

ADVANCES *in Aging*

Baltimore Hip Studies Seeks Insight into Recovery

Twentieth Anniversary of Research Dedicated to Maximizing Outcomes For Hip Fracture Patients



Left: Client using a stepper built for the Baltimore Hip Study. Right: Thera-band™ which was used for the study.

In the 20 years that the Baltimore Hip Studies (BHS) have been under way, hip fractures have affected more than 7 million people in the United States, with costs of more than \$240 billion. Rather than analyzing ways to prevent hip fracture, the studies aim to identify ways to maximize people's recovery from the injury. The average age of women with a hip fracture is about 83, and the fractures have serious consequences: nearly half of women will not recover to their pre-fracture status, and 24 percent of women over 50 die in the year following the fracture. Although about 80 percent of hip fractures are in women, the number of men who experience this injury is expected to increase.

"We want to learn about what happens to people after they have a fracture, and identify ways of helping them improve," said Jay Magaziner, Ph.D., director of the University of Maryland School of Medicine's Division of Gerontology and director of the BHS program.

The BHS is a series of studies, most of which are observational: hip-fracture patients are enrolled and followed as they recover, and changes and patterns are identified. Data currently exist on over 2000 hip fracture patients who have been identified at the time of their initial hospitalization and followed prospectively post fracture.

Early studies in the BHS examined the consequences of hip fracture: physical changes, changes in activities of daily living, and changes in cognition and social activity. During the second phase, research focused on determinants of recovery from fracture. Third-phase studies analyzed physiological changes in bone mineral density and muscle mass, and strength and neuromuscular functioning. BHS research found that within a year after a hip fracture, women lose 5 percent of their bone mineral density in the unfractured hip, lose 3 to 6 percent of their muscle mass, and gain body fat. These are profound losses, according to Magaziner. "Older women who fracture a hip lose 12 times more of their bone mineral density in the femoral neck region of their other hip during the year following the fracture, compared with comparable women who do not sustain a fracture," he added.

Now in "phase 4", BHS research is focusing on exercise and medications to improve recovery after fracture. In 1998, BHS initiated an exercise intervention study that is still enrolling patients. Half receive an at-home exercise session with a trainer, and half do not. "The trainers go into the home and demonstrate the exercises," explained Denise Orwig, Ph.D., assistant professor of epidemiology in the School of Medicine and associate director of BHS, "We expect patients to exercise five times a week for about an hour at a time." As part of this project, all patients also are provided with [\[cont. pg. 2\]](#)

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[from pg. 1] information on the management of osteoporosis. Dr. Orwig, a pharmacoepidemiologist, is studying the way medications are used by older persons following a hip fracture.

In another closely related study, Barbara Resnick, Ph.D., associate professor in the UM School of Nursing, is testing a combined exercise and motivation intervention in hip-fracture patients to see if it can help them initiate and adhere to a regular exercise program. "There is much research to support the benefit of exercise for older adults," she says. "Our hope is that we will demonstrate an effective way in which to motivate older women post hip fracture to initiate and adhere to a regular exercise program. Ultimately, this should help prevent future falls and fractures and improve their overall quality of life."

Gad Alon, Ph.D., associate professor of physical therapy in the Department of Physical Therapy in the School of

Medicine, is conducting a pilot study supported by the University of Maryland's Claude D. Pepper Older Americans Independence Center. The study involves designing an intervention to improve recovery, focusing on specific functions that allow older people to be independent in their home and community setting.

The BHS program has been expanding to examine other sorts of problems that older people may have following a hip fracture. For example, Mona Baumgarten, PhD, associate professor of epidemiology in the Department of Epidemiology and Preventive Medicine in the School of Medicine, is conducting a prospective study of pressure ulcer development following a hip fracture. Pressure ulcers represent a significant problem, she says, both in terms of patient suffering and in cost of care. Her study's aim is to provide essential information for clinical practice, health care planning, and the development of future clinical trials.

According to Magaziner, "we are at an important juncture in our understanding of the consequences of hip fracture, and given the accumulation of descriptive and etiological information, we are now ready to design and test promising interventions to prevent adverse outcomes and to promote recovery." The BHS group has expanded its investigator and hospital base over the past 20 years and is now beginning to examine the mechanisms underlying some of the changes they have observed and to design and test new intervention strategies using multidisciplinary approaches. Investigators have joined with pharmaceutical company partners to look at increasing endurance following a fracture and to look at new ways to reduce the chances of additional

fractures from occurring in these already vulnerable elders. Drs. Streeten (an endocrinologist and assistant professor of medicine), Hochberg (a rheumatologist with an interest in bone disease and a professor of medicine and epidemiology), Sterling (an orthopedic surgeon and assistant professor of surgery), Hawkes (senior analyst in the BHS and assistant professor of epidemiology), and Orwig are looking at new strategies for preventing many of the bone changes that now occur after hip fracture.

