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VISION
The Aging Institute of UPMC Senior Services and the University of Pittsburgh will create productive and innovative programs for older adults by partnering a world-class integrated health care delivery and financing system with a leading center for academic scholarship.

MISSION
The Aging Institute of UPMC Senior Services and the University of Pittsburgh will provide integrated, comprehensive, and timely access to a full range of services for aged persons and the public. It offers state-of-the-art educational programs for the public and health care professionals, and promotes innovative research on aging to understand its causes and concomitants, both social and biological, as well as how best to intervene in illnesses associated with the aging process.

“It’s not ‘the older you get, the sicker you get,’ but ‘the older you get, the healthier you’ve been.’ The advantage of living to 100 is not so much how you are at 100 but how you got there.”

Thomas Perls, MD, MPH, FACP
Founding Director, New England Centenarian Study
Boston Medical Center
Author, The Life Expectancy Calculator (www.livingto100.com)
Envisioning Better Ways for Better Lives

Director’s Letter

The Aging Institute of UPMC Senior Services and the University of Pittsburgh is a catalyst for change, mobilizing the resources of UPMC and the University to the benefit of older adults and their caregivers.

My colleagues and I are proud to share the past year’s strides in clinical care, education, and research. Pursuit of our mission means fostering collaboration among colleagues with expertise in the sciences of aging (basic, biological, social, and clinical), operations (clinical and systems), and health care finance. The pace of change is quickening indeed, as we hope to show in this 2012 annual report.

In the arena of clinical service, we highlight the downward trend in unplanned hospital admissions among residents of UPMC’s skilled nursing facilities; the expansion of palliative and supportive care options; and the implementation of osteoporosis screening and maintenance treatment for osteoporosis — an initiative in collaboration with the UPMC Health Plan. These services to seniors and their caregivers have resulted from Aging Institute workgroups seeking to bridge science, education, and service to deliver care that is both evidence-based and efficient. Our progress on these and other clinical program initiatives has been facilitated this year through collaborative efforts with several sister organizations, including the UPMC Palliative and Supportive Institute, the Health Policy Institute, and the Donald D. Wolfe Jr. Center for Quality Improvement and Innovation.

We continue to help patients, caregivers, clinicians, and other stakeholders navigate to needed services within
UPMC. Given that older adults are living longer, the coordination and integration of their care over long periods of time has never been more important. **Taking a systems approach to the way care is delivered and financed is of first-rank importance.**

**Advances in clinical care and in the culture of medicine accompany our ongoing program of educating the workforce in appropriate geriatric care.** We have been able to draw upon the expertise of all schools of the Health Sciences at the University of Pittsburgh (Nursing, Medicine, Pharmacy, Health and Rehabilitation Sciences, Public Health, and Dental Medicine). We have also turned to the University’s Geriatric Education Center for guidance in advancing our mission to “geriatricize” the workforce, and to enable patients and caregivers to participate actively in setting the goals of care.

**Breaking down silos extends no less to the Aging Institute’s program in seeding innovative research related to aging.** Using resources provided to us by the deans of the schools of the Health Sciences, the Health Policy Institute, and the provost of the University, we have been able to fund five unique multidisciplinary research projects. As described in this report, seeding the field has meant investments in basic and applied research across the schools of the Health Sciences and in other schools within the University. Seeding the field also means celebrating the accomplishments of our early stage investigators at our annual Celebrating Aging Research Day.

The University of Pittsburgh continues to attract major federal sponsorship for its aging research and research training from the National Institutes of Health, Veterans Administration, Agency for Health Research and Quality, and Centers for Disease Control and Prevention. This report also highlights some of the contributions to its centers of excellence in investigation and research training in healthy aging, Alzheimer’s disease, mobility and balance, and mood disorders.

We acknowledge with gratitude the financial support and administrative leadership of UPMC, including Elizabeth Concordia (executive vice president, UPMC, and president, Hospital and Community Services Division) and Diane Holder (executive vice president, UPMC, president, Insurance Services Division, and president and CEO, UPMC Health Plan). With equal gratitude, we acknowledge the financial support and vision provided by each of the deans of the University of Pittsburgh’s Schools of the Health Sciences: Thomas Braun, DMD, PhD (School of Dental Medicine); Clifford Brubaker, PhD (School of Health and Rehabilitation Sciences); Donald Burke, MD (Graduate School of Public Health); Jacqueline Dunbar-Jacob, PhD, RN, FAAN (School of Nursing); Patricia Kroboth, PhD (School of Pharmacy); and Arthur S. Levine, MD (School of Medicine). Finally, we extend our sincere thanks to Patricia Beeson, PhD, provost of the University of Pittsburgh, for her support and engagement in the mission of the Aging Institute.

*Charles F. Reynolds, MD*
Aging Institute Workgroups
2011-12 Accomplishments and Updates

Applying evidence-based solutions to achieve new models of care.

Nowhere is the mission of the Aging Institute more clear — and the impact of its participants from UPMC and the University of Pittsburgh more profound — than in the productive and interrelated achievements of its workgroups.

Workgroup initiatives in 2011-12 reflect a maturation of the Aging Institute’s growing partnerships across clinical operations, academic and scientific research, and financial operations. They bring together experts from wide-ranging disciplines to address the many challenges facing older adults, from creating better models of care to developing cost-effective solutions.
Healthy Aging Workgroup

Improving Osteoporosis Prevention and Treatment

Osteoporosis is a condition in which bones become thin and brittle, leading to fractures. The statistics are sobering: up to 30 percent of older adults with hip fractures will die; an additional 25 percent will be admitted into skilled nursing facilities. Of those patients who do return home, up to half will be unable to resume their previous lifestyle.

Preventing fractures — particularly those of the hip — has tremendous implications for patient longevity and quality of life, as well as reduced health care costs.

The Healthcare Effectiveness Data and Information Set (HEDIS®) is a tool used by more than nine out of every 10 health plans in America to measure performance on important aspects of patient care and service. Among its metrics is the management of osteoporosis after a fracture in women. HEDIS measures call for women to receive a bone mineral density (BMD) test and a prescription for a drug to treat or prevent osteoporosis within six months after the fracture.

Treatment of osteoporosis has been shown to reduce the risk of future fractures by 40 to 60 percent.

To meet HEDIS standards of performance, the UPMC Health Plan turned to the Aging Institute's interdisciplinary Healthy Aging Workgroup to develop strategies to promote osteoporosis management and prevent additional fractures for women over the age of 65 who have suffered a fracture.

