

Annual Report
Of the
Virginia Center on Aging
Virginia Commonwealth University

Accomplishments in 2002

And

Goals for 2003

Overview

This report summarizes activities of the Virginia Center on Aging (VCoA) during calendar 2002. It is organized by calendar year because of the practice of providing an annual report to the Virginia General Assembly when it convenes in January.

Calendar year 2002 reverberated the terrorist attacks of September 11, 2001, which damaged so many aspects of how and how well life is lived. The economies of individuals and of corporations have suffered, affecting revenues for the Commonwealth and its ability to appropriate funds to state entities. Moreover, Americans traveled less in 2002, jeopardizing our Elderhostel educational programs overall, but especially our Hampton site, located on Fort Monroe, an active military base.

We did meet all but two of our Goals for 2002 listed in last year's Annual Report, the exceptions being gaining financial support for a Statewide Survey of Older Virginians and computerizing our holdings in the Information Resource Center. That we did as well as we did, with our two principal revenue sources (General Funds and Elderhostel) affected, is credit to the ingenuity and hard work of VCoA's staff.

In the enabling legislation, VCoA was charged with 10 responsibilities, encompassing three principal functions: 1) interdisciplinary studies, including training in aging-related topics and the education of older adults; 2) research; and 3) information sharing. VCoA maintains a statewide commitment, conducting at least one of its three principal functions in all five geographic regions of Virginia every year. We annually list agencies and businesses that we have worked with by geographic region. In calendar year 2002, VCoA worked with at least **297** regional entities, **28** statewide departments, coalitions, and non-profit organizations, and **29** units of Virginia Commonwealth University (VCU) in satisfying its legislated mandates. (See *Appendix A for a listing of those we worked with.*) These partnerships enabled us to accomplish our work, augmenting our staffing level and compensating somewhat for decreases in our funding streams.

In calendar 2002 the Virginia Center on Aging's appropriation from the General Assembly of \$327,500 produced \$1,779,600 in non-state grants; non-resident Elderhostel tuition, course related expenditures and discretionary spending by our Elderhostelers; and documented ARDRAF seed grant consequences. In other words, for every dollar that the General Assembly invested in the Virginia Center on Aging, we generated \$5.43 in direct economic returns.

Mission

The General Assembly, in creating the Virginia Center on Aging by amendment to the Code of Virginia in 1978, charged it to be **“an interdisciplinary study, research, (and) information and resource facility for the Commonwealth of Virginia...”** It is the only such Center in the Commonwealth.

The Virginia Center on Aging (VCoA) is satisfying its mandate from the General Assembly and is operating across Virginia, in a statewide capacity. Characteristically, the VCoA is accomplishing its activities through partnerships with various units, both across the Commonwealth and within Virginia Commonwealth University. VCoA believes that these partnerships serve the aging-related needs of Virginia in a most cost-effective manner and broaden the capacity of units within VCU and across Virginia to conduct aging-related research, education, and community service.

Under “interdisciplinary study,” the General Assembly’s mandate includes:

- Continuing education and in-service training for those who work with the elderly
- Education and training of older persons
- Educational preparation of non-gerontology students

Under “research,” the General Assembly’s mandate includes:

- Conduct of research in the field of gerontology
- Dissemination of research findings

Under “information and resource facility,” the General Assembly’s mandate includes:

- Collection and maintenance of data about older persons statewide and regionally
- Serving as a resource to the State Office on Aging (now called the Virginia Department for the Aging) and to all organizations and state agencies involved in aging-related planning and service delivery

In 1982 the General Assembly also charged VCoA with responsibility for administering the **Alzheimer’s and Related Diseases Research Award Fund (ARDRAF)** as a stimulus for research into the causes, consequences and treatments of dementing illnesses.

Activities in 2002

During calendar 2002 the Virginia Center on Aging interacted and collaborated with colleagues in state, regional, and local agencies and organizations, both public and private, and with units of Virginia Commonwealth University, in order to achieve its responsibilities.

The following are representative activities:

- ❖ VCoA received a grant from the Virginia Department of Criminal Justice Services, administering federal funds, at the end of 2002 for a training project for law enforcement and domestic violence agency personnel on abuse, exploitation and violence against older women. VCoA and the VCU Police Department, both members of the Central Virginia Task Force on Older Battered Women, will co-direct this project throughout calendar 2003.
- ❖ VCoA is a member of the project, *Abuse and Neglect of Children and Adults with Developmental Disabilities: A Problem of National Significance*. This is a federally funded grant initiative, directed by the Partnership for People with Disabilities at VCU, to develop a web-based course for health care professionals. The project is producing and field-testing 13 interactive modules, including Scope and Significance of the Problem, Disabilities and Communication, Risk Factors, Special Considerations in the Use of Medications, Assessment and Documentation, and Reporting and Testifying. It is scheduled for national availability in 2003.
- ❖ VCoA celebrated its 25th anniversary during this period. As an element of this celebration, VCoA organized a partnership with the Virginia Assistive Technology System, the Virginia Departments of Aging and of Social Services, the Virginia Chapter of AARP, and the Virginia Association of Area Agencies on Aging to offer educational "birthday" parties around Virginia that featured training content for aging-related service providers and health professionals on low cost prosthetic devices for elders to assist in everyday living, as well as birthday cake and refreshments. Called *Gadgets, Gizmos and Other Cool Stuff: Adaptive Products for Older Virginians*, we conducted programs during November 2002 in Pulaski, Williamsburg, and Fredericksburg, with each district's House Delegate offering opening remarks.
- ❖ VCoA continued its partnership in the VCU School of Dentistry to help prepare dentists for geriatric practice, addressing upper level students on health, family, disability, and other characteristics with implications for dental practice.

- ❖ VCoA completed in late fall a follow-up survey of previous ARDRAF awardees to determine the effects of their receiving small seed grants from this Fund. This survey revealed that ARDRAF was a significant stimulus for scientific publications and for subsequent research awards from large, non-state funding sources such as the federal government and private foundations. ARDRAF awardees reported publishing 181 scientific articles and obtaining over \$8.9 million in subsequent research grants directly related to their ARDRAF project.
- ❖ VCoA's Assistant Directors of Education and Research contributed, respectively, feature articles on Elderhostel and the Alzheimer's and Related Diseases Research Award Fund for a special section of the May 2002 issue of *The Catholic Virginian* devoted to aging. This periodical reached over 75,000 homes from Tidewater to Southwest Virginia.
- ❖ VCoA, partnering with the Virginia Geriatric Education Center in its mentoring initiative, contributed key sessions in a May conference designed to develop gerontological and geriatric expertise among pre-service and practicing health care professionals through brokered mentorships. VCoA staff related firsthand experiences with their mentors and highlighted the project's objectives.
- ❖ VCoA lent Virginians some 160 films from its audiovisual collection to individuals, groups, agencies, and organizations across the Commonwealth, including nursing home staffs, family caregivers, and instructors in secondary and post-secondary education.
- ❖ VCoA continued to serve as a member of the Virginia Arthritis Task Force (VATF), which, during 2002, developed the VATF Action Plan Prioritization. Priorities set included increasing public awareness of the signs of arthritis, encouraging early professional diagnosis, and improving self-management skills. VATF chose its first target population: older women, with less than 12th grade education, who do not practice self-management strategies.
- ❖ VCoA collaborated in VCU's Medical Student Forum on Aging in American Society held in March, presenting a session on "Options for Financing Care for the Elderly."
- ❖ VCoA's work since 1999 to help establish a needed senior center in Chesterfield County culminated in the grand opening in June 2002 of the Senior Center of Richmond at Chesterfield. Located in Midlothian, the center has already exceeded its growth projections. It receives support from the Chesterfield County Board of Supervisors and from community businesses, organizations, and individuals; the Senior Center of Richmond administers and manages it.