Other current BHS topics include:

- studying the relationships among exercise, bone health and inflammation
- discovering functional interventions to improve recovery
- increasing the use of bone-strengthening medications
- cognitive changes after hip fracture and improving rehabilitation for people with cognitive deficits
- rehabilitating patients using a strengthening device
- optimizing post-fracture transfusions and redefining transfusion thresholds
- testing the utility of a new type of bisphosphonate that requires only one dose per year

For further information on the Baltimore Hip Studies, contact Dr. Magaziner or Dr. Orwig at 410-706-2406. •



The Baltimore Hip Studies
Department of Epidemiology
And Preventive Medicine

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UMB Program Supports Intergenerational Families in West Baltimore



Today, Jillyn Kneeland, MSW, is visiting a grandfather in West Baltimore. She is accompanying him to a hearing to determine who will have custody of his grandchild, whom he has raised for a number of years. The child's father wants to regain custody, but the grandfather believes he's unfit. Kneeland, a social worker with the University's Healthy Grandparent Families program, is there to provide social support.

Healthy Grandparent Families is a multidisciplinary initiative of the schools of social work, nursing, and law that assists low-income grandparent-led families in West Baltimore and aims to reduce risk factors that jeopardize their families' safety, health, and well-being. Today's "visit" is just one of about 10 that Kneeland or other program staff members will make to this grandfather's house this month.

Baltimore practically leads the nation in grandparent-run homes, says Fred Strieder, PhD, program director and director of community services for the University's Center for Families.

"Baltimore's 7th congressional district is the third-highest district in the nation for grandparents raising grandchildren," he says.

In West Baltimore, these grandparent-grandchildren families are typically led by unemployed women living below the poverty line, women who are ill-equipped, financially and otherwise, to support their grandchildren—but who do so anyway, out of fear that their grandchildren will be abandoned or turned over to welfare services.

"Children come to live with their grandparents because of problems with their own families—such as neglect, violence, incarceration, or substance abuse.

Many have lost their parents to drugs," says Strieder.

As a result of their parents' behavior, the grandchildren themselves frequently suffer from emotional and behavioral problems and have learning disabilities. On top of their grandchildren's challenges, the grandparents face intergenerational conflicts with their own children and legal concerns such as adoption and custody.

Research shows that when grandchildren come to live with their grandparents, the grandparents report more stress, depression, and deteriorating health. "Research also shows that grandparent-led families benefit from support," says Strieder.

The Healthy Grandparent Families pilot study is providing this support to seven families with grandparents who range in age from 41 to 75 years old. The initiative is based on three strength-building tenets: working with the family in its home; identifying and encouraging family strengths; and empowering families by helping them access community services on their own.

Families in the program receive assistance in the form of home visits from the program's three service arms. Social workers like Strieder and Kneeland provide individual and family counseling and advocacy. Nurses make general health assessment of grandparents and grandchildren, says Susan Zator, MPH, RN, a certified registered nurse at the School of Nursing's Open Gates Clinic, which provides health care to many HGF clients. "I ask if they are up to date on their well-woman care, if the grandchildren have had their vaccinations, and other health status questions," says Zator, a case manager and community outreach nurse for HGF. *[cont. pg. 4]*

[from pg. 3] Registered nurses also provide grandparent-families with in-home weight monitoring and glucose and cholesterol screenings and help families create health-related goal plans. “One of the goals we set is getting the family on a regular health care schedule. This is a challenge, because many grandparents are uninsured,” says Zator. “We ask if they have providers. If they say no, we try to help them find one.” Some grandparents and grandchildren come to Open Gates, which treats patients on a sliding scale.

The third service arm of the program is the School of Law. Student lawyers identify legal issues (such as foster care, guardianship, and adoption), and provide representation. They are currently helping one grandmother with an adoption and another to get custody of her grandchildren—who have been placed in her home but are committed to the Department of Social Services. “We’re trying to give her a voice in court proceedings,” says Deborah Weimer, a professor in the School of Law and a Healthy Grandparent Families program staff member.

