3986  
Email: [cliverma@nas.edu](mailto:cliverma@nas.edu)

### EDUCATION

Master of Library Science, University of Maryland, 1991  
Specializing in medical and scientific information services  
B.A., Biology, Wake Forest University, Summa Cum Laude, 1977

### PROFESSIONAL EXPERIENCE

#### National Academy of Sciences, Institute of Medicine (IOM)

Scholar, Study Director. Current projects: Board on Health Sciences Policy: Committee on the Certification of Personal Protective Technologies; Committee on Personal Protective Equipment for Healthcare Workers During an Influenza Pandemic: Current Research Issues; Standing Committee on Aerospace Medicine and the Medicine of Extreme Environments; Standing Committee on Personal Protective Equipment in the Workplace; Standing Committee on Medical Readiness.

Senior Program Officer, Study Director, 2005-2009. Board on Health Sciences Policy. Committee to Review the NIOSH Asbestos Roadmap; Committee on Respiratory Protection for Healthcare Workers in the Workplace Against Novel H1N1 Influenza A; Committee for the Review of NIOSH Research Programs. Committee on Increasing Rates of Organ Donation; Committee on Personal Protective Equipment for Healthcare Workers During Pandemic Influenza; Committee to Review the NIOSH Personal Protective Technology Program.

Senior Program Officer, Co-Study Director, 2005-2007. Food and Nutrition Board. Committee on Progress in Preventing Childhood Obesity

Senior Program Officer, Study Director, 2003-2004. Food and Nutrition Board. Committee on Prevention of Obesity in Children and Youth.

Senior Program Officer, Study Director, 2002-2003. Board on Health Promotion and Disease Prevention. Board on Health Sciences Policy. Forum on Smallpox: The Scientific Basis for Vaccination Policy Options; Panel on Biological Issues, Committee on Science and Technology for Countering Terrorism; Committee on Assessing the Need for Clinical Trials of Testosterone Replacement Therapy

Co-Study Director, 1996-2002. Board on Health Promotion and Disease Prevention, Committee on Injury Control and Prevention, Committee on a National Center on War-Related Illnesses and Post Deployment Health Issues, Committee on Health Effects Associated with Exposures During the Gulf War, Committee on Gulf War and Health

Study Director, 1995-1997; Committee on Toxicology and Environmental Health Information Resources for Health Professionals

Program Officer, 1994-1996; Committee on Opportunities in Drug Abuse Research  
Research Associate, 1992-1993; Committee to Review the Health Effects in Vietnam Veterans of Exposure to Herbicides; Committee to Study Medication Development and Research at the National Institute on Drug Abuse

Research Assistant, 1991-1992; Committee to Survey the Health Effects of Mustard Gas and Lewisite

National Agricultural Library (NAL), Office of the Associate Director for Technical Services  
Graduate Assistant 1989-1991

## PUBLICATIONS

- Liverman CT, Pechura CM. 1992. *Health Effects of Mustard Gas and Lewisite: Subject Bibliography*. Washington, DC: IOM. NTIS PB93-153047.
- Fulco CE, Liverman CT, Earley LE, eds. 1995. *Development of Medications for the Treatment of Opiate and Cocaine Addictions: Issues for the Government and Private Sector*. Washington, DC: National Academy Press.
- Liverman CT, Ingalls CE, Fulco CE, Kipen HM, eds. 1997. *Toxicology and Environmental Health Information Resources: The Role of the National Library of Medicine*. Washington, DC: National Academy Press.
- Liverman CT, Ingalls CE, Fulco CE. 1997. Toxicology and environmental health information resources for health professionals: a report by the Institute of Medicine. *Bull Med Libr Assoc* 85(4):423-5
- Liverman CT, Fulco CE, Kipen HM, eds. 1998. *Internet Access to the National Library of Medicine's Toxicology and Environmental Health Databases*. Washington, DC: National Academy Press.
- Bonnie RJ, Fulco CE, Liverman CT, eds. 1999. *Reducing the Burden of Injury: Advancing Prevention and Treatment*. Washington, DC: National Academy Press.
- Hernandez LM, Liverman CT, Greenlick MR. 1999. *National Center for Military Deployment Health Research*. Washington, DC: National Academy Press.
- Fulco CE, Liverman CT, Sox JC, eds. 2000. *Gulf War and Health, Volume 1*. Washington, DC: National Academy Press.
- Liverman CT, Blazer DG. 2004. *Testosterone and Aging: Clinical Research Directions* Washington, DC: National Academies Press.
- Koplan JP, Liverman CT, Kraak VI. 2005. *Preventing Childhood Obesity: Health in the Balance*. Washington, DC: National Academies Press.
- Liverman CT, Altevogt BM, Joy JE, Johnson RT. 2005. *Spinal Cord Injury: Progress, Promise, and Priorities*. Washington, DC: National Academies Press.
- Childress JF, Liverman, CT. 2006. *Organ Donation: Opportunities for Action*. Washington, DC: National Academies Press.
- Koplan JP, Liverman CT, Kraak VI. 2007. *Progress in Preventing Childhood Obesity: How Do We Measure Up?* Washington, DC: National Academies Press.
- Goldfrank LR, Liverman CT. 2008. *Preparing for an Influenza Pandemic: Personal Protective Equipment for Healthcare Workers*. Washington, DC: National Academies Press.
- Weisfeld NE, Weisfeld VD, Liverman CT. *Rapporteurs*. 2009. *Military Medical Ethics: Issues Regarding Dual Loyalties*. Washington, DC: National Academies Press.
- Nelson, AR, Liverman CT, Eide EA, Abt E. 2009. *A Review of the NIOSH Roadmap for Research on Asbestos Fibers and Other Elongate Mineral Particles*. Washington, DC: National Academies Press.
- Liverman CT, Harris TA, Rogers MEB, Shine KI. 2009. *Respiratory Protection for Healthcare Workers in the Workplace Against Novel H1N1 Influenza A*. Washington, DC: National Academies Press.

