



FROM THE CHAIR



Geriatrics is UND's newest department. As with any start-up enterprise, incremental growth is expected. To this end, we have made significant strides in research, education, and clinical service.

Given that North Dakota has one of the highest percentages of elderly persons in the country, as well as the highest rate of Alzheimer's disease, it is with good speed that

the Geriatrics Department created new clinical services for the UND School of Medicine & Health Sciences (SMHS). For the first time, Comprehensive Geriatric Assessment (CGA) is offered in North Dakota at UND's affiliated teaching hospital, Sanford Health, in Fargo. CGA is a multidisciplinary team approach to care where cognitive, physical, and psychological assessments of older adults are conducted. Results of comprehensive functional evaluations are commonly shared with family and primary care providers to help optimize healthy aging. Many geriatric recommendations try to maximize senior independence and quality of life.

The Geriatrics Department has also collaborated with the Grand Forks Housing Authority to bring CGA to under-resourced older adults in Grand Forks County. In partnership with UND's Department of Physical Therapy, Geriatrics provides geriatric assessments at a senior

housing facility in downtown Grand Forks. This location provides an "aging in place" option for older adults who have transportation difficulties, especially during the winter months. The community-based Geriatrics program also engages medical and physical therapy students, providing service learning opportunities for SMHS students across disciplines.

In addition to geriatric assessment, the department is collaborating with UND's Department of Neurology to create a new Memory Disorders Clinic at Sanford Health in Fargo. Similar to CGA, the memory clinic is comprehensive and multidisciplinary. It addresses patient and family concerns about memory and behavioral problems that may be associated with various forms of memory loss.

These new clinical efforts complement an on-going but expanded program in fall prevention. North Dakota has one of the highest rates of falls in elderly, many with serious injuries such as broken hips and head trauma. A recent analysis of the program by UND medical students revealed that the Fall Prevention Clinic reduced falls by 50 percent after the geriatric team's intervention. To further extend the scope of the department's fall prevention program, geriatricians screened elderly patients for fall risk during the Sanford Health Flu Vaccine Blitz in October 2018.

Donald Jurivich, DO
Chair, UND Department of Geriatrics

GERIATRICS SIMULATION

The department has interacted with the UND Simulation Center to enhance physical diagnosis skills of medical students, especially as they relate to atypical presentation of common diseases in older adults. As mentioned above, the geriatric assessment program with student participation helps bridge the simulation program with actual field experiences.



NEW EDUCATIONAL PROGRAMS FOR MEDICAL STUDENTS

At the inception of UND's Geriatrics Department, the Dean's Office requested that the department assist the School of Medicine & Health Sciences with meeting new requirements by the Liaison Committee on Medical Education (LCME) to provide education on chronic disease and global health. This request fits well with the department's mission on several counts. First, age is the greatest risk factor for chronic conditions. Second, elderly who have three or more chronic conditions cost Medicare twice as much as patients who have fewer chronic conditions such as hypertension, diabetes, and heart conditions. Similarly, patients with dementia cost Medicare twice as much as a cognitively intact older adult patient.

These facts emphasize the need for students to understand new models of health care to address older adults with multiple chronic conditions. To this end, second-year medical students are introduced to chronic disease through active learning. They assemble in groups of eight to create a model health care plan that addresses various ways to control systolic hypertension. As an example, one group investigates and reports on nutritional ways to lower blood pressure,

while another group examines self-efficacy in controlling blood pressure such as stress reduction or physical activity. In each instance, students critically evaluate the medical literature to determine if their proposed intervention is supported by clinical research. As an extension of the chronic disease course, students can volunteer for the Grand Forks Community Geriatric Assessment program which meets weekly after students' didactic programs.

Global health is vital for our department to teach because of the "Silver Tsunami" sweeping the world's population. For the first time in mankind's history, non-communicable diseases outpace communicable diseases as the top issue confronting many nations. As an active learning project, second-year students are asked to create a multi-pronged intervention to deal with a hypothetical epidemic of Zika disease in Grand Forks as the virus finds a new mosquito vector that tolerates cold climates. In terms of global aging, students explore various barriers to global health aging such as wealth disparities, elder neglect and abuse, dementia, safety problems, and lack of health care resources, including affordable medications.

INTRODUCTION TO NEW FACULTY AND STAFF



Gunjan Manocha

Dr. Manocha obtained her PhD from the University of North Dakota's program in Pharmacology, Physiology, and Therapeutics. She went back to her home in India and worked as a Research Associate at the Center for Cellular and Molecular Biology, Hyderabad, in Neurovirology, but her passion

for Alzheimer's disease research brought her back to North Dakota. For the past 10 years, she has been working on understanding the role of Amyloid- β mediated inflammation in the Alzheimer's brain and also dissecting the role of the brain-gut axis in Alzheimer's. She joined the Department of Geriatrics in June 2018 as Assistant Professor and Educational Director for the Geriatric Medicine Fellowship program. "It takes years of hard work and perseverance for medical students, residents, and fellows to become the physicians you and I go to in times of need," she said. "But it also takes a huge coordinated effort from multiple teams behind the scenes to run these residency programs. I am definitely new to medical education, but I am glad to be a part of the team that is helping shape our residents into becoming fine geriatricians."