Social workers coordinate all services. The Healthy Grandparent Families program began in the fall of 2002 and is modeled after a similar program at Georgia State University. It is supported by the Hasbro Children’s Foundation, the Maryland Department of Human Resources, and the Maryland Children’s Trust Fund.

The program is currently working with grandparent families for six months. “It’s short-term, intense work,” says Strieder.

“But the grandparents are capable people. With our help, they make progress very quickly.” •

Pepper Center’s Stroke Rehabilitation Research Initiatives

Faculty Explore Ways to Enhance Rehabilitation Programs for Stroke Patients

The Claude D. Pepper Older Americans Center, which is focusing on stroke rehabilitation, has a number of junior faculty members who have been awarded funding so they may explore various research questions related to the stroke rehabilitation theme of the Center. As Jay Magaziner, co-principal investigator of the Pepper Center grant indicates, “These are highly motivated faculty [members] who are involved in research in gerontology. They are all working on different kinds of research questions, which will enhance the overall findings of the Pepper Center as well as assist the faculty members in developing their research careers.”

Four of the junior faculty group participating in the Pepper Center are **Frederick Ivey, Ph.D.**, **Larry Forrester, Ph.D., P.T.**, **Marianne Shaughnessy, Ph.D.** and **Denise Orwig, Ph.D.** Here is a capsule version of their respective research interests and questions:

How might exercise help stroke patients?

Several junior faculty are working on different aspects of this question.

Frederick Ivey, Ph.D., in the Division of Gerontology in the School of Medicine, is studying the effects of 6 months of treadmill exercise on stroke patients with hemiparesis. After a stroke, many people find it difficult to exercise; among other effects, this lack of activity can lead to insulin resistance, increasing the risk for further strokes and heart attack. Ivey is testing the idea that exer-

cise improves the body’s response to insulin, ultimately reducing blood clots and improving circulation. Circulation problems are a hallmark of people with insulin resistance syndrome, which can go on to become type II diabetes.

Larry Forrester, Ph.D., P.T, in the Department of Physical Therapy in the School of Medicine, is also studying the effects of 6 months of treadmill exercise in stroke patients. However, Forrester is examining how the exercise improves their ability to walk, and how these improvements might tie in to changes in the central nervous system.

“We analyze the biomechanics of walking and leg strength before and after training, and we compare those responses to pre-post training measures of brain and central motor pathways that connect to the leg muscles,” Forrester said. Using functional imaging, he and colleagues can see which regions of the brain are activated when a stroke patient takes a step. A noninvasive technique allows them to stimulate the areas of the brain that activate certain leg muscles, to see if stimulation causes muscle contraction.

In a related project, Forrester is studying the effects of a single exercise session on the sensitivity of this brain-leg connection. The long-term goal is to establish intervention strategies that will maximize the nervous system’s ability to adapt and improve motor function in stroke patients.

Marianne Shaughnessy, Ph.D., assistant professor in the School of Nursing,

has been working with stroke survivors for the past 12 years. Her research focuses on how exercise might improve stroke patients' quality of life. Until now, the effects of exercise on mood, fatigue, activities of daily living and quality of life in general have not been studied in this population. Shaughnessy has begun pilot work to identify barriers to exercise and develop a program to educate stroke patients on the benefits of exercise.

How can we translate lab-based research to the real world?

Denise Orwig, Ph.D., assistant professor in the School of Medicine, is focused on translational research: understanding the importance of the lab-based studies done at the Pepper Center, and finding ways to translate their findings to patients outside the laboratory. "I want to know if we can put some of these interventions in community centers or in people's homes," she said.

Orwig also is running a pilot study that examines treatment fidelity within current Pepper Center studies. "Treatment fidelity research boils down to: is your intervention really why you see the difference in the outcome, or is it something else?" she said. "For example, do you have a great trainer who is actually encouraging more exercise than the intervention calls for?"

Advances in Aging will provide periodic updates on Pepper Center research, and the activities of its participating faculty. •



PEPPER
The Claude D. Pepper Older
Americans Independence Center



Participants in the VA Study at its exercise facility.