## COMMITTEES

- Co-chair, National Academies Science Swings, Building a Playground (2008-2009)
- Chair, Institute of Medicine Community Service Staff Committee (2002-current).
- Member, Institute of Medicine Dissemination Program Committee.
- Member, National Academy of Sciences Internet Team.

## AWARDS

- Institute of Medicine. 2005. Cecil Award.
- Institute of Medicine Staff Team Award, 2005.
- National Research Council 2001 Community Service Award.
- National Research Council 1994 Group Recognition Award. Veterans and Agent Orange Report Team.
- Institute of Medicine Staff Award, 1998, 1999.

**SOCIETIES**

Member, American Public Health Association

Member, Phi Beta Kappa

## Curriculum Vitae

**ANDREW MacPHERSON POPE, Ph.D.**

Institute of Medicine  
The National Academies  
500 Fifth Street, N.W.  
Washington, D.C. 20001  
Telephone: (202) 334-1888

Home Address:  
10446 Owen Brown Road  
Columbia, Maryland 21044  
(301) 596-4313

### QUALIFICATIONS

Twenty years of experience in developing, directing, and managing scientific projects and personnel in addressing contemporary health policy issues. Experience and skills include:

- Evaluating scientific, technical and policy-related issues and information
- Writing and editing scientific and policy documents
- Conceptualizing, developing, and evaluating project proposals
- Supervising and managing technical staff
- Directing and managing expert committees in writing, preparing, and disseminating scientific reports
- Consensus-building with expert committees
- Organizing, coordinating, and conducting national and international symposia and workshops
- Procuring, managing, and monitoring program funding and annual budgets

### PROFESSIONAL EXPERIENCE

1998- **Director, Board on Health Sciences Policy**, Institute of Medicine, National Academy of Sciences. Major Responsibility: directing the activity of the Board on Health Sciences Policy. The Board's activities seek to foster an environment conducive to productive research; consider the impact of scientific advances on society, including social and ethical issues that accompany basic science and technological advances; and ensure the continuous vigor of the basic biomedical, environmental, and clinical research enterprises as they relate to ensuring and improving the health of the public. Responsibilities include quality control of studies in the program, directly supervising the study directors, directing and/or writing sections of program reports, and serving as senior IOM staff for liaison with other NRC units.

1988-97 **Senior Program Officer and Study Director**. Divisions of Health Sciences Policy and Health Promotion and Disease Prevention, Institute of Medicine, National Academy of Sciences. Major Responsibility: developing and directing projects in health sciences policy and health promotion and disease prevention with emphasis in occupational and environmental issues. Primary responsibilities include conceptualizing and developing project proposals, managing and directing expert committees and staff, report writing and preparation, managing annual program budgets, and dissemination and public relations. Subject areas have included oral contraceptives and breast cancer; early detection and prevention of skin cancer; disability prevention; indoor allergens; information technology and clinical medicine; occupational and environmental medicine in medical and nursing curricula; priority setting at the National Institutes of Health; and organ procurement and transplantation.

1986-88 **Senior Program Officer and Study Director.** Board on Environmental Studies and Toxicology, National Academy of Sciences/National Research Council.

Major Responsibility: oversight and coordination of scientific, financial, and administrative operations, with major responsibilities in planning, management, and direction of toxicology and epidemiology programs; supervision of professional staff with committees comprising 85 scientists in a variety of disciplines and an annual budget of approximately \$1.2 million.

1984-86 **Program Officer.** Board on Environmental Studies and Toxicology, National Academy of Sciences/National Research Council.

Major Responsibility: coordination and direction of committee report preparation activities; conceptualization and development of project proposals, evaluation of data and preparation of written materials in areas that included physiology, toxicology, reproduction, and injury control.

### POSTDOCTORAL FELLOWSHIPS

1982-83 **National Research Council Fellow.** Board on Environmental Studies and Toxicology, National Academy of Sciences/ National Research Council.

