

ADVANCES *in Aging*

Study Evaluates the Feasibility of an Online Resource Center for Caregivers of Hip Fracture Patients



Eun-Shim Nahm, PhD, RN

More than 320,000 patients, most over the age of 65, are admitted to hospitals because of hip fractures each year. After surgery, which is the primary treatment for hip fracture, most patients must undergo an aggressive rehabilitation period to return to their normal level of activity.

“Caregivers of hip fracture patients have a vital role in helping the patient through the challenging recovery process,” says **Eun-Shim Nahm, PhD, RN**, an associate professor at the University of Maryland School of Nursing, and the primary investigator on a feasibility study of an online hip fracture resource center for caregivers.

Based on her previous work with hip fracture patients and their caregivers, nurses, and exercise trainers, Nahm recognized how important caregivers are to hip fracture patients and that caregivers need support of their own during this stressful time.

“Often, hip fracture patients get discharged a few days after surgery, and the most aggressive rehabilitation occurs in either a rehab center or at home. Caregivers—typically their spouses or children—are the ones with the patients when they deal with difficult physical therapies and the emotional stress of recovery,” says Nahm, adding that caregivers go through a difficult time themselves because they frequently assume the caregiver role suddenly and don’t know what to expect.

“In previous research, caregivers often told us they were not getting enough detailed information about hip fracture and their loved one’s recovery from the

Directions: Select the correct answer by clicking on it.

The goal of recovering from a hip fracture is to:

- a. Be able to run 2 miles, even for a person who did not run prior to the hip fracture
- b. Be able to return to the level of activity the person had prior to the hip fracture
- c. Be more active and able to do more than the person did prior to the hip fracture
- d. Avoid being bed ridden

Next >>

Congratulations! Your answer is correct!!




Illustration from the Online Resource Center Web Site

hospitals,” Nahm says. “This is likely due to the short hospital stay, not knowing what questions to ask, or the stress caregivers are experiencing when the information is provided.”

Making sure caregivers have necessary information and know what to expect, and how to adjust to their new caregiver role, is essential for caregiver success and might even help improve hip fracture patients’ recovery, say Nahm, who with a multidisciplinary team from the University of Maryland School of Nursing and School of Medicine, created the Online Hip Fracture Resource Center (OHRC) last year.

The OHRC is designed for caregivers and has four components: a discussion board, which is monitored by an RN, where caregivers can share experiences,

post questions, and respond to others’ questions; an “Ask the Experts” section; a virtual library of information relating to hip fracture; and six practical learning modules: Care Needs With Hospitalization; Care Needs in the Rehab Unit; Care Needs After Discharge Home; Care Needs in a Long-term Care Facility; Prevention of Future Fractures; and Coping With the Caregiver Role. *[continued pg. 6]*

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Taking Great Strides

Researchers at the University of Maryland Claude D. Pepper Older Americans Independence Center (UM-OAIC) and the Veterans Affairs supported Maryland Exercise and Robotics Center of Excellence (MERCE) are collaborating on several stroke rehabilitation interventions targeting arm and leg function, cardiovascular endurance, balance and gait. Over the past decade, this novel research has had many significant research findings.

In a recent preliminary finding, **Frederick Ivey, PhD**, Assistant Professor in the Division of Gerontology Department of Medicine and the Geriatric Research, Education, and Clinical Center (GRECC), and the collaborating research team reported results that suggest progressive-aerobic exercise can reduce insulin resistance and prevent diabetes in hemiparetic-stroke survivors. Dr. Ivey notes that while these findings are exciting, further clinical trials need to be completed to verify the use of the structured exercise training for metabolic improvements after a stroke.

Another result of the research studies are the individual success stories for the stroke rehabilitation participants. One such successful research participant is Denise Herring. At age 56, Mrs. Herring is a classy woman with impeccable style. She has a loving husband, three grown children and a beautiful three year-old granddaughter. Mrs. Herring is also a stroke survivor.

Before her stroke, Mrs. Herring was a waitress at a popular local diner. Even though her job was fast paced and always busy, she always had time for a quick visit with her regulars. "I loved waitressing and talking with all the people; learning about them" remembers Mrs. Herring. In addition to waitressing, she was an avid aerobics exerciser and walker.