Division of Gerontology Studies Obesity and Physical Inactivity in Women

A sedentary lifestyle and significant increases in body fat promote the development of heart disease. The development of total body and abdominal obesity has a deleterious affect to increase the risk of coronary artery disease, diabetes and mortality among women. Moreover, this age-associated increase in body fat contributes to high blood sugar (glucose) and lipid levels which are major risk factors for heart disease. Inactivity contributes substantially to the development of obesity in older people. We have shown that women who remain physically active can prevent the age-associated increases in total and central body fat. Thus, interventions that increase physical activity and lower caloric intake in older women reduce the risk for heart disease, diabetes, and elevated blood cholesterol.

Approximately 50-65% of adults in the United States are classified as overweight, among whom 20-25% are considered obese. These approximations continue to rise in our nation as well as around the world. The prevalence of obesity is high in women aged 45-60 years of age, perhaps due to the menopause transition. Current estimates indicate that 44% of women are attempting to lose weight; but that less than half of those women incorporate meaningful

exercise of >150 minutes per week into their lifestyle. Moreover, only 21% of adults who walk for physical activity do so at a level of effort recommended by public health guidelines.

Current and past research in the Division of Gerontology has studied the effects of obesity and physical inactivity, and their reversal through weight loss and exercise on risk factors for diabetes and heart disease in women. We found that muscle mass declines with age in sedentary women but this decline is prevented in highly trained women athletes. In addition, the deposition of fat in the abdominal region as well as in the muscle, factors associated with diabetes and high blood lipids, increase with age in women. We also showed that improvements in physical fitness and weight loss reduce abdominal and intra-muscular fat, and improve the glucose and lipid metabolic risk factors for heart disease in obese postmenopausal women who participated in a 6-month weight loss and walking program. These studies were conducted in our fully equipped 5000 square foot Senior Exercise Rehabilitation Center, where health promotion programs serve the needs of sedentary, overweight, older individuals. [\[cont. pg. 6\]](#)

[from pg. 5] Obesity is higher and physical fitness levels are lower in African American women than Caucasian women. Therefore, we are now examining the effects of exercise and weight loss on racial differences in body fat of the abdomen and in the muscle, and risk for diabetes in obese postmenopausal women. Our results indicate that postmenopausal African American women have higher levels of fat in their muscle and are more prone to diabetes than postmenopausal Caucasian women. Drs. Ryan, Goldberg and other GRECC investigators just began a 5-year research study entitled "Race, Menopause and Metabolism after Exercise and Diet" funded by the National Institute on Aging to examine how exercise and weight loss reduce risk for diabetes and heart disease in African American and Caucasian women. The results of this research will provide insight in the most effective treatments to reduce the risk for heart disease and diabetes, and improve the health and well-being of older, obese African American and Caucasian women. Interested women should contact 410-605-7179. •

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NEWS FROM THE LAMY CENTER, SCHOOL OF PHARMACY

Dr. Becky Briesacher, Director of Research for the Lamy Center has now joined the School of Pharmacy as a research assistant professor. Dr. Briesacher has also been granted a combined award amount of \$138,792 for her roles as principal investigator for the West Virginia Medical Institute's project, "Evaluation of Drug Therapy Guidelines to Reduce the Use of Potentially Inappropriate Drug Use in Nursing Homes," the Novartis Pharmaceutical Inc. project, "What Effect Do Tiered Drug Plans have on NSAID Use," the Omnicare Inc. project, "Evaluation of the Hip Fracture in Nursing Facility Population – Phase 2," and a subcontract with the Johns Hopkins University Bloomberg School of Public Health project on "Racial and Ethnic Disparities in Prescription Drug Expenditures and Use by Medicare Beneficiaries with Chronic Conditions."

Dr. Bruce Stuart, Executive Director of the Lamy Center Dr. Stuart was awarded \$114,542 for his role as principal investigator on the Abt Associates project, "The Impact of Prescription Drug Coverage on Medicare Program Expenditures: A Case Study of the Evaluation of the United Mine Workers' Demonstration."

Sachin Kamal-Bahl won the "Best Student Poster Award" for his poster on "The Impact of Prescription Benefit Design Features on Anti-hypertensive Drug Spending," at the Annual DIA Outcomes Workshop. Through a collaborative effort, he and Dr. Stuart were awarded \$21,800 for their role as investi-

gators on Claude D. Pepper Older Americans Independence Center's project, "Medical Cost Implications of Changes in Functional Status."