- ❖ VCoA featured the Alzheimer's and Related Diseases Research Award Fund (ARDRAF) as a model program for other states to encourage research on dementia, in a presentation at the Annual Meeting of the Southern Gerontological Society (SGS), which was held in Richmond in April, and in a subsequent issue of the SGS newsletter, *The Southern Gerontologist*.
- ❖ VCoA staff's presentations at professional meetings and publications in professional journals numbered at least 14 overall in 2002.
- ❖ VCoA has been working throughout this period to establish a Lifelong Learning Institute at Brandermill Woods in Chesterfield County. This institute, modeled as an Elderhostel Institute and sponsored officially by VCoA, would engage VCU retired professors, professionals and others in metropolitan Richmond as peer instructors to other older adults. The Chesterfield Board of Supervisors, Chesterfield Public Schools System, Brandermill Woods Foundation, and other organizations have committed personnel and resources to development of the Institute. Organizational and instructional development will continue in 2003.
- ❖ VCoA partnered with statewide aging-related organizations in order to provide research findings and training for professionals across Virginia. VCoA co-sponsored the Eighth Annual Conference of the Virginia Coalition for the Prevention of Elder Abuse, in Virginia Beach in June, the Annual Conference of the Virginia Elder Rights Coalition in Richmond in April, the Spring Conference of the Virginia Coalition for the Aging in Richmond in May, and the 2002 Joint Conference of the Virginia Association on Aging and the Virginia Coalition for the Aging, in Richmond in November.
- ❖ VCoA offered community workshops across Virginia on preventing and responding to elder abuse and domestic violence against older Virginians: in Henrico County in February, Craig County in May, Virginia Beach in June, and Chesterfield in August. The workshops focused on defining the problems of abuse and domestic violence in later life, assessing available service provider resources and their differing operating principles (adult protective services, aging network, domestic violence network, law enforcement), and initiating community collaborations to improve responses to older battered women.
- ❖ VCoA served as a continuing member of the Henrico Elderly Mental Retardation Task Force to assess needs and design strategies to assist both those who age with mental retardation and their family caregivers.
- ❖ VCoA co-represented Virginia Commonwealth University in meetings during 2002 to conceptualize and refine the course of development of The Center for Excellence in Aging and Geriatric Health, in Williamsburg. VCoA contributed

presentations and chaired discussions at developmental conferences in February and October in Williamsburg. This Center would join academic, clinical practice, and human services entities in creating a model community to promote well-being among older adults.

- ❖ VCoA's Assistant Director of Education spoke across Virginia in encouraging lifelong learning, addressing more than 1200 older Virginians at engagements in Fairfax, Goochland, Lake Anna, Newport News, Richmond, Urbanna, and elsewhere.
- ❖ VCoA continued to seek support for a Statewide Survey of Older Virginians, last conducted in 1979-80, as a means of generating current information about their health, socioeconomic status, family caregiving responsibilities, use of community resources, and other indices of well-being not assessed in the 2000 U.S. Census, so that Virginia can anticipate effects of the aging of its citizenry. VCoA gave a detailed presentation on prospective content and methodology to the Commonwealth Council on Aging in January.
- ❖ VCoA conceptualized and submitted a proposal in June to the Loudoun County Area Agency on Aging (LCAAA) to survey the county's older residents. VCoA proposed to manage and/or execute the tasks associated with a community-based telephone survey of adults aged 55 and over in order to analyze the need and demand for human services and to estimate unmet need. These tasks are to include design of a questionnaire, execution of the telephone survey, analysis and interpretation of the data collected, preparation of a final report, and dissemination of findings. Data collection via telephone survey is to be performed by a survey research firm. The other tasks are to be performed by VCoA. The project is pending.
- ❖ VCoA again fielded an energetic team of fund-raising walkers, including Dewey the puppy, for the annual Memory Walk benefiting the Alzheimer's Association – Greater Richmond Chapter.
- ❖ VCoA's Assistant Director of Research led a team of current and previous ARDRAF awardees and reviewers in reevaluating the ARDRAF awards procedure. Throughout late 2002 this team assessed eligibility criteria, conflict of interest policies, review criteria, and practices, producing recommendations intended to improve the already notable objectivity and stature of the ARDRAF competition.
- ❖ VCoA delivered the keynote address in the conference, "America: A Community for All Ages," given by the Lake Country Area Agency on Aging in October in South Hill.

- ❖ VCoA co-sponsored the conference, "Maintaining Access to Quality Healthcare in Tight Budgetary Times," held in October at the Library of Virginia in Richmond. Under the leadership of the Virginia Quality Healthcare Network, this conference featured current initiatives on personal assistance services, indigent care, services for Virginians with mental illness, dental care, Medicaid cost savings, and more. It drew participants from across the Commonwealth.
- ❖ VCoA's Assistant Director of Research continued her analyses of the concluded Geriatric Interdisciplinary Team Training (GITT) project, awarded to the Virginia Geriatric Education Center by the Bureau of Health Professions, USDHHS, evaluating the experiences of those involved in clinical placements at interdisciplinary team care settings. These analyses documented increases in geriatric interdisciplinary teaming skills among managed care providers who attended four or more hours of the project's training.
- ❖ VCoA continued its initiative to educate clergy and lay leaders in communities of faith in matters of aging and wellness, conducting programs for older adult ministries in Chester, Glen Allen, and Midlothian.
- ❖ VCoA staff gave substantial services to Virginia's agencies and citizens by serving on the boards of a dozen non-profit organizations, providing leadership, technical assistance, and *pro bono* services to groups such as the Shepherd's Center of Richmond, the Senior Center of Richmond, and the Alzheimer's Association.
- ❖ VCoA partnered with the Virginia Department of Emergency Management to conduct aging-related training for emergency response personnel from across Virginia who attended the Virginia Emergency Preparedness Outreach Conference held in Richmond in November. VCoA's presentation, "Preparing for the Senior Surge: The Gift of Time," reviewed health status, capacities, and disabilities of Virginia's older citizens, with practical implications for emergency preparedness planners and responders.