Review of behavioral and biochemical testing methodologies in the development of a study on latent chronic and delayed neurotoxic effects; evaluation of the decision-making processes used by the Committee on Toxicity Data Elements in reviewing toxic substances for the report entitled "Toxicity Testing: Strategies to Determine Needs and Priorities;" completion of the NAS study entitled "Science and Creationism: A View from the National Academy of Sciences;" development of a study proposal which received Academy approval entitled "Occupational and Environmental Hazards to Reproduction;" development of a study proposal which received Academy approval entitled "Chemical Toxicity and Aging."

1980-82 **Senior Staff Fellow.** Pharmacology and Toxicology Branch, Division of Veterinary Medical Research, FDA, Beltsville, MD.

Research emphasis focused on the effects of organophosphates on both the reproductive and nervous systems. Research projects included: Organophosphate induced delayed neurotoxicity in sheep; effects of aryl esterase on nature and severity of neurohistopathological lesions and circulating plasma gonadotropins; organophosphate induced cerebellar hypoplasia and seasonal variation of acetyl-cholinesterase activity in pregnant and non-pregnant ewes; induced bovine pyometra as a model for controlled studies of therapeutic agents; effects of cold stress on acetylcholinesterase activity; effects of organophosphates on drug metabolizing enzymes in sheep and dogs. I also provided a consultative review for a New Animal Drug Application for prostaglandin.

### EDUCATION

1980 Ph.D. University of Maryland. Reproductive Physiology

1975 M.S. University of Maryland. Physiology and Biochemistry

1973 B.S. University of Maryland. Zoology

**ADDITIONAL EDUCATION AND TRAINING**

Various management courses. 1998 – Present.

Managing in a Technical Environment. National Academy of Sciences. May 1997.

Supervisory Training. National Academy of Sciences. October 1996-March 1997.

Public Policy and the Environment. University of Maryland Graduate School. School of Public Affairs. Spring 1994.

Science and Policy of Global Environmental Problems. University of Maryland Graduate School. School of Public Affairs. Fall 1993.

Occupational Health Risk Assessment: Directions for the 90's. The Harvard School of Public Health, Occupational Health Program. Boston, MA. May 1992.

Health Risk Assessment and Health Risk Communication. Agency for Toxic Substances and Disease Registry. Atlanta, GA. January 1992

Clues to Unraveling the Association Between Illness and Environmental Exposure. Agency for Toxic Substances and Disease Registry/American Public Health Association. Washington, DC. November 1991.

Regulatory Toxicology. New England Epidemiology Institute. Houston, Texas. October 1991.

Principles of Epidemiology. New England Epidemiology Institute. Houston, Texas. October 1991.

Toxicology Update. The Johns Hopkins Medical Center. June 1989.

General Principles in Toxicology and Toxicological Pathology. Boston University School of Medicine. August 1985.

Mechanisms of Neurotoxicity. The Johns Hopkins School of Hygiene and Public Health. November 1983.

International Symposium on Biomechanics of Trauma. Institute for Medical Education and Research, San Diego. October 1983.

Environmental Toxicology. NIH Graduate School (FAES), Spring 1983.

Essentials of Toxicology. NIH Graduate School (FAES), Spring 1983.

Reproduction: The New Frontier in Occupational and Environmental Health Research. Workshop sponsored by Rocky Mountain Center for Occupational and Environmental Health. April 1983.

Delayed Neurotoxicity Workshop. University of Illinois. June 1982.

Biometrics. FDA, Bureau of Drugs, Rockville, MD. Spring 1982.

Basics of Toxicology. FDA, Bureau of Veterinary Medicine, Rockville, MD. Spring 1982.

Statistical Analysis Systems (SAS). USDA, Beltsville, MD. November 1979.

Basic Radiation Protection and Control. University of Maryland. January 1979.

**PREDOCTORAL RESEARCH**



1976-80 **Doctoral student.** USDA Reproduction Laboratory, Beltsville, MD and Department of Veterinary Science, University of Maryland, College Park, MD.

Release of luteal progesterone and Prostaglandin F *in vitro* during fluprostenol induced luteolysis; reproductive performance of early postpartum mares in response to a progesterone - GnRH treatment regimen; uterine histology of the postpartum mare.

1974-75 **Masters student.** Department of Animal Science, University of Maryland, College Park, MD.

Physiology, biochemistry and metabolism of prostaglandins and their effects on luteolysis.

1972-73 **Special problems student (undergraduate).** Physiological psychology, University of Maryland, College Park, MD.

Involvement of the hippocampus in recent memory integration.

### TEACHING EXPERIENCE

1976-80 **Lecturer and Laboratory Instructor.** Reproductive Endocrinology, University of Maryland, College Park, MD

1974-75 **Laboratory Instructor.** Reproductive Physiology; Horse Breeding Farm Management, University of Maryland, College Park, MD

1973-74 **Instructor.** Biology; Equestrian Science, McDonogh School, McDonogh, MD

### MEMBERSHIPS

American Association for the Advancement of Science

American Public Health Association

Caucus on Disability; Executive Secretary, 1992-1994

New York Academy of Sciences

Phi Sigma Society (National Biological Honors Society).