Launched in April 2012, the Healthy Aging Workgroup’s Mature and Secure from Falls and Fractures initiative is designed to identify the related evidence and implement interventions to:

- Increase the number of women over the age of 65 within the UPMC for Life HMO, PPO, and Specialty Plan who receive osteoporosis screenings, counseling, interventions, and treatments.
- Identify barriers and facilitators to osteoporosis management adherence and incorporate these findings into the program.
- Decrease the priority population’s risk for a second fracture by identifying and eliminating gaps in care, leading to medical cost savings and better patient experience of care.

The UPMC Health Plan identified at-risk and prequalified women eligible to participate in the program. Through a multi-pronged strategy, the Aging Institute conducted outreach to these women and incorporated their input and preferences for care into intervention protocols. Three alternative options for assessment and treatment were designed and implemented in home-based and ambulatory rehabilitation care settings to meet individual preferences. This multidisciplinary approach enabled the Health Plan to provide improved and comprehensive educational information to its care base, complete appropriate assessments, and coordinate results with primary care physicians.

Future Healthy Aging Initiatives

Mature and Secure focused on addressing the health issues caused by loss of bone health — osteoporosis. The Healthy Aging Workgroup’s newest initiative will explore ways to address its counterpart — the loss of muscle, or sarcopenia — among older adults.

Diminished muscle mass has critical consequences. Seniors grow weaker and experience reduced mobility. Simple acts, such as going to the grocery store or climbing a flight of stairs, become difficult.

But loss of muscle mass and loss of strength is invisible in clinical practice; there currently is no agreed-upon measure in place for physicians to evaluate and monitor such loss.

Building on the current research efforts of the Claude D. Pepper Older Americans Independence Center at the University of Pittsburgh to create an evidence-based definition of sarcopenia, the Healthy Aging Workgroup’s new initiative will emphasize preventive health for active aging. It is developing a plan of action to teach seniors to walk more efficiently and safely. In addition to improved mobility, the program also will focus on other geriatric benefits of physical activity, including improved mental health.

(continued on Page 7)
“The need is great and the impact will be dramatic.”

Dr. Greenspan, a nationally recognized expert on bone health and osteoporosis, is the clinical advisor for the Mature and Secure from Falls and Fractures initiative.

“The vast majority of patients with osteoporosis never receive the kind of care and follow-up treatment they should after a fracture. In fact, HEDIS measures indicate that only 10 to 15 percent do so. There’s a definite communication gap,” says Dr. Greenspan.

“The reality is that little fractures lead to big fractures. Through this project, UPMC Health Plan and the Aging Institute are working together to get patients more involved in addressing their bone health,” she adds.

“There are definite costs that UPMC Health Plan is taking on as part of this initiative, but the need is great and the impact will be dramatic.”

Dr. Greenspan is a proponent of maintaining bone health through an adequate daily intake of calcium (1200 mg) and vitamin D (1000 IU), supplemented by 30 minutes of a weight-bearing exercise, such as walking three times a week. “It is never, never too late to take these measures for bone health,” she says.

“Failure to act will only make the problem worse.”
Palliative Care Workgroup

Honoring Patient Goals and Wishes with Respect

Among the challenges often faced by older adults and their families are debilitating pain and chronic illnesses. Supportive and palliative care focuses on improving the quality of life of these individuals by easing pain and other distressing symptoms, even when the underlying disease cannot be cured. It also strives to reduce the accompanying stress patients and their families face, and assist with the identification and clarification of patient and family goals.

Working in collaboration with the UPMC Palliative and Supportive Institute (PSI), the Aging Institute’s Palliative Care Workgroup focused on identifying ways of improving access to comprehensive and coordinated palliative and supportive care services in a variety of settings, including UPMC’s long-term care facilities and outpatient clinics.

Essential to achieving that goal was clearly establishing a method of defining patient desires for their medical treatment and care. Through the workgroup’s efforts, a number of improvements were developed to both educate staff on Advance Care Planning and ensure that regular and meaningful conversations about a patient’s wishes for care take place with the guidance of skilled and trained professionals.

- **Four of UPMC’s skilled nursing facilities now have supportive care-certified registered nurse practitioners assigned on-site as patient care advocates.** The positions have been made possible by funding through the UPMC Palliative and Supportive Institute. Recruited, trained, and supported by PSI, these professionals work closely with patients, families, and caregivers to determine treatment goals that go beyond the basic medical directives of living wills. They help assess each individual’s condition, and work closely with the patient’s primary care physician to create an individualized treatment plan based on his or her wishes. They also assist with UPMC Health Plan’s Care through Transitions program.

- **The Geriatric Education Center of Pennsylvania (GEC) has enhanced the development of palliative care access in UPMC’s long-term care facilities by providing education and training about advanced care planning, pain control, depression, and delirium.** This education is geared toward long-term care staff, residents, and their families. The supportive care-certified registered nurse practitioner at each facility supports the GEC work with leadership on the ground level.

- Additionally, the GEC’s **Having the Conversation** program prepares staff at skilled nursing and long-term care facilities to meet with patients and their families about advanced planning goals before a medical emergency occurs.

- Since the introduction of supportive care-certified registered nurse practitioners at UPMC’s skilled nursing facilities in November 2011, completion of advance care planning directives has increased dramatically, with Pennsylvania Orders for Life-Sustaining Treatment (POLST) completion rates above 80 percent. The Aging Institute now hosts the POLST form on its website for statewide use. The POLST is a medical order set that details patient preferences for treatment in the setting of serious illness and end of life.

- Additionally, western Pennsylvania’s Coalition for Quality at the End of Life (CQEL), has expressed interest in citing the Aging Institute’s use of POLST in skilled nursing and long-term care facilities as a state model.

- By better establishing patient goals for treatment, this initiative also is having a direct impact on work of the Aging Institute’s Hospital Unplanned Admissions Workgroup, which has seen significant reduction in unplanned hospital admissions from UPMC’s skilled nursing facilities.
Better Patient Care through Reduced Hospital Admissions

Nursing home facility residents are subject to frequent — and often avoidable — inpatient hospitalizations. Such care is expensive, disorienting, and often dangerous for frail older adults, particularly those with dementia. Older adults are especially vulnerable to hospital-acquired infections; they also are at higher risk of complications caused by medication errors that can come with hospitalization.