Short recaps of selected activities in 2002 follow, organized according to the respective mandate from the General Assembly:

a. **Interdisciplinary Studies**

- Domestic Violence Against Aging Women. VCoA continued its work on domestic violence against older women, submitting three grant proposals in 2002 to address this problem and related needs: 1) with colleagues in VCU's Department of Gerontology and at Winthrop University in North Carolina, VCoA developed *Past, Present and Not So Perfect: The Health Consequences of Childhood and Adult Abuse Against Older Women*, a project to examine data from the National Violence Against Women Survey to determine the relationships between abuse, experienced either as a child and/or as an adult, and health and behavioral outcomes present in women over age 50. The Commonwealth Health Resource Board had invited submission of this full proposal following its positive review of an abbreviated version. Ultimately, the project was not selected for funding. 2) VCoA developed *Domestic Violence and Older Women: An Economic Analysis*, which it submitted as an R03 Grant Application to the National Institute on Aging in October 2002. This study proposes to evaluate hypotheses to explain the low utilization of domestic violence services and resources by older battered women. The study would also employ data from the National Violence Against Women Survey. 3) VCoA co-developed with the Central Virginia Task Force on Older Battered Women a grant proposal, which it submitted in September to the Virginia Department of Criminal Justice Services. Partnering VCoA and the VCU Police Department, the project will develop specialized resources and training programs on domestic violence and sexual abuse against older women, and will work to implement related training with law enforcement agencies in Richmond, and in Chesterfield, Hanover, and Henrico counties. It has been funded for operation throughout calendar 2003.

- Elderhostel and Lifelong Learning Programs. VCoA conducted 51 programs for older adults, including weeklong and short-term Elderhostels and its Love of Learning. These attracted 1,821 older adults to our four sites in Virginia: Hampton/Yorktown, Richmond, Natural Bridge, and Richmond/Petersburg, an overall increase of 5% from calendar 2001. Richmond, Richmond/Petersburg, and Natural Bridge enrollments rose between 19% and 41%, while Hampton/Yorktown enrollment dropped sharply, mirroring a trend of low enrollments at Tidewater and coastal Atlantic Elderhostel locations following the September 11, 2001 attacks. VCoA's Ninth

Annual *Love of Learning* at Hampton/Yorktown drew 89 older adults, the capacity, for a three-day program in February. Of more than 2000 Elderhostel educational host sites in North America and worldwide, VCoA's VCU/Richmond was one of only three featured in a *U.S. News and World Report* article on retirement, in July 2002.

- Healthy and Unhealthy Lifestyles in Later Life. VCoA and the VCU Department of Gerontology received funding in mid-2001 from the Delaware Division of Services for Aging and Adults with Physical Disabilities for a multi-part project to help older adults who wish assistance to break unhealthy habits. The project, entitled *More Life Left to Live: Educating Older Adults About Healthy and Unhealthy Lifestyles*, continued its work throughout 2002 and is likely to continue beyond 2003. The project staff developed and obtained IRB approval for content for a statewide survey of older Delawareans to document the need for health promotion and disease prevention education, and will construct a special statewide model education and prevention program for older adults and service professionals in aging, health, mental health, and substance abuse. This model intervention uses a "train the trainer" approach to broaden the project's impact, and content will address such unhealthy behaviors as compulsive gambling, smoking, alcoholism, depression, and suicidal ideation. By the end of 2002 the project staff had nearly completed three key project products: an instructive video, a service provider booklet, and an older adults booklet.
- Medicaid Waiver Personal Care Workers (PCA) and Certified Nursing Assistant (CNA) Training and Professionalization Initiative. VCoA is conducting evaluation of this two-year project, funded by the Department of Medical Assistance Services to the VGEC, to train and offer opportunities for professional development to a cadre of 400 (200 per year) PCA and CNA workers. The VGEC curriculum, developed for use in Phase III of the Nursing Assistant Collaboration, is being adapted for use in this project, and Master Trainers will be recruited from the pool of outstanding nursing assistants who emerge. The overall focus of the training will be the development of care management and other career-related skills. A total of 28 hours of training is to be offered in six regions of Virginia, with supplemental educational opportunities for those interested in obtaining a 40-hour certificate of recognition. To strengthen the long-term sustainability of this program, this initiative will create and disseminate four two-hour video excerpts of the in-person training for use by agencies in the continuing training of their PCAs and CNAs.

b. **Research**

The Second Biennial Conference on Alzheimer's Research. VCoA presented with the Alzheimer's Association and the Virginia Geriatrics Society the conference, "Discovering Treatments and Improving the Care of Persons with Dementia: The Second Biennial Conference of the Alzheimer's and Related Diseases Research Award Fund." With the support of Ortho-McNeil Pharmaceutical and Pfizer, Inc., and assistance from several community and academic organizations, this conference drew physicians, other healthcare providers, researchers, educators, family caregivers, and others to Richmond in June for a program that featured results and implications from ARDRAF-sponsored research, plus speakers on promising innovations in care, staff training, support for caregivers, and other vital matters. The conference featured an expert panel of physicians on diagnosing and treating dementia, a plenary session on innovative interventions for dementia using Montessori principles, a panel of professional and family caregivers on nurturing the body and soul of the memory impaired, and eight break-out sessions on such diverse research as mitochondria in Alzheimer's Disease, determining driving competency with a clock drawing test, and environmental design to stimulate persons with dementia and reduce their wandering.

- Virginia Geriatric Education Center (VGEC) Core Grant. VCoA is partnering in this five- year (2000-2005) grant project, directed by the VCU Department of Gerontology and funded by the Bureau of Health Professions, Health Resources and Services Administration, USDHHS. VCoA is directing evaluation of each objective to improve the training in geriatrics of pre-service and in-practice health professionals, including curriculum development, faculty and practitioner training, and the clinical training of students. Featured initiatives in this grant project include a Geriatric Health Professional Mentoring Program, a Kids Into Health Careers Partnership, and Geriatric Case Management.

- Dementia-Specific Training of Long-Term Care Personnel. VCoA and the VGEC, in partnership with the Virginia Department for the Aging (VDA), the Alzheimer's Association Chapters, and the Nursing Assistant Institute (NAI), are evaluating each aspect of an innovative, progressive, three-step training project that is designed to increase the knowledge and skills regarding dementia of those who work in long-term care settings, especially those who deliver most of the hands on care. The project's phases, objectives, and responsible partners are: Phase I, completed in 2002, provide dementia-specific training to as many as 1,000 long-term care personnel (Alzheimer's Association); Phase II, prepare 500 nursing assistants who have participated in

the dementia program to provide in-services for their co-workers (VDA/NAI/Alzheimer's Association); and Phase III, offer 40 hours of job-focused training for 100 nursing assistants who successfully complete both the dementia-specific program and the train-the-trainer instruction (VGEC). In Phase I, VCoA submitted preliminary and final reports to the Alzheimer's Association analyzing results from delivery of a 12-hour curriculum on Person-Centered Care to 1,000 employees working in long-term care. In Phase II, VCoA collected post-training data from approximately 100 of these employees who subsequently received train-the-trainer instruction from the NAI. VCoA completed data entry and analyses. For Phase III, VCoA has been contributing to the VGEC training curriculum, which is being designed collaboratively by pastoral care, rehabilitation counseling, social work, nursing, and gerontology professionals. The curriculum is being supplemented with more career ladder and job-focused content for nursing assistants. The overall project will continue for some years, with VCoA assessing longitudinally the impact of the progressive three-phase model upon the job satisfaction and career commitment of nursing assistants.

