

NewYork-Presbyterian Advances Geriatrics

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Geriatrics
Ranks #10 in the Nation

Engaging Older Adults in the Digital Age

Traditionally older adults have been hesitant in adopting technology, however, more and more are embracing the digital age. According to the Pew Research Center, roughly two-thirds of those ages 65 and older go online and a record number of them now own smartphones. "There's a misconception that older adults are technophobic – that they're unwilling to learn new skills and are uninterested in new technology. Over the years, we've collected quite a bit of data to dispel those myths," says **Sara J. Czaja, PhD**, a world renowned expert on technology and aging. Dr. Czaja joined the Division of Geriatrics and Palliative Medicine at NewYork-Presbyterian/Weill Cornell Medical Center in 2018 as the inaugural Director of the Center on Aging and Behavioral Research.

Continuing the pioneering work she began at the University of Miami Miller School of Medicine where she directed the Center on Aging, Dr. Czaja and her team are developing



Dr. Sara J. Czaja

innovative strategies to help keep older adults engaged, productive, and independent, and at the same time, providing helpful information and strategies for their caregivers.

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A Meeting of Minds and Hearts on Behalf of Older Adults

Rapidly aging populations are challenging healthcare providers and systems across the globe. According to the World Health Organization, in 2010, an estimated 524 million people were age 65 or older – 8 percent of the world's population. By 2050, this number is expected to nearly triple to about 1.5 billion, representing 16 percent of the world's population.

"We were pleased to offer our content knowledge and clinical acumen on topics so important to consider in caring for the aging population."

— Dr. Evelyn C. Granieri

Sharing their perspectives on this emerging and important issue, clinicians from NewYork-Presbyterian recently took part in the 16th Hallym-Columbia-Cornell-NYP International Symposium on the *Importance and Advances in Geriatric Medicine and Surgery* in the Republic of Korea. The symposium, which was held at Hallym University Dongtan Sacred Heart Hospital in Seoul, Korea, on April 22, attracted nearly 200 participants, including physicians from Korea and around the world.

Evelyn C. Granieri, MD, MPH, MSEd, Chief of the Division of Geriatric Medicine and Aging at NewYork-Presbyterian/Columbia University

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Engaging Older Adults in the Digital Age

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The Center on Aging and Behavioral Research takes a multi-disciplinary approach to the study of aging, pooling the resources of experts in engineering, behavioral sciences, psychology, neurology, psychiatry, computing sciences, and public health sciences. Their research is focusing on both challenges and opportunities for older adults and their families utilizing team science and implementation science. "We are seeking to integrate technology into research and intervention programs, with a commitment to serving diverse populations," says Dr. Czaja.

Creating Useful Technology Systems

A major emphasis of the Center is to make sure that technology systems are not only useful for older adults, but that they can also be used. "I have a background in human factors engineering, where we look at how systems can be improved and used by the older adult population," says Dr. Czaja. To that end, the Weill Cornell Medicine program has collaborations with the University of Miami, University of Illinois Urbana-Champaign, Florida State University, and Georgia Institute of Technology in CREATE – Center for Research and Education for Aging and Technology Enhancement – a program that has been funded by the National Institute on Aging since 1999.

"One does not stop learning or growing intellectually, cognitively, and emotionally at their 65th birthday. We need to find ways to maximize the contributions of this population, while ensuring their quality of life and independence."

— Dr. Sara J. Czaja

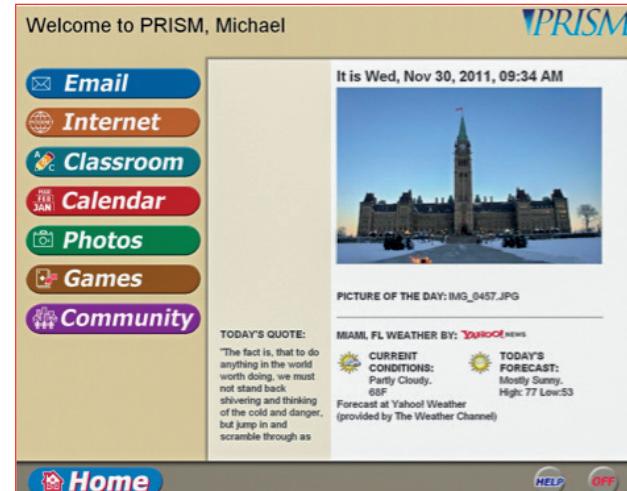
"CREATE's focus is on aging and technology systems from two perspectives," explains Dr. Czaja. "The first is to ensure that older adults can realize the potential benefits of technology in terms of enhancing their independence and quality of life, and the second is making sure that technology systems are designed to accommodate the needs, preferences, and abilities of older people."