Nationally, almost one fifth (19.6%) of all hospitalized Medicare patients who return to their home, nursing home, or skilled nursing facility are readmitted within 30 days of hospitalization. Of those admitted for a medical condition, half were not seen by a doctor between their discharge from the hospital and readmission.

The Aging Institute’s Unplanned Admission Workgroup focused on establishing ways to prevent avoidable hospitalizations among the nursing home population, while improving overall patient care. This important quality improvement initiative also has shown a potential for medical cost reductions.

- Working with the administration at UPMC’s four skilled nursing facilities, consistent assignment of clinical staff to the same patients is now in place, with the goal of having eight or fewer direct care providers in a one-month period.
- A number of procedural, educational, and training programs are now in place that allow UPMC’s skilled nursing facilities to better monitor and react to changes in patient conditions before hospitalization is required. They included the introduction of best practices such as “Stop and Watch,” in which direct caregivers are actively engaged in care by tracking acute changes in a resident’s habits, appearance, and behavior.
• Through collaborative efforts with the Aging Institute’s Palliative Care Workgroup, nurse practitioners joined the staffs at UPMC’s skilled nursing facilities starting in November 2011. These qualified, on-site professionals assess patient conditions and create a plan of action for care based on patient goals.

• Because early intervention when a patient’s condition changes is key to the success of this initiative, UPMC’s skilled nursing facilities are implementing the latest in information technologies to promote faster and more efficient communication with physicians, including computerized rounding reports and online chat tools.

The goal of the workgroup was to reduce avoidable hospital admissions in UPMC’s skilled nursing facilities by 20 percent. As shown in the accompanying chart outlining workgroup initiatives, unplanned admissions dropped from a high of 5.8 unplanned transfers per 1,000 resident days in April 2010 to 2.2 in January 2012 — a 29 percent reduction.

With a goal of creating an evidence-based model that can be used at nursing facilities beyond UPMC, the workgroup will continue to identify measures to benchmark performance of this initiative. It also will investigate the value of additional technologies to further enhance communication between physicians and skilled nursing facilities, such as telehealth services.

RAVEN Grant

The Aging Institute has been awarded a $19 million grant from the Centers for Medicare and Medicaid Services (CMS) as part of a comprehensive initiative to improve the quality of care and reduce avoidable hospitalizations among nursing facility residents in western Pennsylvania.

UPMC Community Provider Services through the Aging Institute and its sister organization, UPMC Palliative and Supportive Institute, along with partners Excela Health, Heritage Valley Health System, Jewish Healthcare Foundation, and Robert Morris University, will collaborate over a four-year period on RAVEN, (Initiative to Reduce Avoidable Hospitalizations among Nursing Facility Residents). The project aims to improve nursing facility resident outcomes; improve the transitions between hospitals and nursing facilities; and reduce overall health spending while ensuring access to care and choice of providers.

UPMC and six other organizations nationally have received CMS Innovation awards to reduce hospitalizations among nursing facility residents. In western Pennsylvania, 16 nursing facilities have committed to making changes to improve care and reduce avoidable hospitalizations. Those changes include having nurse practitioners on-site who will work with existing nursing staff to provide acute care interventions and preventive services, improve the assessment and management of residents’ medical conditions, and provide advance-care planning, as well as support and treatment for those who choose palliative care as end-of-life approaches.

Other interventions include implementation of tools for quality improvement and enhanced communication about residents’ changing medical conditions among the resident-care team, training conducted by education partners about geriatric syndrome, palliative care and advance care planning; specialists improving management of residents’ prescription drugs to reduce the risk of pharmacy-related complications; and using telemedicine to enhance around-the-clock communications among facility nursing staff, physicians, acute care clinicians and nurse practitioners.
The Impact of the Aging Institute

Regardless of what lies ahead in terms of health care reform, one thing is certain: we will always need to keep older adults safe in their homes, and safe in our communities. Here in western Pennsylvania, that is no small challenge, where we have one of the oldest senior populations in the country.

The Aging Institute is a remarkable “think tank” for thoughtful, controlled initiatives to achieve that goal. It is a source of priceless leadership, connecting the best minds from the University of Pittsburgh and UPMC in research, education, and clinical care. Its work has made geriatrics relevant, meaningful, and highly visible, not only locally, but nationally as well.

The Aging Institute is finding novel answers to issues in geriatrics that are leading to breakthroughs in patient care. It’s happening through the incubation of ideas and passionate work of the dozens of brilliant and committed individuals engaged in its efforts. By leveraging evidence-based research, it is creating new models of care that are cost-efficient and effective.

The Aging Institute is a critical resource for UPMC as a health care provider; its activities are tied to important, enterprise-wide goals throughout our system — from our hospitals and senior living communities, to our community activities and international endeavors. Most of all, it is helping us meet our promise to those we serve: providing quality, compassionate care to older adults, so they can age in place with dignity.
We live in a city like no other — a living learning laboratory where we can be proactive leaders in solving the changing needs of the older adult.

Virtually every initiative of the Aging Institute in some way impacts the members of UPMC Health Plan. Aligning with the work of the Aging Institute allows UPMC Health Plan to find innovative solutions to meeting Medicare and Medicaid standards, as well as challenging public policy matters.

That’s certainly evident in the efforts of the three current workgroups — the Healthy Aging Workgroup, Palliative Care Workgroup, and Unplanned Admissions Workgroup. Through their work, we’re ensuring older adults a greater quality of life.

Global tactics are especially needed to address the complex issues involved in caring for older adults who are frail. It takes engaging everyone — physicians, nurses, family members, and patients — to understand and agree upon goals of care. On the insurance side, there also are critical compliance and regulatory issues we must meet, and ideally, exceed. The Aging Institute is a locus point for tackling these issues, creating scalable, sustainable, and financially sound solutions.

The Aging Institute brings together players with differing responsibilities and viewpoints to prioritize and examine problems, and identify solutions. The result is a “big picture” understanding of what is needed to care for older adults — from the research hurdles to the financial challenges. We’re able to “row our boats” in the same direction at the University of Pittsburgh and UPMC through the consensus that’s built by the Aging Institute.
Engaging a New Generation of Leaders in Geriatric Research, Education, and Clinical Care

Fostering the involvement of young professionals in the future of older adults.