- Alzheimer's and Related Diseases Research Award Fund (ARDRAF). VCoA manages this seed grant program for the Commonwealth without administrative cost. ARDRAF appropriations support promising lines of inquiry by Virginia researchers into clinical, biochemical, behavioral, pharmaceutical, and other aspects of dementing illnesses, in order to better understand their causes, consequences, and treatment. In 2002 the General Assembly's appropriation of \$102,500 allowed VCoA to make five awards in the 2002-2003 competition: one on drug chemistry, one on neuropsychological testing and diagnosis, one on the usefulness of the Internet as an aid to dementia caregivers, and two on rural caregiving (home care aides and in-home respite). Recipients included researchers at James Madison University, Mountain Empire Older Citizens, Inc., the University of Virginia, Virginia Commonwealth University, and Virginia Tech. *(See Appendix B for summaries of the 2002-2003 awards and the review committee and Appendix C for abstracts of the Final Reports of the 2001-2002 ARDRAF awardees)*

c. Information and Resource Sharing.

- Community Dissemination. VCoA completed a variety of community-based efforts to disseminate aging-related data and resources, as well as information about its research and training, current and future lifelong learning and Elderhostel programs. These included an hour-long radio program on aging issues broadcast from studios in the Northern Neck and participation as a presenter or an exhibitor at **15** local conferences, fairs, workshops, and special events, in places from New Castle to Goochland, Fredericksburg to Virginia Beach, Pulaski to Chester. Venues included the Craig-Botetourt Electric Coop, Senior Day at the Hanover County Parks and Recreation Center, the Crater District Senior Day in Colonial Heights, and the Richmond Chapter of the National Caucus and Center on Black Aged, Inc.

- Web Page ([http:// views.vcu.edu/vcoa](http://views.vcu.edu/vcoa)). VCoA continued to upgrade its web page during calendar 2002. The web page contains the main features of each quarterly issue of *Age in Action* since fall 1997; listings of current and near-future Elderhostel and other lifelong learning programs; data on older Virginians, as well as links to other web-based data resources; links to aging-related organizations both within Virginia and elsewhere; a comprehensive overview of the Alzheimer's and Related Diseases Research Award Fund, including past awards since inception in 1982, the current year's awardees, and application procedures; biographical sketches of VCoA staff members and synopses of some of their research interests; and a detailed catalog of VCoA's audiovisual holdings available for loan to individuals, groups, and organizations within Virginia.

- *Age in Action.* VCoA's respected quarterly 20-page publication, co-produced with the Virginia Department for the Aging and Virginia Commonwealth University's Department of Gerontology, reaches some 4,500 professionals, paraprofessionals, elders and families each issue, with educational content, conference, training, and work opportunities, research, and more. Each issue begins with a case study of a condition or topic of broad gerontological relevance. Volume 17's four case studies included "Are You at Risk for Blindness? Don't Keep Glaucoma a Family Secret!" (Winter 2002), "Older Homeless Women: Beneath the Safety Net" (Spring), "Older Adults, Social Techniques, and Memory" (Summer), and "Using Validation as a Consultant in a Richmond, Virginia Continuing Care Retirement Community" (Fall).

Goals 2003

VCoA will continue its commitment to its legislated mandates, seeking opportunities to leverage its resources to the benefit of older Virginians and their families. We have a rich history of partnerships and affiliations that have helped us to maximize our productivity. We plan to continue this process.

VCoA will continue its self-appraisal in order to ensure accomplishing the Priority Goals set by its Advisory Committee. VCoA will dedicate two of the quarterly joint meetings of its Advisory Committee and University Council to monitoring progress in attaining annual objectives. At the same time, we recognize that changes in Virginia's economy, decreases in General Fund appropriations, an uncertain national economy, and effects of the terrorist attacks upon such discretionary activities as Elderhostel lifelong learning will likely require our modifying strategies and activities and establishing new objectives.

The following outline of activities intended for 2003 is organized according to the mandates of interdisciplinary studies, research, and information and resource sharing.

Interdisciplinary Studies

- VCoA intends to continue its developmental work in the matter of domestic violence against older women. So far, this has involved leadership in a regional task force, a growing number of presentations before professionals in adult protective services, and several grant proposals to clarify and to address matters affecting abuse and exploitation of older women. We will co-direct a project throughout 2003, supported by federal funds through the Virginia Department of Criminal Justice Services, to increase knowledge of these issues among service providers and law enforcement officers. We intend to build upon this project's successes and to development more grant proposals for support of this work.
- VCoA intends to maximize its lifelong learning offerings within the current economic constraints. First, we will assess our Elderhostel program to determine what economies can be gained logistically; we will explore offering more non-traditional courses to expand enrollments or, at least, to maintain numbers. Second, we will continue the partnered development of a Lifelong Learning Institute in Chesterfield County in order to engage more older Virginians as learners and providers of lifelong learning.

- VCoA will continue progress on its joint project with the Department of Gerontology at VCU, funded by the State of Delaware, that seeks to offer older adults whose well-being is negatively affected by substance abuse, gambling, alcohol, or other unhealthy behaviors, various positive health promoting alternatives. In calendar 2003 VCoA intends to complete development of both a statewide survey of older Delawareans to gauge prevalence of unhealthy lifestyles, and a wellness curriculum. VCoA thinks that the project's processes and outcomes will generate benefits for Virginia's older citizens.
- VCoA intends to maintain its involvement in the Virginia Arthritis Task Force, led by the Virginia Department of Health with funding from the federal Centers for Disease Control and Prevention, and to help implement the priorities in the 2001-2005 Virginia Arthritis Task Force set in 2002.
- VCoA intends to continue its active collaboration in the continuing multi-year Core Center grant directed by the Virginia Geriatric Education Center. VCoA staff will help to accomplish goals intended to improve the geriatrics training of health professionals and their care of older patients. Key features of this initiative include a Geriatrics Health Professional Mentoring Program, Geriatric Case Management, and a Kids Into Health Careers Partnership.

Research

- VCoA, with two staff members as gubernatorial appointees to the Alzheimer's and Related Disorders Commission, will work to help formulate in Virginia various ways of leveraging the Commonwealth's diverse expertise in dementia-related issues, especially that pertaining to research. VCoA will explore inter-agency and inter-university partnerships to advance such research and its translation or application to practical settings.
- VCoA will continue its evaluation of the partnered project to increase both the dementia-specific training of those who work in long-term care and their likelihood of remaining in the field. A collaboration of the Virginia Geriatric Education Center, the Virginia Department for the Aging, the Nursing Assistant Institute, the Alzheimer's Association network of Chapters, and VCoA is in the middle of a progressive, three-

part train-the-trainer initiative potentially affecting some 1000 nursing assistants. VCoA will evaluate outcomes of the training, including its impact on the nursing assistants' job satisfaction and career commitment.

- VCoA intends to maintain a robust program of promoting, soliciting proposals for, and disseminating the results of awarded projects in the Alzheimer's and Related Diseases Research Award Fund (ARDRAF). VCoA has documented the extraordinary efficacy of this Fund, and its benefit to both the research community and the community as a whole. VCoA will continue efforts to export ARDRAF as a model for state-based initiatives against dementing illnesses that challenge families and drain resources.

Information and Resource Sharing

- VCoA intends to expand its effectiveness in bringing resources to those in Virginia who are concerned about aging-related matters. VCoA will explore broader distribution and use of both the *Age in Action* quarterly newsletter and its website (<http://views.vcu.edu/vcoa>).
- VCoA intends to continue to partner with statewide aging-related organizations in order to disseminate research findings and to expand training for professionals across Virginia. VCoA will co-develop and co-sponsor the annual conferences of associations throughout the year.
- VCoA intends to continue its leadership in two productive alliances for preventing and responding to violence against older Virginians, namely, the Central Virginia Task Force for Older Battered Women and the Virginia Coalition for the Prevention of Elder Abuse.
- VCoA intends to maintain its extensive involvement on the boards and task forces of several non-profit aging-related organizations, offering *pro bono* gerontological expertise and technical assistance to the benefit of the elders and families that these organizations serve.