Then in 2006, Mrs. Herring suffered a stroke. This unexpected life changing event devastated her. Many parts of her life changed overnight. A once social, fun-loving person, Mrs. Herring was now afraid to leave her house due to disability and fear.



"I felt like a prisoner in my own home" says Mrs. Herring.

With a support network of family and friends, Mrs. Herring completed traditional physical and occupational therapies and was looking for other rehabilitation options to help her walking. Then, out of the blue, her husband received a flyer from a friend about the stroke rehabilitation research at the UM-OAIC and MERCE. Just weeks later, she was enrolled into the research program.

Since enrolling, Mrs. Herring has made great strides in the research program. In the beginning, she was walking on the treadmill for only 15 minutes at .7 mph. By the end of 6-months, Mrs. Herring was walking for 50 minutes at 1.7 mph up a 3% hill.

"It is exciting to see these types of individual improvements" says Dr. Fred Ivey. "It is our goal is to achieve higher degrees of improvement in function and metabolism than conventional therapies. Our results to date are encouraging,

showing significant increases in both of these areas."

Mrs. Herring face brightens when she talks about the progress she has made in the treadmill research program and how it has impacted her life. "I'm able to walk without a cane and I'm not afraid to go outside and get the mail" says Mrs. Herring. "This study has helped me do that." She is also taking more trips into the community. "Now, I go to the movies on Sundays with my husband and just a few weeks ago, I even went to my first dance after the stroke and danced! It has really helped me get my life back."

Through collaboration, the UM-OAIC and MERCE, offer approximately eight stroke rehabilitation studies. To enroll in a stroke rehabilitation research study a potential participant needs to have had a stroke and have arm or leg weakness. Individuals who are interested in learning more about these studies can contact the UM-OAIC and MERCE at 410-605-7179. ■

Mobile Phone-Based Diabetes Management Technology is Focus of Ongoing Study

More than 24 million people in the U.S. have diabetes—nearly one-fourth of all Americans aged 60 and over—and another 1.5 million are diagnosed with the illness each year. The majority of these individuals are treated for their diabetes at primary care practices where studies document only 20 percent of physicians perceive they have the time and resources necessary to optimally manage their patients' disease.

One reason is because patients with diabetes frequently don't keep good records of their blood glucose measurements, medication dosages, dietary intake, or other lifestyle activities that impact how well their diabetes is managed.

"Information about a patient's diabetes self-management is often not available to doctors during a primary care visit—or if it is, it's not organized in a way that would

help the doctor or nurse practitioner make treatment decisions," says **Charlene Quinn, PhD, RN**, an assistant professor in the Division of Gerontology in the Department of Epidemiology and Preventive Medicine at the University of Maryland School of Medicine.

Quinn is the primary investigator on a study of a mobile phone-based diabetes management system that uses wireless phones and patient-physician portals to send patient data directly to diabetic patients' primary care doctors.

"This mobile phone-based diabetes management system is easy for patients to use and gives providers patient-specific data, analysis, and treatment recommendations in an organized way. It is a promising tool for improving outcomes in diabetes management and education for patients in all age groups," Quinn says.

The study, a year-long randomized controlled trial, compares the blood glucose levels (A1c) of diabetes patients who use WellDoc's DiabetesManager™, (a home-based diabetes monitoring and feedback software) and a patient-physician web portal to the blood glucose levels of patients who receive standard diabetes care.

Patients in the study are between the ages of 18 and 64—more than 40 percent are between the ages of 55 and 64—have poorly controlled Type 2 diabetes, and are recruited through primary care providers in greater Baltimore.

All 193 study patients receive a blood glucose meter and a year's supply of testing materials. Patients and their physicians are then randomized into one of four groups: Group I is the control group, in which patients receive their usual care, and the other patients are placed in one of three treatment groups.

Patients in the three treatment groups receive a mobile phone with DiabetesManager software installed. DiabetesManager provides feedback and

coaching to help patients manage their diabetes. "Each time study participants measure their blood sugar, their reading can be sent wirelessly from their glucose meter to their phone, where the software prompts them to identify the time of the reading and gives feedback on the value according to the patient's target glucose levels," says Quinn. If the target blood glucose level is not reached, patients are told how to correct it. DiabetesManager records and stores all testing data for future reference.