The Aging Institute Seed Grant Program
The promotion of relevant, innovative research has always been an essential part of the Aging Institute’s mission. Its Seed Grant program encourages collaborative and multidisciplinary research among junior faculty members in promising new areas of research in aging that also hold the potential of attracting future funding from external sources. In 2012, five recipients representing a variety of disciplines were selected from a pool of 31 applicants.

Launched in 2007, the Seed Grant program awards $20,000 to $25,000 to each selected project. In the past year, the program was enhanced to include a process for internal peer review modeled after the National Institutes of Health (NIH) grant selection process.
2012 Recipients

Project Title: Structural and Functional Brain Reorganization for Sensory Substitution in the Elderly and Blind
Principal Investigator: Kevin C. Chan, PhD
Project Summary: Researchers will study older adults with varying lengths of acquired blindness to determine whether BrainPort® technology can be used to retrain the brain to “see” using other senses.

Project Title: Auricular Point Acupressure to Manage Chronic Low Back Pain in Older Adults
Principal Investigator: Chao-Hsing Yeh, PhD, RN
Project Summary: In this study, researchers will assess the use of ear acupressure — using tiny botanical plant seeds applied to specific points in the outer ear — to control chronic low back pain in patients 65 years and older.

Project Title: Ultra-structural Characteristics of Microvasculature and Hippocampal Sub-Regions in Response to Two-Year Activity Intervention
Principal Co-Investigators: Caterina Rosano, MD, PhD and Howard Aizenstein, MD, PhD
Project Summary: Researchers will use MRIs to measure changes in brain blood flow and brain health in aging adults who participated in a two-year walking program.

Project Title: Zebrafish Parkinson’s Disease Models for Drug Discovery and Evaluation of the Role of Aging in Pathogenesis
Principal Investigator: Edward A. Burton, MD, DPhil, FRCP
Project Summary: Investigators will use genetically altered zebrafish to test new drugs for treatment of Parkinson’s Disease and explore the role of α-synuclein and cellular aging on the development of the disease.

Aging Institute Scholarship Recipient

Matthew J. Arch
Program Manager, Regional Community Initiatives
UPMC Center for Inclusion

Matt Arch has made “building bridges and making a difference” an integral part of his daily life. Since joining UPMC in 2007, he’s been involved in a wide range of learning and development, compliance, and diversity training initiatives. Just 29 years old, he also sits on two local community boards.

When he graduated from Penn State in 2006, Matt planned on a career working with young people. “But I
found that my interests changed,” he says, “thanks to my experiences at UPMC.” He’s currently pursuing a graduate degree in social work at the University of Pittsburgh, with a focus on community organization and social administration.

Through this scholarship, part of Matt’s studies will include earning a graduate gerontology certificate. “With two ailing grandparents — one of whom has Alzheimer’s disease, the other bedridden — I’ve seen first hand the incredible challenges caregivers face. As America ages, this problem will only grow greater. I want to be part of the solution. The gerontology certificate will help me better understand both the issues and the opportunities to make a difference in the future.”

Opening the Door to Careers in Age-Related Fields
The Aging Institute takes very seriously the growing need for skilled geriatric professionals. To encourage young people to enter the field, the Aging Institute annually participates in the University of Pittsburgh’s Health Career Scholars Academy, a unique summer program for gifted high school students.

These bright teenagers from across the state spend four weeks examining critical issues and emerging career opportunities in health care. Students who choose the geriatrics concentration receive an in-depth look at the field from the staff and board members of the Aging Institute, whose members include some of the world’s leading researchers and clinicians in their disciplines.

Students explore aging issues, such as chronic pain and mood disorders, balance disorders, falls and difficulty walking, memory problems and dementia, and other complex health problems affecting the elderly. Hands-on exercises and site visits to research centers introduce students to both the challenges and opportunities of geriatric care.
was to assess how patients with MCI react to receiving such information, and their ability to process and comprehend it.”

For Dr. Lingler, the Seed Grant support was “tremendously impactful. It enabled us to define the project’s scope in a very specific, focused way. It was essential to moving the research forward.”

Nearly a year of planning, development, and testing took place before actual patient and family focus groups were conducted in May 2012. “While our research is still being finalized, we’ve confirmed that patients were highly satisfied with the clarity of information presented to them,” says Dr. Lingler. “However, we learned that the appropriate length of such sessions varied widely by the individual patients. There is no simple ‘one-size-fits-all’ answer; protocols must be very flexible and tailored to individual learning styles.”

In August 2012, Dr. Lingler’s project was one of three featured research initiatives at a plenary session of the 2012 Alzheimer’s Association International Conference in Vancouver.

Jennifer Brach, PhD, PT
A 2011 Seed Grant recipient for her project, On the Move: Optimizing Elder Exercise Inside the Health Care System, Dr. Jennifer Brach’s work is emblematic of the insights, mentoring, and long-term potential of collaborative studies with other researchers and health care providers.

With her Seed Grant, Dr. Brach developed an exercise program based on her research on the biomechanics of walking. She then adapted it for a twice-weekly exercise class with input from a series of focus groups with seniors. But the real test was putting her theories to work with a pilot group of residents (with a mean age of 84) at a UPMC Senior Communities independent living facility.

“Their feedback was excellent. They provided wonderful insights into what we were doing right and where we needed to make adjustments,” says Dr. Brach. “We learned that we tend to sell seniors short and don’t challenge them enough; we under-dose them with activity, thinking they are too frail. We learned they want to do more.”

Working with the Aging Institute provided her with valuable connections to members of the Aging Institute’s board, whose senior researchers and administrators helped her to translate her research agenda into meeting real patient needs. With their counsel, she was able to strengthen the evaluation phase of her project, create a plan for sustainability, and execute the pilot program through UPMC Senior Communities.

Dr. Brach hopes to expand the program’s training component to include caregivers “across the spectrum,” so even more older adults can benefit from physical activity. She is in the process of applying for external funding and her co-investigator is copyrighting the program.
Older adults face complex medical issues; their care also raises many complex social and ethical questions. Yet the vast majority of health care professionals and service providers say they are woefully ill-prepared to deal with the growing challenges of an aging population.

The Aging Institute is dedicated to increasing awareness of these issues and providing best-practice training in caring for older adults. Throughout the year, it offers programs for those at the frontline of care, as well as for caregivers and the general public.