"For example, we completed a study where we found that a specially designed software system that we developed, called PRISM [Personal Reminder Information and Social Management System], was very helpful in terms of alleviating loneliness and enhancing social support among older people who lived alone and were at risk for social isolation," continues Dr. Czaja.

The researchers included seniors in the development of PRISM's software, instructions, and training materials. The system offered streamlined access to email, a calendar, games, and links to community resources, and also incorporated features that included readable fonts and a "buddy tab" that enable users to stay in touch with those that share similar interests.

Dr. Czaja and her colleagues at three sites studied 300 adults, ranging in age from 65 to 98. Half used PRISM for one year; the rest received a paper notebook with content similar to that contained in the online system. Their study, which appeared in

the January 2019 issue of *Gerontologist*, showed that the PRISM group reported significantly less loneliness and an increase in perceived social support and wellbeing than the control group. "Participants learned how to use email, were able to communicate with their grandchildren, navigate the Internet, and share photos," says Dr. Czaja, who also has an administrative supplement with the NIH to look at the value of PRISM for individuals with mild cognitive impairment.



PRISM home page. Source: *Gerontologist*. 2019 Jan 9.

The Center on Aging and Behavioral Research at Weill Cornell is also looking at programs and services for family caregivers, particularly caregivers of patients with dementia. "We also use technology in those studies as a way to bring programs and services to family caregivers," says Dr. Czaja.

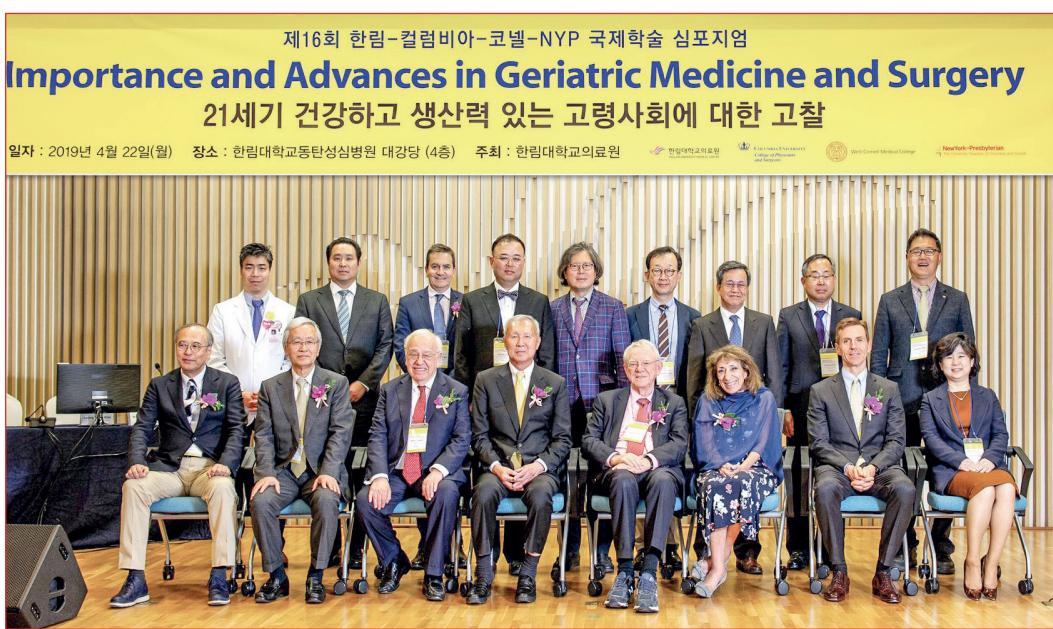
The Center has an ongoing grant to provide a behavioral psychosocial intervention for both the caregiver and the patient with early-onset Alzheimer's disease. "It is delivered in the homes of the patients and the caregivers using laptop technology, which we provide," says Dr. Czaja. "The intervention includes components for the caregiver and the care recipient and also things that they do together. We use videoconferencing to conduct support groups, enabling people to interact with other caregivers from their own homes. We also conduct skill building sessions using videoconferencing. It alleviates the need for them to come to us and for us having to go to them."