President, University of Maryland Chapter, 1976-1978

Sigma Xi

Society for Occupational and Environmental Health

Councilor, 1994-1997

Newsletter co-editor, 1994-1997

### MILITARY SERVICE

U.S. Air Force Reserve (active), 1969-1975, Student Leader/Barracks Chief, Shepard AFB, Wichita Falls, TX. Honorable Discharge. Rank: Sergeant.

### INSTITUTE OF MEDICINE AND NATIONAL ACADEMY OF SCIENCES REPORTS

**2001 – present:** As Director of the IOM Board on Health Sciences Policy I had varying degrees of involvement in all of the reports that were published – approximately 10 reports/year.

**Innovation and Invention in Medical Devices. Workshop Summary.** 2001. Roundtable on Research and Development of Drugs, Biologics, and Medical Devices. National Academy Press, Washington, D.C.

**Organ Procurement and Transplantation: Assessing Current Policies and the Potential Impact of the DHHS Final Rule.** 1999. Committee on Organ Procurement and Transplantation Policy. National Academy Press, Washington, D.C.

**Fluid Resuscitation: State of the Art for Treating Combat Casualties and Civilian Injuries.** 1999. Committee on Fluid Resuscitation for Combat Casualties. National Academy Press, Washington, D.C.

**Toward Environmental Justice: Research, Education, and Health Policy Needs.** 1999. Committee on Environmental Justice. National Academy Press, Washington, D.C.

**Scientific Opportunities and Public Needs: Improving Priority Setting and Public Input at the National Institutes of Health.** 1998. Committee on NIH Priority-Setting Process. National Academy Press, Washington, D.C.

**Halcion: An Independent Assessment of Safety and Efficacy Data.** 1997. Committee on Halcion: An Assessment of Data Adequacy and Confidence. National Academy Press, Washington, D.C.

**Enabling America: Assessing the Role of Rehabilitation Science and Engineering.** 1997. E. Brandt and A. Pope (editors). National Academy Press, Washington, D.C.

**Conference on Human Health and Global Climate Change: Summary of the Proceedings.** 1996. V. Setlow and A. Pope (editors). National Academy Press, Washington, D.C.

**Nursing, Health, and the Environment: Strengthening the Relationship to Improve the Public's Health.** 1995. A. Pope, M. Snyder, and L. Mood (editors). Committee on Enhancing Environmental Health Content in Nursing Practice. National Academy Press, Washington, D.C.

**Environmental Medicine: Integrating a Missing Element into Medical Education.** 1995. A. Pope and D. Rall (editors). Committee on Curriculum Development in Environmental Medicine. National Academy Press, Washington, D.C.

**Environmental Medicine and the Medical School Curriculum- Interim Report.** 1993. Committee on Curriculum Development in Environmental Medicine. National Academy Press, Washington, D.C.

**Indoor Allergens: Assessing and Controlling Adverse Health Effects.** 1993. A. Pope, R. Patterson, and H. Burge (editors). Committee on the Health Effects of Indoor Aeroallergens. National Academy Press, Washington, D.C.

**Environmental Neurotoxicology.** 1992. Committee on Neurotoxicology and Models for Assessing Risk. National Academy Press, Washington, D.C.

**Oral Contraceptives and Breast Cancer.** 1991. Committee on the Relationship Between Oral Contraceptives and Breast Cancer. National Academy Press, Washington, DC

**Disability in America: A National Agenda for Prevention.** 1991. A. Pope and A. Tarlov (editors). Committee on a National Agenda for the Prevention of Disabilities. National Academy Press, Washington, D.C.

**Behavioral Measures of Neurotoxicity.** 1990. P. Flattau, R. Russell and A. Pope (editors). United States National Committee for the International Union of Psychological Science. National Academy Press, Washington, D.C.

**Biologic Markers in Reproductive Toxicology.** 1989. Subcommittee on Reproductive and Neurodevelopmental Toxicology. Committee on Biologic Markers. National Academy Press, Washington, D.C.

**Drinking Water and Health (Volume 9): Issues in Risk Assessment.** 1989. Committee on Safe Drinking Water. National Academy Press, Washington, D.C.

**Injury Control: A Review of the Status and Progress of the Injury Control Program at the Centers for Disease Control.** 1988. Committee to Review the Status and Progress of the Injury Control Program at the Centers for Disease Control. National Academy Press, Washington, D.C.

**Aging in Today's Environment.** 1987. Committee on Chemical Toxicity and Aging. National Academy Press, Washington, D.C.

**The Airliner Cabin Environment: Air Quality and Safety.** 1986. Committee on Airliner Cabin Air Quality. National Academy Press, Washington, D.C.