In addition, patients in the study's treatment groups also register on the web-based individual patient portal. The portal hosts the patients' electronic logbooks of blood glucose data and lab data, which their primary care provider can access. "Patients have additional access on their portal for education modules, a message center, and a personal health record," Quinn notes.

Study patients in Group II receive home-based monitoring and feedback from DiabetesManager. Study patients in Groups III and IV also use DiabetesManager—but their primary care provider is also trained to use the patient-physician portal. In addition, primary care providers in Group IV also receive an analyzed report from DiabetesManager of all patient-entered data, including treatment recommendations, every three months.

"Study patients like the real-time aspect of DiabetesManager," says Quinn, who completed a pilot study of a similar DiabetesManager intervention in 2006. "They can relate their blood sugar readings to something they've just done, such as eating a certain food or exercising. They can connect a change in behavior to an improvement in their glucose, which gives them a feeling of having some control over their disease."

In addition to determining whether this diabetes management intervention helps lower patients' A1c readings, the study is also looking at the most efficient and effective way for primary care providers to access and utilize their patients' DiabetesManager and patient portal data.

[continued pg. 4]



Diabetes Study Group, cont.

[from pg. 3] The Diabetes Study Group also recently conducted a usability pilot for older persons with diabetes (average age 70 years) and its complications, including high blood pressure and cholesterol. Some older subjects had never used a mobile phone before or only owned it for emergency purposes.

For this pilot, all participants used the mobile phone for recording and communicating daily blood glucose measures to their diabetes educator; 85 percent used the system to keep track of their medication use, and more than half used the mobile phone to communicate questions and answers with the diabetes educator about diabetes lifestyle concerns, Quinn explains.

Based on the responses of the older adults using the mobile phone and communication system, we are able to link real-time data about their blood glucose levels with other activities: taking medications, eating (including carbohydrate counting), or exercise. For some patients in the pilot, we were also able to improve their self-efficacy about managing their diabetes and feelings of depression,” Quinn says.

“We’re learning through these studies that as persons age, mobile technology, combined with relevant data for providers, can assist in changing lifestyle behaviors for persons with chronic diseases and enables providers to have the right data at the right time.”

Ann L. Gruber-Baldini, PhD, and **Michelle Shardell, PhD,** are co-investigators on the study, which continues through December 2010 and is funded through contributions by CareFirst BCBS of Maryland, LifeScan, Inc., and Sprint, with additional funding from Maryland Industrial Partnerships (MIPS), a program through the state of Maryland.

For more information, please contact study coordinator, Kelly Weed, at kweed@epi.umaryland.edu or 410.706.3467. ■



Geriatric Skills Workshop Held for UMB Students

The Geriatrics and Gerontology Education and Research program held a geriatrics skills workshop for UMB students on April 15 which was a replication of a program held at the 2008 American Geriatrics Society conference for its attendees. GGEAR and UMB faculty wanted to provide an additional opportunity for students on campus to expand their knowledge of geriatrics and gerontology and to participate in an interdisciplinary program.

An official Association for Gerontology in Higher Education Careers in Aging event and co-sponsored by the student chapters of the American Geriatrics Society and the American Society for Consultant Pharmacists and supported by the Johns Hopkins Geriatrics Education Center, 50 students from the Schools of Medicine, Nursing, Pharmacy, Social Work and the Department of Physical Therapy and Rehabilitation Science heard presentations from faculty from those schools plus the Dental School. Faculty topics included: geriatric assessment, cognitive skills, gait and balance, incontinence, oral health, psycho-social environmental assessment, Exercise and Screening for You (EASY), cardiovascular health and the brown bag review. Faculty participating were **Nicole Brandt** (Pharmacy), **Barbara Resnick**, **Elizabeth Galik** and **Marianne Shaughnessy** (Nursing), **Jane Marks** (Hopkins), **Ram Miller** (Medicine), **Kelley Macmillan** (Social Work), **Lobna Dorra** (Dental), **Paula Geigle** and **Ellen Wruble** (Physical Therapy and Rehabilitation Science).