In other efforts, Dr. Czaja and her Weill Cornell Medicine colleagues are studying patient portals of electronic medical records, telemedicine devices, and other digital healthcare services so seniors have fewer obstacles to access.

Recently, they published the third edition of *Designing for Older Adults*, winner of the 2019 Richard M. Kalish Innovative Publication Book Award presented by the Gerontological Society of America. The new edition provides easily accessible and usable guidelines for practitioners in the design community for older adults. It includes an updated overview of the demographic characteristics of older adult populations and the scientific knowledge base of the aging process relevant to design.

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A Meeting of Minds and Hearts on Behalf of Older Adults (continued from page 1)



Columbia faculty attending the symposium included (seated) Dr. Mark A. Hardy (third from left), Dr. Herbert Pardes, Dr. Evelyn C. Granieri, and Dr. Bret R. Rutherford (fifth, sixth, and seventh from left), and Dr. Jose A. Luchsinger (standing, third from left).

Irving Medical Center, joined NewYork-Presbyterian colleagues, who included **Herbert Pardes, MD**, Executive Vice Chair, NewYork-Presbyterian Board of Trustees; surgeon **Mark A. Hardy, MD**, Director Emeritus and Founder, Renal and Islet Transplantation at Columbia; **Jose A. Luchsinger, MD, MPH**, Director of Columbia's Center on Aging and Health Disparities; and **Bret R. Rutherford, MD**, Director, Neurobiology and Therapeutics of Aging, New York State Psychiatric Institute.

"We were pleased to offer our content knowledge and clinical acumen on topics so important to consider in caring for the aging population," says Dr. Granieri, a renowned educator who regularly speaks to clinicians in geriatric forums around the world.

The symposium, comprised of four sessions with 11 lectures, began with an address from Dr. Pardes, a nationally recognized expert in education, research, clinical care, and health policy, who spoke on *Healthcare Policy for the Aging Population*. "Older people, by virtue of their age, experience far more healthcare challenges than the rest of the population," noted Dr. Pardes.



The Columbia team meets with a faculty member from Hallym University Dongtan Sacred Heart Hospital.



Dr. Herbert Pardes

"When people have to retire because of strict age limits, it often creates a crisis of their own feelings of adequacy and loss of value to others and to society. How to deal with this wide roster of issues is an important point of discussion for all countries. Providing opportunities for services to contribute to society through part-time work and volunteerism, for example, can make the biggest difference in the lives of older people."

While attending the symposium, Dr. Pardes was presented with an Honorary Doctorate of Philosophy by Dr. Dai-Won Yoon, Chairman of the Ilsong Educational Foundation, for a lifetime of accomplishments and contributions to society.

Dr. Granieri, who has particular expertise in advocacy and the interdisciplinary care of frail and vulnerable older adults, discussed practical considerations in the care of this population, outlining through consensus and research studies the steps clinicians can take to meet their often complex needs and requirements.

Dr. Hardy spoke on *Geriatric Surgery: Making Surgery Safer in the Golden Years*. "Historically, older age was associated with poorer outcomes after surgical interventions, both in regard to postoperative complications and survival," he said. "More recently patient evaluations have focused on the comprehensive geriatric assessment, which includes functional and nutritional status, as well as cognition, emotional evaluations, and assessment for geriatric syndromes of delirium, dementia, risk of fall, and failure to thrive."

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A Meeting of Minds and Hearts on Behalf of Older Adults (continued from page 3)

Dr. Hardy emphasized that the progress in anesthesia and in surgical technology with minimal laparoscopic and endovascular interventions has significantly improved surgical outcomes in the senior patients. He also noted that palliative surgery plays an important role in the treatment of elderly patients to alleviate symptoms, relieve pain, and improve quality of life.