**Injury in America: A Continuing Public Health Problem.** 1985. Committee on Trauma Research. National Academy Press, Washington, D.C.

**Toxicity Testing: Strategies to Determine Needs and Priorities.** 1984. Committee on Identification of Toxic and Potentially Toxic Chemicals for Consideration by the National Toxicology Program. National Academy Press, Washington, D.C.

**Science and Creationism: A View from the National Academy of Sciences.** 1984. Committee on Science and Creationism. National Academy of Sciences Council, National Academy Press, Washington, D.C.

#### JOURNAL ARTICLES

Gibbons, R.D., et al. 1999. Waiting for Organ Transplantation. *Science* 287: 237-238.

Bunney, W., et al. 1999. Assessment of Safety and Efficacy Data for the Hypnotic Halcion®: Results of an Analysis by an Institute of Medicine Committee. *JASA* 94 (448): 993-1002.

Azarnoff, D., et al. 1999. Report of the Institute of Medicine Committee on the Efficacy and Safety of Halcion. *Arch Gen Psych* 56: 349-352.

Pope, A. M. 1994. From the Institute of Medicine: Environmental Medicine and the Medical School Curriculum. *JAMA* 271 (6): 417.

Pope, A. M. 1993. From the Institute of Medicine: Indoor Allergens--Assessing and Controlling Adverse Health Effects. *JAMA* 269 (21): 2721.

Pope, A. M. 1992. Preventing Secondary Conditions. *Mental Retardation*. 30: 347-354.

Davis, D. L. and A. M. Pope. 1986. Reproductive Risks of Benzene: Need for Additional Study. *Toxicol. Ind. Health* 2: 445-451.

Pope, A., J. Heavner, J. Guarnieri and C. Knobloch. 1986. Trichlorfon induced congenital cerebellar hypoplasia in pigs. *JAVMA* 189: 781-783.

Campbell, D. L., A. M., Pope, N. K., Das, and I. J., Abramson. 1984. A Model for the Study of Bovine Pyometra. Proceedings of Symposium on Determination of Doses of Veterinary Pharmaceuticals, published by Ohio State University Press, Columbia, Ohio.

Heavner, J.E. and A.M., Pope. 1984. FDA Updates: Toxicity of Organophosphorous Compounds. *JAVMA* 184:30-32.

Jortner, B.S., A.M. Pope and J.E. Heavner. 1983. Neuropathological aspects of Haloxon-induced delayed neurotoxicity in EsA+ and EsA- sheep. *Neurotoxicology* 4: 241-246.

Pope, A.M. and J.E. Heavner. 1983. Acetylcholinesterase activity in pregnant and non-pregnant ewes. *Am. J. Vet. Res.* 44: 1730-1731.

Pope, A.M., H.D. Guthrie, J.P. McCall and B.H. Stroud. 1983. Release of luteal progesterone and Prostaglandin F in vitro during fluprostenol induced luteolysis in the mare. *Theriogenology* 19:413-423.

Pope, A.M., D.L. Campbell and J.P. Davidson. 1978. Uterine histology of postpartum mares treated with progesterone and GnRH. *J. Reprod. Fert., Suppl.* 27:587-591.

Pope, A.M. 1978. Foal Heat Breeding. In Virginia Horse Industry Yearbook, Vol. 3 (Virginia Horse Council, Middleburg, VA) pp. 70-73.

### CONGRESSIONAL TESTIMONY

"A National Agenda for the Prevention and Control of Skin Cancer," Ad Hoc Subcommittee on Consumer and Environmental Issues, Committee on Governmental Affairs, U.S. Senate, June 5, 1992.

"Disability in America: Toward a National Agenda for Prevention," Subcommittee on Health and the Environment, Committee on Energy and Commerce, U.S. House of Representatives, September 13, 1991.

THE NATIONAL ACADEMIES

NATIONAL ACADEMY OF SCIENCES  
INSTITUTE OF MEDICINE

NATIONAL ACADEMY OF ENGINEERING  
NATIONAL RESEARCH COUNCIL

INSTITUTE OF MEDICINE

BOARD ON HEALTH SCIENCES POLICY

Proposal No. 10001424

**The Public Health Dimensions of Cognitive Health and Aging**

McKnight Brain Research Foundation Cumulative Summary Estimate of Costs

6/1/13 to 05/31/15

	AMOUNT
Salaries	\$520,384
Program Direction, Management, and Space Costs	\$301,687
Travel	\$199,090
Reports	\$37,716
Technology/Communication	\$41,171
Meeting Expense	\$18,500
Other Costs	\$33,450
	Subtotal:
General Administration Costs	\$1,151,998
	\$209,980
	Total:
	\$1,361,978

Amount Requested From McKnight Brain Research Foundation **\$1,361,978**

THE NATIONAL ACADEMIES

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BOARD ON HEALTH SCIENCES POLICY