Its outreach, which range from engaging community presentations to graduate-level coursework, have made the institute a leading regional resource on aging education and training. The Aging Institute’s gerontology educator does training on virtually a daily basis; additionally, leading physicians, researchers, and health care professionals who serve on the institute’s board, workgroups, and executive committee frequently are enlisted for many presentations.

In 2011-12, educational training classes and presentations were offered at venues throughout the University of Pittsburgh and UPMC, including Eye and Ear Institute, Magee-Womens...
Hospital of UPMC, UPMC Health Plan, UPMC Schools of Nursing, and several UPMC Senior Communities facilities.

Presentations also were given at numerous community and regional settings, including the EMS Annual Conference in Seven Springs, Moon Township Public Library, Redstone Highlands Senior Living Communities, Reformed Presbyterian Home, Robert Morris University, Pennsylvania State University, Sewickley Valley YMCA, and the Vintage Senior Center.

2011-12 Educational Programming Highlights

NICHE Certification at UPMC McKeesport

As is true for most hospitals, UPMC McKeesport serves a predominantly older patient base. Nearly six out of every 10 of its admitted patients are age 65 and older; 21 percent are 85 and older. To address the growing needs of its older patients, the hospital — with support and training from the Aging Institute — applied for and was approved as the first and only hospital in western Pennsylvania certified as a Nurses Improving Care for Healthsystem Elders (NICHE) facility.

NICHE certification demonstrates the specialized training the hospital’s staff has in caring for and treating geriatric patients. A program of the Hartford Institute for Geriatric Nursing at New York University’s College of Nursing, NICHE seeks to achieve systematic nursing change to benefit hospitalized older adults.

To help the hospital qualify for NICHE certification, the Aging Institute funded six weeks of online NICHE leadership training for a core team at UPMC McKeesport. It also offered geriatric resource nurse (GRN) training to 36 members of the hospital nursing staff, with more training scheduled in the future with the goal of having GRNs for every nursing unit and every shift.

Western Pennsylvania Chapter, National Gerontological Nurses Association (NGNA)

With financial aid and leadership support from the Aging Institute, the western Pennsylvania chapter of the NGNA was formed in early 2012. It is one of only three NGNA chapters statewide. Members of the NGNA are dedicated to improving clinical care of older adults across diverse care settings.

More than 85 nurses from throughout the region attended its introductory session in February 2012. The chapter’s first official meeting was held in August 2012, with 68 in attendance. Betty Robison, gerontology educator for the Aging Institute, will serve as the group’s first president.

Other Activities

- Baptist Health System in Jacksonville, Fla., called on the Aging Institute to prepare 14 trainers in its Ageless Wisdom “Train the Trainers” program, as well as to provide supervised training to more than 200 employees. The weeklong project included a presentation to all managers throughout the five-hospital network on the aging patient population in acute care, and the need to develop the assessment skills of frontline workers who care for older adults.
- In January 2012, the Aging Institute introduced its first Ageless Wisdom training course for professionals to take into classrooms and health care facilities throughout Pennsylvania.
- The Aging Institute provided four days of training leading to its Gerontology Certificate to 19 staff members of Redstone Highlands Senior Living Communities, which has four independent, assisted living and skilled nursing facilities in Westmoreland County.

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- In January 2012, the Aging Institute introduced its first Ageless Wisdom training course for professionals to take into classrooms and health care facilities throughout Pennsylvania.
- The Aging Institute provided four days of training leading to its Gerontology Certificate to 19 staff members of Redstone Highlands Senior Living Communities, which has four independent, assisted living and skilled nursing facilities in Westmoreland County.
Aging Institute Educational Programs

**Ageless Wisdom:** A simulated, interactive learning approach that allows participants to personally experience and explore some of the unique challenges faced by older adults, such as blurred vision and mobility problems. Includes two-and four-hour formats.

**Ageless Wisdom: Train the Trainer:** Prepares professionals to teach the Ageless Wisdom program.

**Gerontology Certificate:** Builds the skills of nursing home staff whose members provide direct bedside care to older adults who are frail.

**Gerontological Nurse Certification:** Fewer than 1 percent of all nurses nationwide are certified as geriatric nurses. The Aging Institute offers review courses twice yearly to prepare registered and licensed practical nurses to sit for the certification exam of the American Nurses Credentialing Center (ANCC) or the National Association for Practical Nursing Education and Service (NAPNES).

**Geriatric Resource Nurse (GRN) Program:** An intensive, eight-hour class focused on developing the nursing and leadership skills needed to work with older adults in an acute-care setting and to advise peers on their bedside care.

**I AM HERE: Interventions for Assessment of Mental Health in Elders with Resources and Education:** An interactive training program developed in cooperation with the Aging Institute and the Geriatric Education Center of Pennsylvania, focusing on critical mental health issues ranging from depression and dementia to substance abuse.
Loren Roth, MD, MPH
A Voice for Collaboration to Benefit Older Adults

Those who know him best describe Dr. Loren Roth, as a man who sees connections where others see none. For Pittsburgh and beyond, his ability to envision the potential of what can be when “things come together” has helped transform systems, organizations, and touched the lives of hundreds of thousands of men, women, and children.

Now serving as the University of Pittsburgh’s Associate Senior Vice Chancellor for Clinical Policy and Planning, Health Sciences, Dr. Roth has dedicated his life to helping complex and complicated systems realize their fullest potential. His genius lies in identifying meaningful shared opportunities for seemingly disparate parties to embrace. The result is a unity of purpose and spirit that fuels future collaboration and growth.

Recruited to Pittsburgh by the late Thomas Detre, MD, Dr. Roth has spent nearly four decades at the University of Pittsburgh and UPMC. For him, the relationship between these two giants of advancement in knowledge and quality medical care is readily apparent: “I’ve seen so many transitions and witnessed such enormous growth during my tenure here that I see them as highly complementary,” he says. “In my mind, they are two sides of the same coin.”

His involvement with the Aging Institute can be traced to his work with Arthur S. Levine, MD, current Senior Vice Chancellor of the Health Sciences and Dean of the School of Medicine at the University of Pittsburgh. “Dr. Levine was the primary developer of the Aging Institute’s predecessor, the University of Pittsburgh Institute on Aging (UPIA),” he says. “It was my honor early on to help integrate various clinical and academic agendas for the improvement of care of older adults.”

Today, as a member of the Executive Committee and Board of Directors of the Aging Institute, he remains an ardent champion of older adults. “As a physician and as a senior myself, I know how vital it is for older adults to age in place and, ideally, at home. The research and services of the Aging Institute are making that goal a reality for more and more seniors.”
Sometimes, the calls are simple and straightforward: Can you help me find a good doctor and get an appointment?