Sachin Kamal-Bahl won a fellowship from the Agency for Healthcare Research and Quality for **Prevalence, Predictors of Consequences of Propoxyphene Use in the Aged.**

Angela Mc Micheal, a Pharm.D. student won an AFAR-Merck scholarship. Her topic will be **Improving Diabetes Medication Management in Older Adults.**

Drs. Cherokee Layson-Wolf, Assistant Professor, Department of Pharmacy Practice and Science and **Ann Gruber Baldini**, Assistant Professor, Department of Epidemiology and Preventive Medicine have joined the Lamy Center as faculty associates.

The center has also added to its team, a new statistician, **Ms. Xiaogang Ren**. Ren has earned master's degrees in Computational Science from Radford University and in Mathematical Statistics from Mankato State University.

NEWS FROM THE PH.D. PROGRAM IN GERONTOLOGY

Leslie A. Morgan, Ph.D., is Acting Co-Director of the Gerontology Ph.D. Program during the sabbatical of J. Kevin Eckert during the 2003 calendar year. Dr. Morgan, of the Department of Sociology & Anthropology at UMBC, has been actively engaged in the program throughout its development and is a Fellow of the Gerontological Society of America and the Association for Gerontology in Higher Education.

The Gerontology Ph.D. Program is pleased to announce that it has received funding from the **Erickson Foundation** to support two doctoral fellowships. The fellowships, to be instituted in Fall, 2003, will support continuing students in the program and be awarded on a competitive basis during the next three years.

Kelly Niles and **Katherine De Medeiros**, graduate students in the Gerontology Doctoral Program at UMB/UMBC, were appointed student organization representatives for Gerontological Society of America committees. Ms. Niles will serve on the Social Research, Practice and Policy committee and Ms. De Medeiros will represent the Aging and the Humanities committee. They both will serve for 2 years, from Dec. 2002- Dec. 2004. As student representatives they will assist in developing ways to encourage more research, new programs, and increased GSA membership in their respective fields.



Katherine De Medeiros and Kelly Niles

NEWS FROM THE GRECC

The Geriatric Research, Education and Clinical Center (GRECC) and the Division of Gerontology, Department of Medicine are pleased to welcome **Mr. William (Bill) Woodcock** and **Ms. Jerri Grail** to the GRECC/Division Administrative Office.

Mr. Woodcock, an Administrative Officer with the VA, assumed the role of GRECC/Division Administrator in December, 2002. Mr. Woodcock will coordinate and execute all administrative aspects of GRECC/Division activities throughout the VA and the University,

Annual Poster Day Program, May 1

The Annual Aging and Women's Health Research Poster Day will take place at the University of Maryland Baltimore on May 1, 2003. This program brings together faculty and trainees from UMB and UMBC who have been doing research in the fields of aging and/or women's health research. The program is sponsored by the UM Center for Research on Aging and the UM Women's Health Research Group. The Pepper Center, GRECC and GGEAR Programs co-sponsor the event, which will feature a keynote address by Florence Haseltine, MD, PhD, Director of the Center for Population Research, National Institute for Child Health and Human Development

For further information, call Reba Cornman, 410-706-4327 or rcornman@umaryland.edu or Pat Hawthorne, phawthor@epi.umaryland.edu or the Women's Health Research web site, <http://medschool.umaryland.edu/womenshealth/>.

including Pepper Center and other Baltimore Center on Aging activities. Mr. Woodcock most recently served as an administrator at the National Institute on Aging, and has previously worked at Walter Reed Army Medical Center and at the Johns Hopkins University School of Medicine. Mr. Woodcock holds Bachelors of Arts and Masters of Science in Business degrees from Johns Hopkins.

Ms. Grail, who assumed the role of Business Services Specialist in January 2003, possess 20 years of extensive experience within the UM system. Ms Grail will monitor VA and University budgets, coordinate UM human resources, procurement, payroll, and assist in managing the day-to-day administrative functions of the division. Prior to joining the GRECC/Gerontology Division, Ms Grail held the position of Program Management Specialist for the Department of Family Medicine, University of Maryland School of Medicine where she assisted the departmental administrator with the day-to-day operations of the department. Ms Grail's career at the University of Maryland encompasses the Divisions of Cardiology, Gastroenterology and Thoracic Surgery.

NEWS FROM THE SCHOOL OF NURSING

Sandra Picot, PhD, RN, FAAN, Associate Professor, AHN has been appointed to serve on the External Advisory Board for the **Center for Innovation in Health Disparities Research**, a collaborative effort involving

the Schools of Nursing at Winston Salem State University, North Carolina Central University and the University of North Carolina at Chapel Hill. Dr. Picot will be presenting the luncheon address at the Ninth Annual Research Conference, **Research to Application: Reducing Health Disparities Through Self and Family Management.** The conference is sponsored by the Division of Nursing of Howard University College of Pharmacy, Nursing, and Allied Health Sciences and the M. Elizabeth Carnegie Endowed Visiting Professorship.