Proposal No. 10001424

The Public Health Dimensions of Cognitive Health and Aging

McKnight Brain Research Foundation Summary Estimate of Costs

6/1/13 to 05/31/14

	AMOUNT	AMOUNT
Salaries	\$351,984	\$351,984
Program Direction, Management, and Space Costs	\$202,294	\$202,294
Travel	\$190,290	\$190,290
Technology/Communication	\$27,996	\$27,996
Meeting Expense	\$18,500	\$18,500
Other Costs	<u>\$19,100</u>	<u>\$19,100</u>
	Subtotal:	\$810,164
General Administration Costs	<u>\$147,672</u>	<u>\$147,672</u>
	Total:	\$957,836

Amount Requested From McKnight Brain Research Foundation

**\$957,836**

ESTIMATION DETAILS PROVIDED FOR NEGOTIATION PURPOSES ONLY

THE NATIONAL ACADEMIES

NATIONAL ACADEMY OF SCIENCES  
INSTITUTE OF MEDICINE

NATIONAL ACADEMY OF ENGINEERING  
NATIONAL RESEARCH COUNCIL

INSTITUTE OF MEDICINE

BOARD ON HEALTH SCIENCES POLICY

Proposal No. 10001424

The Public Health Dimensions of Cognitive Health and Aging

Estimate of Costs

6/1/13 to 05/31/14

12 months

SALARIES	Percent of Time	Annual Salary	Total Salary	Project Totals	McKnight Request
<b>EXEMPT</b>					
Sr. Board Director	5%	\$186,800	\$9,340		\$9,340
Senior Program Officer	60%	\$141,300	\$84,780		\$84,780
Program Officer	70%	\$73,800	\$51,660		\$51,660
Research Associate	70%	\$48,300	\$33,810		\$33,810
Financial Associate	5%	\$61,600	\$3,080		\$3,080
ORAC	2%	\$50,000	\$1,000		\$1,000
TOTAL EXEMPT				\$183,670	\$183,670
<b>NON-EXEMPT</b>					
Admin Assistant	5%	\$67,300	\$3,365		\$3,365
Program Associate	70%	\$64,900	\$45,430		\$45,430
TOTAL NON-EXEMPT				<u>\$48,795</u>	\$48,795
Total Salaries				\$232,465	\$232,465
Salary Adjustments				<u>\$5,812</u>	<u>\$5,812</u>
<b>Total Salaries, On-Site</b>				<b>\$238,277</b>	<b>\$238,277</b>
<b>Fringe Benefits</b>				<b><u>\$83,707</u></b>	<b><u>\$83,707</u></b>
<b>TOTAL SALARIES, ON-SITE, PLUS FRINGE</b>				<b>\$321,984</b>	<b>\$321,984</b>
<b>PROGRAM DIRECTION, MANAGEMENT, AND SPACE COSTS</b>				<b>\$202,294</b>	<b>\$202,294</b>

**OTHER PERSONNEL, OFF-SITE****Other Personnel**

Science Writer		60 days		\$500	\$30,000	\$30,000
<b>Total Other Personnel</b>					<b>\$30,000</b>	<b>\$30,000</b>

**TRAVEL**

## Travel Expenses (Domestic)

	#Pers.	#Mtg	Days/ Mtg	#Per X Mtg.	Mtg Cost	\$\Mtg	Subtotal
Cmte	18	5	2	90	\$1,605	\$144,450	
Speakers	15	2	1	30	\$1,100	\$33,000	
Staff	4	2	2	8	\$1,605	\$12,840	
<b>Total Domestic Travel</b>							<b>\$190,290</b>

**Total Travel****\$190,290**      **\$190,290****Other Costs**

<b>Commissioned Papers</b>		3 each			\$4,000	\$12,000	\$12,000
<b>Photocopies</b>		\$200 /mo				\$2,400	\$2,400
<b>Postage and Delivery</b>							
Project		\$150 /mo				\$1,800	\$1,800
<b>Technology/Communications</b>							
Long Distance Telephone		\$100.00 /mo				\$1,200	\$1,200
Conference Calls		10 @		\$150.00		\$1,500	\$1,500
Technology Services		\$2,108.02 /mo				\$25,296	\$25,296
<b>Office supplies</b>		\$200 /mo				\$2,400	\$2,400
<b>Meeting Expenses</b>						\$18,500	\$18,500
<b>Books and Periodicals (e.g., newsletters, interlibrary loan)</b>						\$500	\$500

**Total Other****\$65,596**      **\$65,596****TOTAL OTHER DIRECT COSTS****\$255,886**      **\$255,886****SUBTOTAL****\$810,164**      **\$810,164****GENERAL ADMINISTRATION COSTS****\$147,672**      **\$147,672****TOTAL ESTIMATED COST****\$957,836**      **\$957,836**

Amount Requested From McKnight Brain Research Foundation

**\$957,836**



THE NATIONAL ACADEMIES

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NATIONAL ACADEMY OF ENGINEERING  
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BOARD ON HEALTH SCIENCES POLICY