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Appendix A

List of Agencies and Businesses Worked With In 2002 By Geographic Region

List of Agencies and Businesses Worked with in 2002 by Geographic Region

Central Virginia

Adult Care Services, Richmond
Agecroft Associates, Richmond
Agecroft Hall, Richmond
Alzheimer's Association-Greater Richmond Chapter
Annabel Lee, Richmond
Appomattox Courthouse, Appomattox
Appomattox Visitor Center
Berkley Plantation, Charles City
Beth Ahabah Museum and Archives, Richmond
Bettie Weaver Elementary School, Midlothian
Blandford Church, Petersburg
Blanford Cemetery, Petersburg
Bon Secours Memorial School of Nursing
Bunkie Trinite Trophies, Richmond
Capitol Hostess and Tours, Richmond
Capitol Snack Bar, Richmond
Capitol Square Preservation Council, Richmond
Center Hill Mansion, Petersburg
Central Virginia Coalition for Quality End-of-Life Care, Richmond
Central Virginia Task Force on Older Battered Woman, Richmond
Chesterfield County Parks & Recreation, Chesterfield
Circle Center Adult Day Services, Richmond
Cold Harbor Battlefield Park, National Park Service
Colonial Printing, Richmond
Comfort Inn Midtown, Richmond
Crater District Area Agency on Aging, Petersburg
Cross-Over Ministry, Inc., Richmond
Dietz Press, Richmond
Edgar Allan Poe Museum, Richmond
Eden Pines, Petersburg
Evelynnton Plantation, Charles City
Fan Free Clinic, Richmond
Fifty Plus (Richmond Publishing), Richmond
Five Forks National Battlefield Park, Petersburg
Garden Club of Virginia, Richmond
Gold Cup Coffee Shop, Richmond

Grant's Headquarters, Hopewell
Hanover Adult Center, Mechanicsville
Hanover County Parks and Recreation, Hanover
Hollywood Cemetery Foundation, Richmond
Hospice of Central Virginia, Richmond
Ikon Office Solutions, Richmond
Irvin Gammon Craig Health Center, Richmond
Indian Fields Tavern, Charles City
Instructive Visiting Nurses Association, Richmond
James River Bus Lines, Richmond
Jefferson Hotel, Richmond
John Marshall House Museum, Richmond
Kinko's, Richmond
Lake Country Area Agency on Aging, Inc., South Hill
Lakewood Manor Retirement Center, Richmond
Lewis Ginter Botanical Gardens, Richmond
Library of Virginia Foundation, Richmond
Library of Virginia, Richmond
Living History Associates, Ltd, Richmond.
Maggie L. Walker House, Richmond
Mail Boxes, Etc., Richmond
Mailing Services, Richmond
Manchester YMCA, Chesterfield
Masonic Home of Virginia, Richmond
Maymont Foundation, Richmond
McGuire Veterans Administration Medical Center, Richmond
Metro Richmond Convention and Visitors Bureau, Richmond
Mt. Pisgah United Methodist Church, Richmond
Museum of the Confederacy, Richmond
Old Dominion Tours, Richmond
Pamplin Park Civil War Site, Petersburg
Petersburg National Battlefield
Petersburg Visitor Center
Radisson Historic Richmond Hotel
Radisson Hotel, Petersburg
Reveille United Methodist Church, Richmond
Richmond Chamber of Commerce
Richmond Magazine
Richmond National Battlefield Park at Tredegar Ironworks
Richmond Redevelopment & Housing Authority
Richmond Riverfront Development Corporation
Sailor's Creek Battlefield, Dinwiddie
Saint John's Church, Richmond

Saint Joseph's Home for the Aged, Richmond
Saint Mary's Catholic Church, Richmond
Saint Paul's Episcopal Church, Richmond
Science Museum of Virginia, Richmond
Scotchtown, Hanover County
Senior Center of Richmond, Richmond
Senior Center of Richmond at Chesterfield, Midlothian
Senior Connections - Capital Area Agency on Aging, Richmond
Shepherd's Center of Richmond, Richmond
Sheraton Park West Hotel, Richmond
Sherwood Forest Plantation, Charles City
Shirley Plantation, Charles City
Siege Museum, Petersburg
South Richmond Adult Day Care
Southern Horizons (Historical Music Group), Richmond
Supply Room Companies, Richmond
Theatre Virginia, Richmond
Tourtime America, Richmond
Tuckahoe Plantation, Goochland
Tuckahoe YMCA, Richmond
Ukrop's Supermarkets, Richmond
United Way Services, Richmond
University of Richmond, Department of Sociology and Anthropology
Valentine Museum, Richmond History Center
Vatex, Richmond
Virginia Baptist Mission Board, Richmond
Virginia Civil War Trails, Richmond
Virginia Council on Pharmaceutical Education, Richmond
Virginia Historical Society, Richmond
Virginia House, Richmond
Virginia Museum of Fine Arts, Richmond
Virginia Retired Teachers Association-District D, Prince George
Virginia State University, Petersburg
Westover Plantation, Charles City
White House and Museum of the Confederacy, Richmond
Wilton House, Richmond

Eastern Virginia

Abby Aldrich Rockefeller Folk Art Center, Williamsburg
Alzheimer's Association-Southeastern Virginia Chapter, Norfolk

American Rover and Victory Rover, Norfolk
Bacon's Castle, Surry
Carter's Grove Plantation, Williamsburg
Casemate Museum, Fort Monroe
Chamberlin Hotel, Hampton
Christopher Newport University, Department of Nursing, Newport News
Christopher Wren Association, Williamsburg
Chrysler Museum, Norfolk
College of William and Mary, Department of Chemistry, Williamsburg
Colonial Home, Chesapeake
Colonial National Historical Park, Yorktown
Colonial Services Board, Williamsburg
Colonial Williamsburg Foundation, Williamsburg
Colonial Williamsburg, Williamsburg
Dominion Village of Poquoson, Poquoson
Eastern State Hospital, Department of Psychology, Williamsburg
Eastern Virginia Medical School, Norfolk
 Department of Anatomy and Neurobiology
 Department of Physical Medicine and Rehabilitation
 Department of Physiology, Biochemistry, and Pharmacology
 Glennan Center for Geriatrics and Gerontology
Eddie's Bus Company, Chesapeake
Endview Plantation, Newport News
Fort Boykin Historic Park, Smithfield
Fort Norfolk, Norfolk
Ft. Wool, Hampton
Hampton Carousel, Hampton
Hampton Fleet Cruises, Hampton
Hampton-Newport News Community Services Board
Hampton Roads Naval Museum, Norfolk
Hampton University, School of Pharmacy
Hampton Veterans Administration Medical Center, Department
 of Geriatrics and Extended Care
Hampton Visitors Center
Holiday Inn, Hampton
Holiday Inn Patriot, Williamsburg
Isle of Wight County Museum and Courthouse
Jamestown Island, Jamestown
Jamestown National Park, Jamestown
Jamestown-Yorktown Foundation, Jamestown
Lee Hall Mansion, Newport News
MacArthur Memorial, Norfolk