NEWS FROM THE DENTAL SCHOOL

Janet A. Yellowitz, DMD, MPH, Associate Professor was awarded a grant entitled, "Assessing Knowledge, Opinions and Practices Related to Tobacco Use and Oral Health Among Physician Assistants" supported by the University of Maryland, Other Tobacco Related Diseases Research Grant through the Maryland Cigarette Restitution Fund Program.

Dr. Yellowitz has organized a continuing education program, "Providing Dental Care in Nursing Homes: Challenges & Strategies for the Dental Team." The program is a unique opportunity to learn about providing dental care in nursing homes and other long term care environments. The program will take place from May 15 to May 17, 2003 in Baltimore. For further information, contact, 410-706-7967 or jay001@umaryland.edu.

GGEAR's Geriatric Education Outreach Programs Reach Marylanders Throughout the State

For the past twelve years, the Geriatrics and Gerontology Education and Research Program (GGEAR), University of Maryland Baltimore has assisted in planning and supporting many conferences throughout Maryland on behalf of family caregivers and health professionals interested in a broad range of topics related to the well being of the older adult. The GGEAR funded programs have reached thousands of individuals providing direct care to older adults and their caregiving families by providing both geographically and financially accessible high quality educational programming. Each year GGEAR sponsors programs in Central Maryland, the Eastern Shore, Southern and Western Maryland.

In addition to its annual Southern Maryland Caregiver Conference, sponsored with the Calvert, Charles and St. Mary's County Area Agencies on Aging, and the Central Maryland annual dementia conference sponsored with the Alzheimer's Association, Greater Maryland Chapter and the Maryland Gerontological Association, GGEAR funding has assisted in supporting programs selected with the Western Maryland Area Health Education Center (WMAHEC) and planned by agencies and organizations in Allegany, Garrett and Washington Counties. These programs meet the educational interests and gaps in knowledge within the region. In

addition, through GGEAR funding, the Eastern Shore Area Health Education Center (ESAHEC) has been able to sponsor its semi-annual Geriatric symposia for health professionals and students on the Eastern Shore for the past several years. The most recent Eastern Shore symposium took place on February 26, "Managing Cardiovascular Risk in the Elderly."

This spring the following programs will be offered as a direct result of GGEAR's geriatric education outreach initiatives:

- **April 1 – May 27, 2003.** "Sitter's Training" planned by Allegany Community College with WMAHEC
- **April 4, 2003.** "It Should Not Hurt to Grow Old: Preventing Elder Abuse" planned by Washington Co. Mental Health Authority with WMAHEC
- **April 10, 2003.** "Issues at the End of the Journey" planned by Hagerstown Community College with WMAHEC
- **April 11, 2003.** "11th Annual Southern Maryland Caregivers Conference" with Area Agencies on Aging of Calvert, Charles and St. Mary's Counties; Alzheimer's Association; WAGECC and multiple agencies and organizations serving Southern Maryland's families.

- **May 8, 2003.** "Elder Abuse" planned by Allegany County Family Violence Council with WMAHEC
- **May 12, 2003.** "Spirituality and Dementia" planned by Alzheimer's Association, Greater Maryland Chapter with WMAHEC
- **May 14th.** 9th Semi-Annual Geriatric Symposium, "Medical & Psychological Aspects of Death & Dying" sponsored by ESAHEC in Cambridge.
- **June 6, 2003.** "Long Term Care Issues" planned by Allegany County HRDC with WMAHEC
- **June 6, 2003.** "A Practical Approach to Managing Difficult Behavior" planned by Alzheimer's Assn., Greater Maryland Chapter with WMAHEC

Reba Cornman, GGEAR's Director states, "GGEAR is intent on working in partnership with public agencies and organizations throughout the state in order to support the highest quality of service to Maryland's older adults and their caregiving families. In most cases, without GGEAR's support, these programs would not be able to be offered. Our partnerships assist in fulfilling our mutual educational and service missions."

For further information about the programs, please contact Reba Cornman, GGEAR's Director, 410-706-4327 or rcornman@umaryland.edu or <http://gerontology.umaryland.edu>. •

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