Others are more complex, and often heartbreaking: My father has Alzheimer’s and no insurance. What can I do? I just can’t take care of him any longer.

Every year, hundreds of older adults and their caregivers, relatives, and friends — and even their health care providers — contact the Aging Institute’s Information and Referral Line. They seek answers, advice, compassion, and support.

Staffed by social workers, the referral line focuses on providing callers with professional assistance and personalized attention. It is the region’s only free, non-insurance related referral line dedicated to serving the needs of older adults.

One of the referral line’s primary roles is linking callers to a wealth of other community resources available to assist older adults in western Pennsylvania. During 2011-12, callers were directed to such organizations as Blind and Vision Rehabilitation Services, Bread of Life Food Pantry, Interfaith Volunteer Caregivers, Pitcairn Meals on Wheels, and Senior Companion Program of Allegheny County. The referral line also serves as a conduit to specialized programs and care for older adults offered by the University of Pittsburgh and UPMC, including the Alzheimer’s Research Center and the UPMC Benedum Geriatric Center.
The 2011-12 year saw the further growth and professionalization of the Information and Referral Line:

- Nearly six months was spent on customizing and installing a confidential, online software program to enable the Aging Institute to better serve clients and develop a more robust database of referral resources.

  > Sources of calls can now be tracked more effectively. The majority of callers currently find out about the referral line through Internet searches, although health care providers account for a growing number of referrals to the service.

  > A caller follow-up survey is automatically generated to evaluate caller satisfaction levels.

  > The Aging Institute’s website has become an important extension of the referral line, featuring an increasingly deeper body of reference materials and links for callers.

### Helping Seniors Solve Problems, Stay Active

Nancy Olson, 71, is fiercely independent and self-sufficient. Widowed more than 25 years ago, the full-time homemaker was forced to take a job to support her family.

Ironically, it was retirement from her job as a medical secretary that led her to call the Information and Referral Line of the Aging Institute. She learned that her $1,500-a-month osteoporosis medication was no longer covered by insurance.

“I know how to use the phone, but I was getting nowhere fast solving this problem,” says Mrs. Olson. “I called the referral line and they connected me to the right sources. It still took a lot of calls to the manufacturer, but the social worker at the Aging Institute encouraged me to not give up.” As a result, Mrs. Olson was accepted into a special program and now receives the medication at no cost.

“I try to be active and take full advantage of the time I now have to pursue new interests,” says Mrs. Olson, who lives in a senior community. She joined a bike-riding group and put her lifelong sewing skills to work as a quilter, exhibiting in local craft fairs.

Mrs. Olson also adopted a Sheltie named DiDi with the goal of having her become certified as a therapy dog so they could visit families of transplant patients at UPMC Presbyterian and UPMC Montefiore. Her own son had undergone a double transplant seven years earlier and she wanted to “give back” by providing families support and comfort during long hospital waits.

But because the type of therapy certification DiDi earned was an unfamiliar one, and no one had ever tried to set up such a program, Mrs. Olson needed help. Once again, a call to the Aging Institute’s Information and Referral Line connected her to the resources she needed. Families and transplant staff now look forward to her weekly visits with DiDi.

“DiDi brings smiles to everyone she meets and that gives me great satisfaction,” adds Mrs. Olson. “I’m grateful the referral line helped make this happen. I’ve encouraged friends to take advantage of it, too.”
The staff of the Aging Institute serves as a liaison to its many partners in the academic, research, clinical, and health insurance sectors of the University of Pittsburgh and UPMC. The experiences of its members — spanning education, research, social services, and direct patient care — ensures that each brings a unique perspective to the institute’s efforts to build awareness of and support for the needs of older adults, regionally and nationally.

In addition to his role as director of the Aging Institute, Charles F. Reynolds III, MD, is professor of geriatric psychiatry, professor of neurology and neuroscience, and professor of behavioral and community health sciences at the University of Pittsburgh Graduate School of Public Health. He is the recipient of a National Institute of Mental Health (NIMH) Research Scientist Award and a MERIT award for studies of “Maintenance Therapies in Late Life Depression.” Dr. Reynolds has twice been named one of the Best Doctors in America, and has received the Exemplary Psychiatrist Award from the National Alliance for the Mentally Ill.
“It’s my privilege to serve as director of the Aging Institute, to play a role in improving clinical services to our region’s older adults, and to provide a model for aging services nationally,” says Dr. Reynolds. “The Aging Institute brings together under one roof the considerable intellectual capital and resources of UPMC, its Health Plan, all of the Health Sciences Schools at Pitt, and the provost’s area as well. As we begin our third year, we are making great progress in achieving the clinical, educational, and research goals of the institute.”

Taafoi Kamara, MPH, joined the Aging Institute staff as administrative director in May 2012 and brings with her experience in health disparities and preventive health initiatives. At the Aging Institute, Taafoi will focus on supporting the needs of its workgroups and task forces, which target expanded palliative care for older adults, improved attention to healthy aging and bone health, and fewer unplanned readmissions from skilled nursing facilities.

“This is a very exciting time to be part of the Institute. Our goal is to communicate more effectively with the community to translate research into patient care. We want to be a relevant community resource working together to educate providers and meet the health concerns of older adults,” Taafoi says.

Julie Maceikis is the Aging Institute’s administrative aide. In that role, she helps to coordinate the Aging Institute’s seed grant program for promising young researchers, and its annual Research Day, a networking and educational event showcasing the latest aging research. A recent graduate of California University of Pennsylvania, Julie has previous experience working with older adults. She recently completed training for the UPMC Powerful Tools for Caregivers program and now helps teach the six-week program. She also helps to coordinate the gerontology curriculum for the Health Careers Scholars Academy for high school students.

“It is incredibly rewarding to be working in this field. I have seen the challenges of caring for older patients and how difficult it can be on caregivers,” Julie says. “I feel like I’m making a difference in my work here.”

The Aging Institute welcomes Lisa Meadows, MSW, who will now be serving in the role of Seniors Information Liaison, and Mary Denise Sinwell, MBA, who joins the Institute as the new Aging and Disability Coordinator.