Proposal No. 10001424

**The Public Health Dimensions of Cognitive Health and Aging**

McKnight Brain Research Foundation Summary Estimate of Costs

6/1/14 to 11/30/14

	AMOUNT	AMOUNT
Salaries	\$151,209	\$151,209
Program Direction, Management, and Space Costs	\$89,032	\$89,032
Reports	\$27,216	\$27,216
Technology/Communication	\$11,785	\$11,785
Other Costs	<u>\$5,800</u>	<u>\$5,800</u>
	Subtotal:	\$285,042
General Administration Costs	<u>\$51,956</u>	<u>\$51,956</u>
		\$0
		\$0
	Total:	\$336,998

Amount Requested From McKnight Brain Research Foundation

**\$336,998**

ESTIMATION DETAILS PROVIDED FOR NEGOTIATION PURPOSES ONLY

THE NATIONAL ACADEMIES

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INSTITUTE OF MEDICINE

BOARD ON HEALTH SCIENCES POLICY

Proposal No. 100001424

The Public Health Dimensions of Cognitive Health and Aging

Estimate of Costs

6/1/14 to 11/30/14

6 months

**SALARIES**

	Percent of Time	Annual Salary	Total Salary	Project Totals	McKnight Request
<b>EXEMPT</b>					
Sr. Board Director	5%	\$186,800	\$4,670		\$4,670
Senior Program Officer	50%	\$141,300	\$35,325		\$35,325
Program Officer	60%	\$73,800	\$22,140		\$22,140
Research Associate	60%	\$48,300	\$14,490		\$14,490
Financial Associate	5%	\$61,600	\$1,540		\$1,540
ORAC	2%	\$50,000	\$500		\$500
<b>TOTAL EXEMPT</b>				<b>\$78,665</b>	<b>\$78,665</b>
<b>NON-EXEMPT</b>					
Admin Assistant	5%	\$67,300	\$1,683		\$1,683
Program Associate	60%	\$64,900	\$19,470		\$19,470
<b>TOTAL NON-EXEMPT</b>				<b>\$21,153</b>	<b>\$21,153</b>
Total Salaries				\$99,818	\$99,818
Salary Adjustments				<u>\$5,051</u>	<u>\$5,051</u>
<b>Total Salaries, On-Site</b>				<b>\$104,869</b>	<b>\$104,869</b>
<b>Fringe Benefits</b>				<b>\$36,840</b>	<b>\$36,840</b>
<b>TOTAL SALARIES, ON-SITE, PLUS FRINGE</b>				<b>\$141,709</b>	<b>\$141,709</b>
<b>PROGRAM DIRECTION, MANAGEMENT, AND SPACE COSTS</b>				<b>\$89,032</b>	<b>\$89,032</b>

**OTHER PERSONNEL, OFF-SITE**

**Other Personnel**

Editor	15 days	\$400	\$6,000	\$6,000
Copy Editor	10 days	\$350	\$3,500	\$3,500
<b>Total Other Personnel</b>			<b>\$9,500</b>	<b>\$9,500</b>

**Other Costs**

**Reports**

Master Manuscript	1 copies		\$22,842	
<b>Report Prod.</b>	700 copies @	\$6.25	\$4,374	
<b>Total Reports</b>				\$27,216

**Photocopies**

\$200 /mo			\$1,200	\$1,200
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**Postage and Delivery**

Project	\$150 /mo		\$900	\$900
Report disseminations	500 @	\$4.00	\$2,000	\$2,000

**Technology/Communications**

Long Distance Telephone	\$100.00 /mo		\$600	\$600
Conference Calls	2 @	\$150.00	\$300	\$300
Technology Services	\$1,814.22 /mo		\$10,885	\$10,885

**Office supplies**

\$200 /mo			\$1,200	\$1,200
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**Books and Periodicals (e.g., newsletters, interlibrary loan)**

			\$500	\$500
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**Total Other**

			<b>\$44,801</b>	<b>\$44,801</b>
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**TOTAL OTHER DIRECT COSTS**

			<b>\$44,801</b>	<b>\$44,801</b>
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**SUBTOTAL**

			<b>\$285,042</b>	<b>\$285,042</b>
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**GENERAL ADMINISTRATION COSTS**

			<b>\$51,956</b>	<b>\$51,956</b>
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**TOTAL ESTIMATED COST**

			<b>\$336,998</b>	<b>\$336,998</b>
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**Amount Requested From McKnight Brain Research Foundation**

**\$336,998**

THE NATIONAL ACADEMIES

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NATIONAL RESEARCH COUNCIL

INSTITUTE OF MEDICINE  
BOARD ON HEALTH SCIENCES POLICY

Proposal No. 10001424

The Public Health Dimensions of Cognitive Health and Aging

McKnight Brain Research Foundation Summary Estimate of Costs

12/1/14 to 05/31/15

	AMOUNT	AMOUNT
Salaries	\$17,191	\$17,191
Program Direction, Management, and Space Costs	\$10,361	\$10,361
Travel	\$8,800	\$8,800
Reports	\$10,500	\$10,500
Technology/Communication	\$1,390	\$1,390
Meeting Expense	\$0	\$0
Other Costs	<u>\$8,550</u>	<u>\$8,550</u>
	Subtotal:	\$56,792
General Administration Costs	<u>\$10,352</u>	<u>\$10,352</u>
		\$0
		\$0
	Total:	\$67,144