Dr. Luchsinger, who is also Vice Chair for Clinical and Epidemiological Research at Columbia, presented *Diabetes and Cognitive Impairment*, explaining that the prevalence of diabetes, particularly type 2 diabetes, is increasing in geriatric populations worldwide as compared to younger age groups. "Cognitive impairment is more common in persons with diabetes as compared with people without diabetes," said Dr. Luchsinger, noting that diabetes may increase the risk of cognitive impairment associated with aging, including Alzheimer's disease and vascular dementias. He also reviewed evidence from epidemiologic and mechanistic studies that link diabetes and cognitive impairment and offered strategies for prevention and treatment.

An expert in the complex interplay between aging-related biological processes and the pathophysiology underlying

psychiatric disorders, Dr. Rutherford spoke about *Aging and Later Life Neuropsychiatry: Toward Precision Interventions to Improve the Health and Functioning of Older Adults*. Discussing late-life depression, he noted, "Current research in geriatric psychiatry seeks to improve understanding of the role of biological aging processes in determining risk for late-life depression, its phenomenology and manner of clinical presentation, and promising novel therapeutic targets. By understanding at neurobiological, physiologic, and behavioral levels what makes depression in an older adult different from depression in a younger adult, we hope to delineate homogeneous subtypes of late-life depression that may be more therapeutically tractable and can inform the development of precision interventions."

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Overseas Collaborations Enhance Geriatric Care

In 2018, **Vitor Coutinho, MD**, a family medicine physician from Portugal, joined a group of international clinicians for a month-long rotation in geriatric medicine at NewYork-Presbyterian/Columbia under the tutelage of **Dr. Evelyn C. Granieri**, Chief of the Division of Geriatric Medicine and Aging. "NewYork-Presbyterian provides these clinicians with broad exposure to all facets of geriatric medicine in both community and hospital settings," says Dr. Granieri.

Dr. Coutinho's primary care practice encompasses some 2,000 patients, 40 percent of which are older than 60 years of age. "In Portugal, we have a large public investment in healthcare," says Dr. Coutinho. "And while there is competence in geriatric medicine, there is no specialty within our Portuguese medical association. This is why I came to NewYork-Presbyterian – to learn more about caring for older adults."

During his rotation, Dr. Coutinho observed the inpatient care of older adults at NewYork-Presbyterian Allen Hospital. "Dr. Granieri and the NewYork-Presbyterian doctors do a wonderful job of caring for patients with humanity," he says. "It's extremely important to care for their heart and lungs, but it's also important for them to live in their homes and realize their dreams at the end of their lives."

Seeking to share with his colleagues at home this holistic approach to geriatric medicine, Dr. Coutinho invited Dr. Granieri



Dr. Vitor Coutinho, Dr. Evelyn C. Granieri, and medical resident Dr. Nora Chen during Dr. Coutinho's return visit to Columbia this past May.

to address physicians at medical centers throughout Portugal this past spring. Dr. Granieri, in turn, invited Dr. Coutinho to speak to the Division of Geriatric Medicine at Columbia in May.

"I admire Dr. Granieri for what she is doing and for helping us to change the way we think about delivering care, not only in a biological way, but to help people become stronger and healthier, and especially, happier," says Dr. Coutinho. "There is a Portuguese word that essentially means 'care, rededication, and humanity with heart.' Delivering care with love."

A Geriatrician's Personal and Professional Mission Abroad

Every January, **Sonal Mehta, MD**, a geriatrician in the Division of Geriatrics and Palliative Medicine at NewYork-Presbyterian/Weill Cornell, reviews her personal, research, and scholarly goals for the coming year. "In 2018, I marked 10 years as a clinician at Weill Cornell and I was thinking more globally," says Dr. Mehta.

Growing up, Dr. Mehta spent summers in India visiting her grandparents and family members. "I have always had a connection there. Over the past several years, family and friends in India began reaching out to me to ask about the care of older relatives. Then my grandmother became sick last year, and I talked to my father about how to care for her and we discussed procedures and so on."