Mariners' Museum, Newport News
Miss Hampton II Harbor Cruises, Hampton
Moses Myers House, Norfolk
Mursto Productions, Hampton
Nancy Thomas Folk Art Gallery, Yorktown
NASA Langley Air Force Base, Hampton
Naval Medical Center, Portsmouth
Newport News Park
Norfolk Botanical Gardens
Norfolk Convention and Visitors Bureau
Norfolk Healthcare Center
Old Dominion University, Department of Sociology and Criminal
Justice, Norfolk
Peninsula Agency on Aging, Inc., Newport News
Regent University, School of Psychology and Counseling, Virginia Beach
Sam's Restaurant, Hampton
Smithfield Bakery and Café
Smithfield Center
St John's Church, Hampton
St Luke's Church, Smithfield
USS Wisconsin, Norfolk
Village of Smithfield, Smithfield
Virginia Air and Space Center, Hampton
Virginia Museum of Marine Science, Gloucester
Virginia Retired Teachers Association-District D, Prince George
Virginia War Museum, Newport News
Watermen's Museum, Yorktown
Williamsburg Brewing Company
Williamsburg Community Hospital
Williamsburg Landing Retirement Community
Yorktown National Battlefield and Cemetery
Yorktown Victory Center

Northern Virginia

Alzheimer's Association - National Capital Area Chapter, Fairfax
Arlington County Department of Human Services and Aging
Burke Healthcare Center
Fredericksburg Chateau, Fredericksburg
Fredericksburg/Spotsylvania National Park Service, Fredericksburg

George Mason University, Krasnow Institute for Advanced Study, Fairfax
George Washington's Mount Vernon Estate and Gardens
Gerontological Society of America, Washington DC
Goodwin House West, Falls Church
Goodwin House, Alexandria
HeartFields Assisted Living, Fredericksburg
INOVA Health Systems, Falls Church
Loudoun County Area Agency on Aging, Leesburg
Manassas National Battlefield Park
Meadowbrook, Reva
Northern Virginia Community College, Annandale
Oak Springs of Warrington, Warrington
Prince William/Manassas Conference & Visitor Bureau, Manassas
Rappahannock Area Agency on Aging, Inc., Fredericksburg
Rappahannock Rapidan Community Services Board, Hartwood
Senior Services of Alexandria
Spotsylvania Visitors Center
Stonewall Jackson Shrine, Fredericksburg
Summerville at Prince William, Woodbridge

Northwest Virginia

Alzheimer's Association - Piedmont Chapter, Charlottesville
Augusta Medical Center, Fishersville
Blue Ridge Parkway Ranger Station and Visitor Center, Stuart's Draft
Blue Ridge Legal Services, Harrisonburg
Cedars, Beverly Healthcare, Waynesboro
Frontier Culture Museum, Staunton
George C. Marshall Foundation, Lexington
Harrisonburg-Rockingham Convention and Visitors Bureau, Harrisonburg
Harrisonburg-Rockingham Social Services District, Harrisonburg
James Madison University, Department of Biology, Harrisonburg
Jefferson Area Board for the Aging, Charlottesville
Jefferson Visitor Center, Charlottesville
Michie Tavern, Charlottesville
Monticello, Charlottesville
Mountain View Nursing Home, Aroda
Nursing Assistant Institute, Charlottesville
Orange County Nursing Home, Orange
P. Buckley Moss Museum, Waynesboro
Shenandoah University, Department of Biopharmaceutical
Sciences, Winchester
Summit Hill, Waynesboro

Thomas Jefferson Memorial Foundation, Charlottesville
Turner Ashby House, Port Republic
University of Virginia, Charlottesville
University of Virginia Health System, Charlottesville
 Department of Anesthesiology
 Department of Cell Biology
 Department of Chemical Engineering
 Department of Neurological Surgery
 Department of Neurology
 Department of Pathology
 Department of Physical Medicine and Rehabilitation
 Department of Psychiatric Medicine
 Division of General Medicine and Geriatrics
University of Virginia Senior Services, Charlottesville
Valley Program on Aging Services, Waynesboro
Woodrow Wilson Birthplace, Staunton

Southwest Virginia

Abbott Bus Lines, Roanoke
Appalachian Agency for Senior Citizens, Inc., Cedar Bluff
College of Health Services, Roanoke
Days Inn, Lynchburg
Duffield Nursing Facility, Duffield
George C. Marshall Museum, Lexington
George C. Marshall Foundation, Lexington
Hall of Valor Civil War Museum, New Market
Hamilton Haven, Roanoke
Holiday Inn Select, Lynchburg
Lakeview Assisted Living, Roanoke
Lee Chapel and Museum, Lexington
Lexington-Rockbridge County Visitors Center, Lexington
Liberty University, Department of Biology and Chemistry, Lynchburg
LOA-Area Agency on Aging, Inc., Roanoke
Lynchburg College, Belle Boone Center on Aging
Lynchburg Visitor Center, Lynchburg
MacArthur House, Narrows
Mayfair House Assisted Living, Roanoke
Mountain Empire Older Citizens, Inc., Big Stone Gap
Natural Bridge Caverns
Natural Bridge Inn & Conference Center
Natural Bridge of Virginia
Natural Bridge Wax Museum

New Market Battlefield Military Museum
New Market Battlefield State Historical Park
New River Valley Agency on Aging, Pulaski
Old City Cemetery, Lynchburg
Peaks of Otter Restaurant
Peaks of Otter Visitor Center
Piedmont Adult Care Residence, Danville
Poplar Forest, Lynchburg
Quality Quick Print, Lexington
Radford University, School of Nursing
Rockbridge Historical Society, Lexington
Safe Homes, Craig County
Southern Area Agency on Aging, Martinsville
Stonewall Jackson House, Lexington
Stonewall Jackson Memorial Cemetery, Lexington
Virginia Military Institute Museum, Lexington
Virginia Polytechnic Institute and State University, Blacksburg
 Center for Gerontology
 Department of Biochemistry
 Department of Chemistry
 Department of Human Development
 Department of Sociology
 School of Public and International Affairs
Virginia Tech Adult Day Services, Blacksburg
Washington and Lee University, Lexington
World War II Memorial, Bedford

Statewide

AARP Virginia
Alzheimer's Disease and Related Disorders Commission
Cerebral Palsy and Aging Focus Group
Consortium on Successful Aging
National Association of Retired Federal Employees
Olmstead Task Force
Prevent Blindness Virginia
Professional/Consumer Advocacy Council
SeniorNavigator.com
United Way, Inc.
Virginia Area Health Education Center
Virginia Arthritis Task Force
Virginia Association of Area Agencies on Aging
Virginia Association of Non-Profit Homes for the Aging

Virginia Association on Aging
Virginia Coalition for the Aging
Virginia Coalition for the Prevention of Elder Abuse
Virginia Department for the Aging
Virginia Department for the Blind and Vision Impaired
Virginia Department of Emergency Management
Virginia Department of Health
Virginia Department of Health Professions
Virginia Department of Mental Health, Mental Retardation, and Substance Abuse Services
Virginia Department of Rehabilitative Services
Virginia Department of Social Services
Virginia Elder Rights Coalition
Virginia Guardianship Association
Virginia Institute for Social Services Training Activities (VISSTA)
Virginia Health Care Association
Virginia Quality Healthcare Network
Virginians Against Domestic Violence