The student evaluations were excellent and it was concluded that the session will be held annually for students interested in aging and an interdisciplinary experience. For further information about this event, please write Reba Cornman, GGEAR Director, rcornman@umaryland.edu. ■

Gerontologists Giving Back – Organized Volunteer Activity at GSA

The 2008 Gerontological Society of America's Annual Meeting was kicked off with a new—and different—preconference activity. UMB/UMBC Doctoral Students in Gerontology **Sarah Canham** and **Leanne Clark**, and **Dr. John Watkins** of the University of Kentucky's Graduate Center for Gerontology launched an innovative community service initiative appropriately called "Gerontologists Giving Back." The basic premise was that GSA members have not only exceptional talent but in many cases an inherent desire to bring their work directly to elders. An idea at the 2008 AGHE meeting in Baltimore germinated through months of planning, coordinating, and recruiting, and blossomed with a successful preconference day of volunteer activities.

Sarah, Leanne, and John joined forces with the Episcopal Service Ministries' (ESM) Age-In-Place Program, which utilizes volunteers to help frail, low-income older adults remain safely and comfortably in their Washington, DC homes. The day began early, with a group of six meeting in the conference hotel for introductions and breakfast. From there the group traveled to ESM, where they first received a brief orientation and were then given the necessary cleaning supplies to be used in the homes of older adults living in a senior high rise in Mt. Ranier neighborhood in northeast DC.

Upon arrival into the high rise, the team was greeted by the residence's coordinator, and was invited in groups of two into three women's apartments for major cleaning duties. Sarah and Leanne, for example, visited Ms. Irene in her home, where they cleared clutter, cleaned the bathroom, and scrubbed the kitchen. Not only were the two students able to get to know Ms. Irene,



Patrick Doyle, John Watkins, Anna Hart, Alex Brock, Leanne Clark, Sarah Canham

hear about her life, and help her remain in her apartment, they also were able to apply and more fully appreciate the concepts, skills, and knowledge learned throughout their education in gerontology. The other participants had similar positive experiences, and after spending hours in the high-rise, everyone agreed that it had been a valuable experience and a day well-spent.

An even larger day of service is being planned by Sarah, Leanne, and John for this year's GSA Meeting in Atlanta. For information on volunteering, visit the GSA's Conference Website <http://www.agingconference.com>. ■

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CONTRIBUTORS

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Amy Cohen-Callow, PhD, School of Social Work was awarded the Civic Engagement in an Older America Project Junior Scholar Award at the Gerontological Society of America's 61st

Annual Scientific Meeting for her paper: *Factors related to older adult volunteerism: Testing a model of volunteer sustainability.*

As part of her continued interest and research in productive aging, Dr. Cohen-Callow recently joined the State of Maryland's National Governor's Association Policy Academy on the Civic Engagement and Employment of Older Adults.

Kevin Eckert, PhD, who will step down as Dean of the Erickson School in June, will begin a one year sabbatical on July 1, 2009. During his sabbatical, he will focus on his current NIA funded RO1 grant titled "Stigma and the Cultural Context of Residential Settings for the Elderly," and promotion of the new book *Inside Assisted Living: The Search for Home* to appear in

June and published by Johns Hopkins University Press. The book's co-authors are **Leslie Morgan, PhD, Paula C. Carder, PhD, Ann Christine Frankowski, PhD** and **Erin A. Roth, MA**. Following Dr. Eckert's sabbatical and commencing in July 2010, he will become Chair, Department of Sociology and Anthropology at UMBC.

Eun-Shim Nahm, PhD (SON) will be inducted as a Fellow in the American Academy of Nursing.



Steven J. Prior, PhD, joined the Division of Gerontology in July as an Assistant Professor. Previously, Dr. Prior worked as a postdoctoral research associate at UMB in the Division

of Gerontology. In 2005, he earned his Doctorate in Kinesiology at the University of Maryland, College Park. As a research associate, Dr. Prior was involved in research examining the abnormalities in skeletal muscle that are associated with insulin resistance in older adults, and the mechanisms by which exercise training ameliorates impaired glucose metabolism.

Robert Rubinstein, PhD, UMBC and **Kate de Medeiros, PhD**, Executive Director of the Copper Ridge Research Institute have been awarded a grant from the National Institute on Aging entitled, *Lifestyles and Generativity of Childless Older Women*. The four-year study will explore the meaning of childlessness, views of generativity, plans for health care, fulfillment of caregiving needs, and overall views of later life for women 65 and over who do not have children. The total project award is 1,464,396. The Copper Ridge Institute is the subcontractor. Dr. de Medeiros is a graduate of the UMB/UMBC Doctoral Program in Gerontology.