In another instance, Dr. Mehta's uncle contacted her about his mother who lives in a village in India. "She had diabetes and peripheral vascular disease," says Dr. Mehta. "The question came up about either amputating her leg or proceeding with palliative care. We talked about the risks and benefits of the procedure, her quality of life, and what her care needs would be after surgery. We thought through the decision both medically and socially. And that's really what the root of geriatrics is all about; it's about connecting the medical piece and the psychosocial piece. All of these conversations prompted me to explore geriatric care in India."

"Ideally, I hope that my work can be a stepping stone for increased recognition for geriatric and palliative care education within the Indian medical education system and ultimately translate to improved clinical care for the growing population of older adults in India."

— Dr. Sonal Mehta

Dr. Mehta discussed her growing interest in the care of older adults in India with **Mark S. Lachs, MD, MPH**, Co-Chief of Geriatrics and Palliative Medicine, who suggested that she take some time away from Weill Cornell to explore it further. With his encouragement and guidance, she applied for and received a Fulbright-Nehru Fellowship to pursue a four-month project in geriatric palliative care medicine in Pune, India, two hours from Mumbai. "I studied abroad in Pune in college and have extended family there," notes Dr. Mehta. "I have also been back to visit three times in the past 15 years. It's a growing city."

In 2011, adults over the age of 60 accounted for 8 percent of India's total population; by 2050, it is estimated to increase to 19 percent, or 323 million older adults. In 2010, the government of India launched the National Programme for Health Care of the Elderly to improve patient care for older adults within an institutional healthcare system.

"My understanding of the medical system in India is that it's very privatized," says Dr. Mehta. "An illness can be



Dr. Sonal Mehta

financially devastating for patients and their families. In my experience, older adults have generally been cared for by their family members. But I've seen a change in the society where both men and women are now working, increasing the need for geriatric medicine – a new concept in India."

During her fellowship from July to November 2019, Dr. Mehta is collaborating with the Janaseva Foundation, which supports vulnerable populations in rural and urban settings. In 2016, the Janaseva Foundation, which is recognized by the World Health Organization, the United Nations, and the Government of India, created a Regional Resource Training Center to address knowledge, skills, and attitudinal gaps in caring for the elderly. Dr. Mehta's work in Pune involves meeting with geriatric medical providers to learn more about their health systems across various settings, interacting with physicians, nurses, physical therapists, and social workers. She is also implementing geriatric palliative care education for these interdisciplinary providers and giving presentations at a variety of institutions on related topics while gaining international expertise in the field of palliative care.

Dr. Mehta is accompanied by her parents and her son Soham, 11, and daughter Sia, 9. "For several months we planned for this adventure together," she says. "Fingers crossed that they will have an experience of a lifetime," she says.

In between her schedule of presentations and workshops, Dr. Mehta is posting her experiences along with photos on a blog at sonalsfulbright.com. "This work has the potential to transform into a train-the-trainers model," says Dr. Mehta. "Ideally, I hope that my work can be a stepping stone for increased recognition for geriatric and palliative care education within the Indian medical education system and ultimately translate to improved clinical care for the growing population of older adults in India."

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Engaging Older Adults in the Digital Age (continued from page 2)

In NIH investigations with the University of Pittsburgh, the researchers are examining factors, such as numeracy, literacy, cognition, and demographics, which predispose older adults to be vulnerable to financial exploitation.

"We have another interesting project for which we are also actively recruiting that will focus on an exercise and social support intervention for sedentary older adults," says Dr. Czaja. "We provide the program to people after they're trained in groups. They form a team and conduct the exercises at home via a tablet."

Looking Ahead

Among her goals, Dr. Czaja hopes to expand their studies in social isolation. "Another aim is to form strong community partnerships because we want to understand what the community needs are and to draw participants from diverse populations into our research," she says. "We've put together a community advisory board to make sure we continue to maintain a strong foothold in the community."

In addition to her research, Dr. Czaja is a strong proponent of educating medical students and mentoring junior faculty. "We need to train a cadre of new people so that they gain research expertise, grow into independent research scientists, and are able to continue this important work," she adds.

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