Collaboration with Units of Virginia Commonwealth University

Center for Public Policy
Department of Anatomy
Department of Art History
Department of General Medicine
Department of Gerontology
Department of Health Administration
Department of Internal Medicine
Department of Medicinal Chemistry
Department of Occupational Therapy
Department of Pathology
Department of Philosophy and Religious Studies
Department of Physical Therapy and Rehabilitation
Department of Physiology
Department of Psychology
Department of Urban Studies and Planning
Geriatric Medicine Section
Institute for Structural Biology and Drug Discovery
Partnership for People with Disabilities
Police Department
School of Allied Health Professions
School of Dentistry
School of Medicine

School of Nursing
School of Pharmacy
 Department of Pharmacy
 Department of Pharmaceutics
 Geriatric Pharmacy Program
School of Social Work
Survey and Evaluation Research Laboratory
Virginia Geriatric Education Center

Appendix B

Summaries of 2002-2003 Competitive Awards in the Alzheimer's and Related Diseases Research Award Fund And Composition of the Awards Committee

Alzheimer's and Related Diseases Research Award Fund
2002-2003 ALZHEIMER'S RESEARCH AWARD FUND RECIPIENTS ANNOUNCED

The Alzheimer's and Related Diseases Research Award Fund (ARDRAF) was established by the Virginia General Assembly in 1982 to stimulate innovative investigations into Alzheimer's disease (AD) and related disorders along a variety of avenues, such as the causes, epidemiology, diagnosis, and treatment of the disorder; public policy and the financing of care; and the social and psychological impacts of the disease upon the individual, family and community. The ARDRAF competition is administered by the Virginia Center on Aging at Virginia Commonwealth University in Richmond. The five grant recipients of the 2002-2003 awards are as follows:

VA Tech Paul R. Carlier, Ph.D. (Department of Chemistry) "Structure-Based Design of Dimeric Memory Enhancing Drugs"

Current FDA-approved therapies for alleviating AD-related memory loss are based on the use of enzyme inhibitors to increase the brain concentration of the neurotransmitter acetylcholine. Unfortunately, the side effects of these drugs (acetylcholinesterase inhibitors) often lead to discontinuation of therapy. Since in many cases these side effects are due to unwanted interaction of the drug with other biological targets, drug tolerability could be improved by increasing the selectivity for the intended biological target. The funded study aims to achieve this goal by designing drugs which can simultaneously bind to the intended target in two different locations, further increasing the potency and selectivity for acetylcholinesterase. **(Dr. Carlier can be reached at 540/231-9219)**

VCU J. James Cotter, Ph.D., E. Ayn Welleford, Ph.D. (Department of Gerontology) and K. Vesley (Chesapeake Bay Agency on Aging, Inc.) "Improving the Capacity of Home Care Aides in Rural Areas Serving Persons with Alzheimer's Disease and Related Disorders"

The quality of long-term home care for persons with AD and related disorders is one of the most important challenges confronting the health care system. Training initiatives are needed to increase the quality of this care provided by home care aides. This study will investigate the potential of a specialized training program and proactive clinical support to improve the ability of aides to handle more effectively home care patients with AD who live in rural areas. The investigation will also determine how a partnership between an academic research unit and an area agency on aging can improve research and enhance community-based services. This timely study will have important implications for persons with AD, their informal and formal caregivers, and administrators of community-based home care programs. **(Dr. Cotter et al. may be contacted at 804/828-1565)**

JMU Merle E. Mast, Ph.D. and Marilyn Wakefield, Ph.D. (Department of Nursing) "Rural Family Caregivers' Perceptions of Facilitators and Deterrents to the Use of In-Home Respite"

Although caregivers of persons with AD cite respite as a pressing need, many caregivers do not use respite services or delay using them until very late in the disease process. To date, research has noted but has not gained an understanding of this phenomenon. Little is known about the degree to which caregivers judge various possible interventions to be what they need or find useful. This qualitative study will use Grounded Theory to explore rural family caregivers' perspectives of the factors that either enhance or deter the use of in-home respite. The results will enable the development of respite interventions that are tailored to the needs of caregivers. **(Drs. Mast and Wakefield may be contacted at 540/568-6314)**

**UVA Elana Farace, Ph.D. and Mark E. Shaffrey, M.D (Department of Neurological Surgery)
“Neurocognitive Discrimination of Alzheimer's from Normal Pressure Hydrocephalus Verified
by Brain Biopsy”**

Many elderly patients with dementia are referred each year to neurosurgeons for evaluation and possible placement of a brain shunt to drain excess cerebral spinal fluid as a means of treating Normal Pressure Hydrocephalus (NPH), a disease characterized by dementia, gait problems, and urinary incontinence. However, only 30-50% patients will have improved cognition after shunt placement, and the procedure carries a substantial complication rate. Approximately 10% of these patients actually have AD, either along with NPH, or misdiagnosed as NPH, and these patients typically do not benefit from shunt placement. Presently, there are no brief, non-invasive tests to discriminate accurately between AD and NPH. Our preliminary studies have shown that items on brief neurocognitive tests may improve the prediction of shunt benefit. This study will determine how well baseline neuropsychological testing predicts shunt benefit, compared to a definitive diagnosis of dementia with intra-operative brain biopsy during shunt placement. **(Drs. Farace and Shaffrey may be contacted at 434/2434806)**

**Mountain Empire Older Citizens, Inc. Marilyn Pace Maxwell, M.S.W. and Michael Creedon,
D.S.W “Using the Internet for Alzheimer’s Care: The Challenge for Elders and Service
Organizations in Approach”**

The development of wired communities (i.e., broadly connected by computer technology) in Virginia allows local organizations to interact with and support specific families and individuals in previously unexplored ways. The investigators will take advantage of this progress in rural Southwest Virginia by examining the feasibility of computer-assisted support for family caregivers of persons with Alzheimer’s disease. The findings will serve as the basis for program development and technology support services, with the ultimate goal of assuring that the needs of Alzheimer’s caregivers are included in the region’s plans for a wired community.

2002-2003 Awards Committee

Paul Aravich, Ph.D.

Eastern Virginia Medical School

Katie Benghauser, M.S.

SeniorNavigator.Com

Wendell Combest, Ph.D.

Shenandoah University

Jorge Cortina, M.D.

Hampton VA Medical Center

Erik J. Fernandez, Ph.D

University of Virginia

Alison Galway, Ph.D.

Virginia Tech Adult Day Services

Nitya R. Ghatak, M.D.

Virginia Commonwealth University

Samuel A. Green, Ph.D.

University of Virginia

Douglas M. Gross, Ph.D.

Eastern Virginia State Hospital

David Hess, Ph.D.

Virginia Commonwealth University

Suzanne Holroyd, M.D.

University of Virginia

Peter Kennelly, Ph.D.

Virginia Tech

Richard Lindsay, M.D.

University of Virginia

Elizabeth O’Keefe, M.D.

Virginia Commonwealth University

Deborah Perkins, M.S., R.N., C.S., G.N.P.