Alice Ryan, PhD, was promoted to Professor in the Division of Gerontology, School of Medicine in July 2008.

Reba Cornman, Director of the GGEAR Program is concluding her two year term as President of the Maryland Gerontological Association.

Ms. Cornman has joined the Public Education Committee of the American Geriatrics Society. ■

Hip Fracture Study, cont.

[from pg. 1] To participate in the OHRC pilot study, caregivers enroll at participating hospitals in the greater Baltimore area and gain access to the OHRC for eight weeks via their computer or handheld device.

One key goal of the OHRC, says Nahm, is to teach caregivers to become motivators for the hip fracture patients.

"We tell caregivers to look at the hip fracture patient's recovery process as a way to develop a closer relationship with their loved one. We encourage them to say things like, 'Mom, I know it's hard, but you need to do this exercise so that you can do the things that you used to do. You can do this, and how I can help you?'" says Nahm.

Another primary goal of the OHRC is to help caregivers better manage the stresses of caregiving. "In addition to providing care for the patient, caregivers are often running two households, dealing with insurance

companies, medical bills, Medicare billing, working a full-time job, and feeling guilty because they feel like they are not giving 100 percent to their job or family," Nahm says.

The OHRC learning module Coping with the Caregiver Role focuses on caregivers' needs for relaxation, using stress-reduction techniques, visualization, and relaxed breathing. "It also encourages caregivers to keep a journal and delegate some caretaking tasks to other people," Nahm adds.

Study participants have been eager to use the OHRC, and the response of the various hospital and clinical staffs has also been positive. "The staff like that they can direct caregivers to one place that has so much useful information," Nahm says.

Nahm notes that she and the research team are learning from the caregivers in the study as well. "For one thing, we're seeing that a number of hip fracture

patients are re-admitted to the hospital for co-morbidities. This has implications for their recovery and also for their caregivers. The care in this area is something we will want to expand in future versions of the OHRC," she explains.

Nahm says the pilot study, which is funded by the National Institute on Aging, will conclude in the spring of 2010, after which time she hopes to continue her research on a larger scale.

Nahm's co-investigators are **Barbara Resnick, PhD, CRNP; Denise Orwig, PhD; Jay Magaziner, PhD, MS, Hyg; Barbara Covington, PhD, RN; Rob Sterling, MD; R. Barker Bausell, PhD; Michelle Bellantoni, MD; and Patricia Brennan, PhD, RN.** ■

2009 GRADUATE RESEARCH CONFERENCE AGING AWARDS

The annual University of Maryland Graduate School Graduate Research Conference was held on April 3. The GGEAR Program sponsored awards in the field of aging research for the second year in both basic science and informatics/policy/social science categories.

This year's winners first place and honorable mention in informatics/policy/social science were **JiSun Choi**, School of Nursing for *The 2004 National Nursing Assistant Survey: Reliability and Validity of Supervisory Support, Workplace Environment, and Job Satisfaction Measures* and **Julia Chan**, Department of Epidemiology and Preventive Medicine for *Relationship between Serum Levels of Inflammatory Cytokines and Bone Turnover Markers in the Year Following Hip Fracture*.

The first place and honorable mention winners in the basic science category, both of the Department of Physical Therapy and Rehabilitation Science were **Ira Khanna** for *Effects of Unilateral Limb Loading on Gait Characteristics in Subjects with Chronic Stroke* and **Priya Viswanathan** for *Control of Sequential Actions in Typically Developing Children*.

The Maryland Gerontological Association (MGA) has chosen **Rachel Fitten** and **Tyree Morrison**, School of Nursing students to receive the Association's first student award for their work entitled, *Students Improving Geriatric Health Through PRAISEDD (People Reducing Risk and Improving Strength Through Exercise, Diet and Drug Adherence)*. The faculty mentors for this project are **Barbara Resnick** and **Marianne Shaughnessy**, School of Nursing faculty. The MGA's award recognizes graduate students who have demonstrated commitment to the field of gerontological studies and whose work has implications for direct practice and/or policies. The award will be presented at the MGA's 27th Annual Conference scheduled for June 3, 2009.