Katie Magoulick, MSW, LSW, pioneered the development of the Aging Institute’s Information and Referral Line — a valuable tool for doctors, patients, and family members seeking information, services, and resources. A licensed social worker, Katie was the first to hold the position of Seniors Information Center Liaison. During her nearly two years of service with the institute, the use of the referral line increased steadily as she helped callers navigate the system and forged many relationships with community resources. She was recognized for her efforts as recipient of the UPMC Commitment and Excellence in Service (ACES) Award and UPMC Dignity and Respect Champion Award.

“It was an honor to work with the community to help connect clients with older adult support and resources. My goal was to be an expert in all things aging and link callers to the information and assistance they needed,” says Katie, who moved in June 2012 to Alabama with her family.

During her 39 years in nursing, Betty Robison, MSN, RN-BC, gerontology educator for the Aging Institute, has seen the best and worst in geriatric care. With a background in medical surgical nursing, home health, and long-term care, she joined the staff in 2006, and became involved in training a new generation of health care providers. She leads the institute’s geriatric training programs, and focuses on developing programs that provide simulation exercises to aid participants in gaining a new perspective about aging and the diseases associated with the aging process. Her professionalism has been recognized with a UPMC Commitment and Excellence in Service (ACES) Award. Betty also helped establish the western Pennsylvania Chapter of the National Gerontological Nurses Association and is serving as its president.

“I’ve seen the interest in training surge in recent years due to the rapid increase of our aging population. It’s so important for health care providers to be prepared and to understand the specialized needs of older patients,” says Betty. “I am dedicated to providing educational experiences that engage participants, allowing them to better understand how care is viewed through the eyes of older adults. This insight and education focused on enhancing skills in the assessment of seniors are the invaluable components of the training we provide at the Aging Institute.”
Research
Advancing Knowledge Through Innovation and Collaboration

Pittsburgh is a world leader in transformational research for older adults. The validity of that claim is evident in the remarkable range of basic and translational research occurring daily at the University of Pittsburgh.

The Aging Institute is honored to be an advocate for and a beneficiary of this work. It also is proud of its role in promoting interaction and collaboration between the University of Pittsburgh and UPMC, with the goal of bridging science and service to improve the quality of life of older adults.
Centers of Excellence Research Publication Highlights

Among the most innovative aging-related research taking place can be found at the University of Pittsburgh’s five NIH-funded Centers of Excellence. Research findings by the centers are regularly published in prestigious peer-reviewed scientific journals—a professional validation of their quality, scope, and impact. The following is a brief sampling of each center’s publications in 2011-12.

ADVANCED CENTER IN INTERVENTION AND SERVICES RESEARCH IN LATE LIFE DEPRESSION PREVENTION (ACISR/LLDP)

**Director: Charles F. Reynolds III, MD**

ACISR/LLDP provides a research infrastructure to promote investigations that ultimately will improve real world practice in the care of elderly living with depression and other severe mood disorders. It focuses on prevention and rehabilitation; improving care of difficult-to-treat late-life mood disorders and providing assistance to families; and identifying and removing barriers to effective treatment practices in the community, especially among older primary care African-Americans, in the nursing home, and in the rehabilitation setting.


Randomized trials for selective and indicated prevention of depression in both mixed-aged and older adult samples, conducted in high-income countries, show that rates of incident depression can be reduced by 20 to 25 percent over one to two years through psychoeducational and psychological interventions designed to increase protective factors.


This study tested whether or not the structural white matter lesions that are characteristic of late-life depression are associated with alterations in the functional affective circuits of late-life depression. This study used an emotional faces paradigm that has been shown to engage the affective limbic brain regions.


Study results showed that being “in the gap” was associated with comparable reductions in the use of antidepressants, heart failure medications, and antidiabetics. Relative to a comparison group that had full coverage in the gap, the no-coverage group reduced their monthly antidepressant prescriptions by 12.1 percent and reduced their use of heart failure drugs by 12.9 percent and oral antidiabetics by 13.4 percent.


This systematic review covered 52 studies with 4,734 depressed patients. The results showed that medication is probably the best treatment for dysthymia, and combined treatments are more effective in depressed outpatients, as well as in depressed older adults. Although many studies have compared medication, psychotherapy, and combined treatments, the development of personalized treatment of depression has only just begun.


There is a socioeconomic gradient in the long-term response to antidepressant treatment among older primary care patients. Those with lower household income who acknowledge difficulty making ends meet have less wellness and show more persistence of suicidal ideation.

African American older adults are even less likely than their white counterparts to seek and engage in mental health treatment. This qualitative study examined the experience of being depressed among African-American elders and their perceived barriers when contemplating seeking mental health services, as well as the coping strategies utilized by African-American elders who choose not to seek professional mental health services.

ALZHEIMER'S DISEASE RESEARCH CENTER (ADRC)

Director: Oscar Lopez, MD
Co-Director: William E. Klunk, MD, PhD

The ADRC performs and promotes research designed to understand the etiology and pathogenesis of Alzheimer’s disease (AD) and the mechanisms underlying the cognitive and neurobiological changes. It also develops strategies targeted at effective early diagnoses and treatments for AD and other dementias. Its research centers around the areas of genetics, neuroimaging, neuropathy, and minority outreach. A major focus is matching participating patients and family members with volunteer opportunities for AD-related studies.


This paper documents the clinical and biomarker changes in relation to the age of expected symptom onset in carriers of autosomal dominant mutations for early-onset Alzheimer’s disease in the Dominantly Inherited Alzheimer’s Network (DIAN) study. Autosomal dominant Alzheimer’s disease was associated with a series of pathophysiological changes over decades in CSF biochemical markers of Alzheimer’s disease, brain amyloid deposition, and brain metabolism, as well as progressive cognitive impairment.

Raji C, Lopez OL, Kuller LH, Gach HM, Carmichael OT, Rosano C, Aizenstein H, Becker JT. White matter lesions are negatively correlated with gray matter volume in cognitively normal elderly subjects. Neurobiology of Aging. (in press) [PMCID: PMC3248984].

This study examined the relationships between cerebral white matter lesions (WMLs), age, gray matter (GM) volume, and cognition in 740 cognitively normal individuals with a 1.5 T magnetic resonance imaging (MRI) scan of the brain and a detailed diagnostic evaluation. Findings suggested that age did not have a direct effect on DSST performance; WMLs and the volume of the hippocampus and frontal cortex mediated its effect. Longitudinal data are needed to confirm the temporal sequence of events leading to a decline in cognitive function.