Amount Requested From McKnight Brain Research Foundation

\$67,144

ESTIMATION DETAILS PROVIDED FOR NEGOTIATION PURPOSES ONLY

THE NATIONAL ACADEMIES

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INSTITUTE OF MEDICINE

BOARD ON HEALTH SCIENCES POLICY

Proposal No. 10001424

The Public Health Dimensions of Cognitive Health and Aging

Estimate of Costs

12/1/14 to 05/31/15

6 months

<b>SALARIES</b>	Percent of Time	Annual Salary	Total Salary	Project Totals	McKnight Request
<b>EXEMPT</b>					
Sr. Board Director	2%	\$186,800	\$1,868		\$1,868
Senior Program Officer	3%	\$141,300	\$3,533		\$3,533
Program Officer	5%	\$73,800	\$1,845		\$1,845
Research Associate	5%	\$48,300	\$1,208		\$1,208
Financial Associate	2%	\$61,600	\$616		\$616
ORAC	1%	\$50,000	\$250		\$250
<b>TOTAL EXEMPT</b>				<b>\$9,320</b>	<b>\$9,320</b>
<b>NON-EXEMPT</b>					
Admin Assistant	2%	\$67,300	\$673		\$673
Program Associate	5%	\$64,900	\$1,623		\$1,623
<b>TOTAL NON-EXEMPT</b>				<b>\$2,296</b>	<b>\$2,296</b>
Total Salaries				\$11,616	\$11,616
Salary Adjustments				<u>\$588</u>	<u>\$588</u>
<b>Total Salaries, On-Site</b>				<b>\$12,204</b>	<b>\$12,204</b>
<b>Fringe Benefits</b>				<b><u>\$4,287</u></b>	<b><u>\$4,287</u></b>
<b>TOTAL SALARIES, ON-SITE, PLUS FRINGE</b>				<b>\$16,491</b>	<b>\$16,491</b>
<b>PROGRAM DIRECTION, MANAGEMENT, AND SPACE COSTS</b>				<b>\$10,361</b>	<b>\$10,361</b>

**OTHER PERSONNEL, OFF-SITE**

**Other Personnel**

Copy Editor	2 days	\$350	\$700	\$700
<b>Total Other Personnel</b>			<b>\$700</b>	<b>\$700</b>

**TRAVEL**

Travel Expenses (Domestic)

	#Pers.	#Mtgs	Days/ Mtg	#Per X Mtg.	Mtg Cost	\$\Mtg	Subtotal	
Cmte	4	2	1	8	\$1,100	\$8,800		
<b>Total Domestic Travel</b>							<b>\$8,800</b>	<b>\$8,800</b>
<b>Total Travel</b>							<b>\$8,800</b>	<b>\$8,800</b>

**Other Costs**

**Reports**

<b>Report Prod.</b>	Postcard	6000 copies @		\$0.50	\$3,000			
HTML Conversion (NAP)		1500 @		\$1.75	\$2,625			
	RecBooklet	1500 copies @		\$1.50	\$2,250			
	RptBriefs	1500 copies @		\$1.75	\$2,625			
<b>Total Reports</b>							<b>\$10,500</b>	<b>\$10,500</b>
<b>Photocopies</b>				\$25 /mo			<b>\$150</b>	<b>\$150</b>
<b>Postage and Delivery</b>								
Project				\$25 /mo			<b>\$150</b>	<b>\$150</b>
Report disseminations		8000 @		\$1.00	\$8,000		<b>\$8,000</b>	<b>\$8,000</b>
<b>Technology/Communications</b>								
Long Distance Telephone				\$25.00 /mo			<b>\$150</b>	<b>\$150</b>
Conference Calls		1 @		\$50.00	\$50		<b>\$50</b>	<b>\$50</b>
Technology Services				\$198.32 /mo	\$1,190		<b>\$1,190</b>	<b>\$1,190</b>
<b>Office supplies</b>				\$25 /mo			<b>\$150</b>	<b>\$150</b>
<b>Books and Periodicals (e.g., newsletters, interlibrary loan)</b>							<b>\$100</b>	<b>\$100</b>

**Total Other** **\$20,440** **\$20,440**

**TOTAL OTHER DIRECT COSTS** **\$29,240** **\$29,240**

**SUBTOTAL** **\$56,792** **\$56,792**

**GENERAL ADMINISTRATION COSTS** **\$10,352** **\$10,352**

**TOTAL ESTIMATED COST** **\$67,144** **\$67,144**

**Amount Requested From McKnight Brain Research Foundation** **\$67,144**