Shayna Rich, MD/PhD student, received a Ruth L. Kirchstein National Research Service Award for Individual Predoctoral MD/PhD Fellows from the National Institute on Aging. The title of the grant was "Effect of Methods for Pressure Ulcer Prevention in Elderly Hip Fracture Patients."

Department of Epidemiology faculty and chair, **Mona Baumgarten, PhD** and **Jay Magaziner, PhD** are mentor and co-mentor, respectively. Ms. Rich presented the poster "Non-Adherence to Manual Repositioning Guidelines for Pressure Ulcer Prevention in Bedbound Hospitalized Hip Fracture Patients" at the Presidential Poster Session and the Student Poster Session at the American Geriatrics Society conference held in Chicago in April. She was named honorable mention for the paper "Concordance of Family and Staff Member

Reports about End of Life in Assisted Living and Nursing Homes" which she presented as a poster at the American Society on Aging conference held in March. She also won the Dean Janet Allan Distinguished Research Abstract Award at the Nursing Practice Based on Evidence: Moving Science into Action conference at the UMB School of Nursing in April for her abstract "Use of Frequent Manual Repositioning for Pressure Ulcer Prevention among Bedbound Hip Fracture Patients."

In addition, Ms. Rich won one of 5 research poster awards in the National Medical Student Abstract competition for the American College of Physicians, based on the poster "Race and Healthcare Professional Recommendations for Colorectal Cancer Screening" which she presented at Internal Medicine 2009 in April. ■

GGEAR Annual Student Awards

The Geriatrics and Gerontology Education and Research Program (GGEAR) presented its 14th Annual GGEAR Awards for Excellence in Geriatrics and Gerontology to health professional students who have demonstrated a specific interest and expertise in the field of aging as students at UMB.

The 2009 recipients are **Rachel Fitten**, School of Nursing; **Andrew Michaelson**, School of Pharmacy; **Amanda Partington**, School of Social Work; **Shayna Rich**, School of Medicine and **Roxanne Simon** of the Department of Physical Therapy and Rehabilitation Science. The awards were presented at a ceremony held on May 12 officiated by Malinda Orlin, PhD, Vice President for Academic Affairs and Dean of the Graduate School.



From left to right; Amanda Partington, Rachel Fitten, Shayna Rich, Roxanne Simon, Andrew Michaelson

NIA Deputy Director Marie Bernard Visits UMB

Marie Bernard, MD, Deputy Director of the National Institute on Aging (NIA) visited the University of Maryland Baltimore (UMB) campus on April 23, 2009. Dr. Bernard provided a presentation to the Baltimore community entitled, *Retooling for an Aging America—The NIA Research Portfolio: Current Research and Scientific Advances*. Dr. Bernard's presentation included a review of demographic and epidemiological information about the population of the United States and the NIA response through a range of research initiatives through its intramural and extramural research programs. In addition, Dr. Bernard discussed the NIA's response to the Institute of Medicine's report "*The Retooling for an Aging America.*"

The session was sponsored by the UM Center for Research on Aging, The Geriatrics and Gerontology Education and Research Program, the UM Claude D. Pepper Older American's Independence Center and VA Geriatric Research Educational and Research Center. UMB faculty, students, staff and members of the



From left to right: **Anne Hughes**, **Doug Savin**, **Valerie Sabol**, **Marie Bernard**, **Leanne Clark**, **Shayna Rich**

greater Baltimore education and research community were in the audience for Dr. Bernard's talk.

Prior to her presentation, Dr. Bernard met with ORC directors **Andrew Goldberg, MD** and **Jay Magaziner, PhD** and other faculty and staff as well as UMB pre doctoral students who presented work from their dissertations. Presenting that day

and pictured in the photograph with Dr. Bernard: **Ann Hughes**, School of Social Work, **Doug Savin**, Physical Therapy and Rehabilitation Science; **Valerie Sabol**, School of Nursing; **Dr. Bernard**; **Leann Clark**, Doctoral Program in Gerontology and **Shayna Rich**, MD/PhD dual degree program, School of Medicine. ■

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