This study examines how underrepresented individuals conceptualize participation in cognitive impairment studies. Qualitative analysis of focus group data revealed that key motivators for participating in AD-related research were individuals’ expectations and experiences of benefitting from research participation.

This analysis of 127 participants with MCI and AD who had no advance directives at baseline, revealed that by year five of follow-up, only 39 percent had gone on to conduct advance care planning (ADP). The findings suggest the need for interventions aimed at enhancing ACP completion rates, particularly among older adults with cognitive impairment.


The purpose of this study was to characterize the health-related activities that individuals self-initiate after being diagnosed with mild cognitive impairment (MCI). This interview-based study of 53 individuals with MCI found that most (62 percent) people self-initiate one or more new health-related activities in the months immediately following disclosure of an MCI diagnosis.

**GERIATRIC RESEARCH, EDUCATION AND CLINICAL CENTER (GRECC)**

**Director: Steven Graham, MD**

The GRECC is funded by the Department of Veterans Affairs and provides an integrated program of basic biomedical, clinical, and health services research; education of trainees and practitioners; and clinical demonstration projects designed to advance knowledge regarding the care of the elderly, with an emphasis on stroke. Its research focus includes neuronal cell death in stroke, gene therapy in cerebrovascular disease, depression in the elderly, polypharmacy in long-term care, and end-of-life care.


This study examined three factors in a particular ridge of the brain in deceased patients with and without mild cognitive impairment (MCI and NCI, respectively) or Alzheimer’s disease (AD). Reduced activity of the enzyme choline acetyltransferase was associated with increased buildup of the protein beta-amyloid and more advanced cognitive decline or AD. The authors concluded that treatments to reduce amyloid buildup may help some reduce deficits and slow decline in some patients with MCI.


This study examined data from 3,692 veterans aged 65 and older admitted to VA Community Living Centers to determine the frequency of and factors associated with antidepressant misuse. Antidepressants were underused in 25 percent and inappropriately used in 58 percent of residents with depression, and overused in 42 percent of residents without depression.

Bai Q, Burton EA. Zebrafish models of Tauopathy. *Biochimica et Biophysica Acta*. 2011; 1812, 353-363.

This report highlighted the potential benefits of, and support for modeling tauopathies, a group of incurable neurodegenerative diseases, including Alzheimer’s disease, in zebrafish. The authors discuss how a zebrafish model would be helpful in identifying new therapies for these diseases and for conducting experiments that involve brain imaging. They also review evidence suggesting that the zebrafish brain is an appropriate setting in which to model these disorders, and suggest future directions for research.


This study demonstrates a novel mechanism by which protein synthesis is inhibited in neurons after stroke. It suggests new therapeutic strategies that may be applicable to the treatment of stroke and neurodegenerative diseases.

UCH-L1 is a neuronal protein that has been implicated in the pathogenesis of Parkinson’s and Alzheimer’s diseases. Certain oxidized fatty acids known as cyclopentenone prostaglandins may bind to UCH-L1 resulting in the accumulation of abnormal proteins in the cell and eventual death of neurons. These results could result in the development of new approaches to treat stroke, Parkinson’s and Alzheimer’s diseases.

**CENTER FOR AGING AND POPULATION HEALTH (CAPH)**

**Director:** Anne B. Newman, MD, MPH

The Center for Aging and Population Health (formerly the Center for Healthy Aging) generates new solutions to the challenges of an aging society through population-based research that promotes healthy aging, longevity, and prevention of disability. Supported in part by the Centers for Disease Control and Prevention’s (CDC) Prevention Research Centers Program, the Center orchestrates epidemiologic and public health research on aging, trains professionals in population research methodology, and conducts community outreach with a goal of keeping older adults healthy.


A simple urine test can indicate a premenopausal woman’s risk of suffering bone fractures. More than 2,000 women in the Study of Women’s Health Across the Nation (SWAN) in their 40s and early 50s had a 59 percent greater risk of bone fracture as they aged when they had above-normal levels of N-telopeptide (NTX) — the byproduct of bones breaking down — in their urine, compared with women who had low NTX levels. The study is the first to look for signs of bone breakdown in younger, premenopausal women, in an effort to determine if such signs can predict the risk that these women will suffer fractures as they age.


This paper describes the landmark phase 3 controlled clinical trial, the Lifestyle Interventions and Independence for Elders (LIFE) Study, designed to assess whether maintained physical activity over two to three years can reduce the incidence of mobility disability.


In this study of the impact of the introduction of Medicare Part D, costs were reduced by choosing lower cost drugs, but not reducing prescriptions, implying that quality of care may be maintained at a lower cost.


After two years of follow-up, adherence to the “10 Keys” for Healthy Aging Program resulted in improved adherence to prevention guidelines and a reduction in key risk factors for premature disability in older adults.


In this report, blood pressure was shown to accelerate gait slowing in well-functioning older adults over a long period of time, even for those who control their blood pressure or develop hypertension later in life.
Balance disorders in older people are common, disabling, and often complex. A concentrated, multidisciplinary effort is needed to understand its causes and consequences — and to develop innovative treatments. The team of investigators at the Claude D. Pepper Older Americans Independence Center offers complementary expertise, outstanding research productivity, and ongoing studies to address this problem. The center brings together faculty from five schools within the University of Pittsburgh: medicine, nursing, public health, allied health, and engineering.


This study pooled data from more than 34,000 older adults followed for up to 20 years to evaluate the ability of walking speed to predict survival. Survival increased across the full range of gait speeds, with significant increments per 0.1 m/s. At age 75, predicted 10-year survival across the range of gait speeds ranged from 19% to 87% in men and from 35% to 91% in women. Predicted survival based on age, sex, and gait speed was as accurate as predicted based on age, sex, use of mobility aids, and self-reported function or as age, sex, chronic conditions, smoking history, blood pressure, body mass index, and hospitalization. In this pooled analysis of individual data from nine selected cohorts, gait speed was associated with survival in older adults.


Although osteoporosis affects women of all ages, the impact is most pronounced in frail residents in long-term care. Nevertheless, few interventional trials have been performed in this population, and few data on therapeutic alternatives are available in this cohort. In this study, 733 contacts were made with long-term care residents of nine participating facilities. The study concluded that clinical research for osteoporosis can be successfully and safely performed with frail residents in long-term care facilities. Lessons learned from this study may inform future investigations among frail elderly residents of these facilities.
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