Bon Secours Memorial School of Nursing

Janet H. Watts, Ph.D., O.T.R.

Virginia Commonwealth University

APPENDIX C

**Abstracts from the Final Reports of Projects Supported in the
2001-2002 Alzheimer's and Related Diseases Research Award Fund**

Alzheimer's and Related Diseases Research Award Fund

**FINAL PROJECT REPORTS FROM THE
2001-2002 ALZHEIMER'S RESEARCH AWARD FUND**

UVA Erik J. Fernandez, Ph.D. (Department of Chemical Engineering)

"Revealing Amyloid- β Structure and Oligomer Distributions Using Mass Spectrometry"

Alzheimer's disease has long been known to involve formation of fibrillar structures from a protein fragment termed amyloid- β . This protein fragment also forms smaller aggregates that recently have been implicated as the actual toxic species responsible for neuronal damage in Alzheimer's patients. In this research, a new approach based on isotope labeling and mass spectrometry has been used to investigate the structure of amyloid β . The results indicate this technique should be useful in subsequent research to identify the toxic form of amyloid β and identify the structural features responsible for its toxicity. *(Dr. Fernandez may be contacted at 434/924-1351)*

UVA Carol Manning, Ph.D. and Kathleen Fuchs, Ph.D. (Department of Neurology)

"The Subjective and Objective Experience of Women at Genetic Risk for Alzheimer's Disease"

Concern about the onset of dementia is especially high among women with a parent diagnosed with AD. However, little research has been done to examine cognitive and emotional functioning in those who have first-degree relatives with AD. The investigators assessed the cognitive and emotional functioning of a group of women at increased risk for developing Alzheimer's disease (AD) because they have a parent with AD, and compared their performance with women of comparable age and education who do not have a parent with AD. They found that the women at risk report more symptoms of caregiver burden and anxiety than their peers, but that their general cognitive functioning is comparable. The women in the at-risk group performed in the above average range on a measure of general memory functioning, but they did not perform quite as well as their peers. It does not appear that the difference in level of emotional distress accounts for the difference in memory performance. The investigators are currently investigating other aspects of performance such as learning characteristics that might account for this finding. *(Drs. Manning and Fuchs may be contacted at 434/982-1012)*

UVA John Savory, Ph.D. and Othman Ghribi, Ph.D. (Department of Pathology)

"Stress in the Endoplasmic Reticulum Mediates Active Neuronal Death in Experimental Neurodegeneration"

Recent studies have implicated apoptosis in the progressive and selective loss of neurons that characterizes AD. Although apoptosis under mitochondrial control has received considerable attention, the mechanisms utilized within the endoplasmic reticulum (ER) are not well understood. This project first investigated the neurotoxic effect of direct injection of $A\beta_{1-42}$ into the brains of New Zealand white rabbits on the ER. Secondly, the researchers established that pre-treating animals with a molecule that up-regulates antiapoptotic protein levels in the ER, glial cell line-derived neurotrophic factor (GDNF), protects against $A\beta_{1-42}$ -induced neurotoxicity. The investigators further chose to use lithium treatment in an additional study, since recent work implicated mediation by activity in the glycogen synthase kinase-3 β (GSK-3 β) and MAP kinases (JNK, p 38, and ERK) signaling pathways. Lithium, used to treat bipolar disorder, was found to protect against $A\beta$ -induced neurotoxicity and tau phosphorylation by mechanisms that may involve anti-apoptotic as well as GSK-3 β regulation activities. The investigators made significant progress in understanding pathways by which the important Alzheimer's peptide, $A\beta$, causes injury to neurons, and have pointed the way to possible treatments. *(Drs. Savory and Ghribi may be contacted at 434/924-5682)*

(OVER)

**VCU/MCV Jurgen Venitz, M.D., Ph.D. and Yuxin Men, M.D. (Department of Pharmaceutics)
"Pharmacokinetic/Pharmacodynamic (PK/PD) Modeling of the Interaction of IV Scopolamine
and Physostigmine in Healthy Elderly Volunteers"**

This research proposed to use: 1) scopolamine, a competitive cholinergic antagonist, to temporarily mimic the symptoms of AD in health elderly volunteers, and 2) physostigmine, an acetylcholinesterase (AChE) inhibitor used to treat AD patients, to reverse the cognitive impairment induced by scopolamine. The time course of reversal was determined by the physostigmine concentrations in blood achieved in each individual, and sophisticated PK/PD modeling was used to analyze cognitive functioning changes (mimicking AD symptoms), heart rate and saliva flow changes (known side effects of physostigmine), and blood concentrations of scopolamine and physostigmine. Overall, the AChE inhibition was mild (due to the relatively low dose of physostigmine, limited by concern about clinical adverse effects) and short-lived (due to the short half-life of the physostigmine administered). This was reflected in the small and transient reversal effects on the scopolamine-induced pharmacological effects. Higher physostigmine doses, given as an intravenous infusion, would be required to show a more profound and long-lasting (therapeutic) AChE inhibition reversal. However, the results do suggest that physostigmine reverses the scopolamine-induced effects consistent with its therapeutic effect in AD. In addition, the results suggest that elderly females are more sensitive to the effects of scopolamine and physostigmine relative to their male counterparts. *(Drs. Venitz and Men may be contacted at 804/828-6249)*

**VCU/MCV Janet H. Watts, Ph.D., O.T.R. and Jodi L. Teitelman, Ph.D. (Department of Occupational Therapy)
"Alzheimer's Disease Caregiver Occupational Performance, Respite as a Mental Break, and Program Implications"**

Recent research suggests that caregivers of persons with AD need more than simple physical distance from care recipients to truly experience respite. Achieving a mental break is conceptualized as the essence of respite and as a restorative occupation. Caregivers need to feel free and confident that their loved ones are not just safe, but meaningfully engaged, so that they experience a mental break from their concerns. A phenomenological study involving four in-depth interviews each with fifteen family caregivers of persons with AD explored the experience of getting a mental break. This project produced a working model of how caregivers of persons with AD get a mental break. The model addresses associated factors including: Social Support, Traditional Respite (including Playing "Beat the Clock"), Relief Enhancing Conditions (including Caregiver Predispositions and Situational Prerequisites), and Techniques for Momentary Stress-Reduction (Relaxing Expectations and Getting Unstuck). Achieving a Mental Break addresses: Mental Break Techniques (Creative Deception and Caregiver *Carpe Diem*) and Experiencing a Mental Break (Absorbing Activities, Description of Mental Break, The Price You Pay). The last components are: Respite Impediment (The Challenge of Accepting Help) and Advice From Caregivers to Caregivers. Practical implications include: continuing refinement of formal respite services to facilitate a mental break by flexible scheduling and demonstrating staff compassion, competence, dependability to reassure caregivers and recipients; counseling caregivers about the other-serving (not self-serving) potential of a mental break to re-energize them in their caregiving roles; promoting the idea that refreshing breaks can be achieved through a wide range of absorbing activities that are mildly or totally absorbing, of short or long duration, near or far from the care recipient, and simple or complex. Further analyses of data from this study will be used to develop a specific psychoeducational intervention for assisting caregivers in identifying opportunities for and achieving mental breaks from their caregiving responsibilities. *(Drs. Watts and Teitelman may be contacted at 804/828-2219)*

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Notes