Rachana Trivedi

Dr. Trivedi obtained her PhD from Central Drug Research institute (CDRI), Lucknow, India, in cancer biology. During her PhD, she was awarded a DAAD sandwich model scholarship to carry out part of her thesis work in Germany. After completing her PhD, she worked as a Young Investigator in the Regional Center for Biotechnology, Faridabad, India. She also received a Dr. DS Kothari postdoctoral fellowship and worked as a postdoctoral fellow in Jawaharlal Nehru University, New Delhi, for one year. Following that, she relocated to the U.S. and joined the UND Biology Department as a postdoctoral fellow where she worked on epigenetic regulation of neurovascular interactions. Rachana joined UND's Geriatrics Department in May 2018 as a postdoctoral fellow where she is currently working on understanding the mechanisms of aging acceleration by dietary free fatty acids.

Students:

Grant Maychrzak – Computer Science, Class of 2021

Amanda Hamel – Biology, Pre-Health, Honors, Class of 2020

FELLOWSHIP IN GERIATRIC MEDICINE

Perhaps the two biggest news items for UND and the department are: 1) innovations in medical education, and 2) inauguration of the Geriatrics Fellowship. UND's Department of Geriatrics and a team of UND educators are reporting in the *Journal of the American Geriatrics Society* that Twitter polling can effectively increase medical students' knowledge of geriatrics during their third-year clerkship in internal medicine. Equally exciting is the launch of the Geriatrics Fellowship program in which two recently graduated family medicine or internal medicine trainees commit an additional year in post-graduate training to become board certified in geriatrics. This program is located in Bismarck and Fargo and is funded by the State of North Dakota to help address the shortage of primary care geriatricians in the state, which is estimated to be more than 40 geriatricians in 2018.

Established in 2017 to help address the tremendous shortage of geriatricians in North Dakota, the UND School of Medicine & Health Sciences Geriatric Medicine Fellowship is a two-fellow, 12-month program leading to ABIM/ABFM board eligibility in geriatric medicine. Fellows conduct clinical rotations in geriatrics, telehealth, acute, ambulatory, long term, and hospice care, all while pursuing research and quality improvement projects. The fellowship site is Sanford Health in Fargo, N.D.

GERIATRICS RESEARCH

The Geriatrics Research Laboratory collaborates with several UND investigators to try to understand how aging alters our ability to thwart physiological stress and perhaps predisposes brain cells to injury leading to Alzheimer's disease. The department was awarded a CoBRE pilot grant and a UND Grand Challenges grant for a postdoctoral fellow in geriatric research. One project in the laboratory examines how exceptional aging preserves different elements of our basic stress responses, while another project explores the role of saturated free fatty acids in exhausting protective neuronal responses.

The department also fosters research with medical students and post graduate trainees. Thus far, medical students have discovered that falls in rural elderly are more dangerous than falls among urban elderly. They also found that a multidisciplinary fall clinic can effectively reduce the fall rate and possibly the injuries related to falls. The new Geriatric Fellows are formulating their research plans for 2018-2019, having recently completed an NIH course on clinical research. One of the fellows plans to examine the feasibility of high intensity interval training in frail elderly. The other fellow seeks to understand health systems redesign to improve quality care of older adults.



Edith Wong, MD

"I was doing one of my first rotations in medical school and was paired up with a general practitioner in Ireland doing geriatrics," says Wong of her medical training at Ireland's University College Dublin. "I saw he was able to serve this very vulnerable population extremely well and take care of their needs. The reason he was able to do so was because he had a good staff and was able to organize support for patients. That's something I really wanted to do."



Haris Ali, MD

"I was born and raised in Pakistan. I obtained medical education in Pakistan and post-graduate basic science education in Norway and in the U.S. I trained in internal medicine at UND. I aspire to be an academic physician. There are parts of the world, such as Pakistan, where there is little comprehension and cursory application of principles of geriatric care. They have a different set of circumstances, such as illiteracy, lack of community resources, absence of third-party payers (health insurance), and little to no subsidized care for the elderly [e.g., Medicare-type coverage]. I'm glad that we have the ingredients to provide decent geriatric care in the U.S. I hope to support patient autonomy, adhere to the principle of non-maleficence, establish clearer goals of care, foster patient self-efficacy, and facilitate smoother transitional care. I have wonderful mentors; if I do half as good as they did, I would be proud of myself."

OTHER UPDATES

Department Chair, Dr. Jurivich, has been active in public and professional education. Some examples of his teaching activities include:

1. Improving dementia care in N.D.: Dr. Jurivich collaborates with the ND Health and Quality Health Associates to present medical discussions about medical management of dementia.
2. Serving as the Chairman for the National Board of Advisors to the HRSA-funded Geriatric Workforce Enhancement Program Catch ON. Currently, the group is designing a national curriculum for health systems to help them become high quality, "age friendly" health care providers.
3. Recently being elected to the Board of Trustees of the Great Plains Long Term and Post-Acute Care Society. This professional group seeks to create a world in which all post-acute and long-term care patients and residents receive the highest-quality, compassionate care for optimum health, function, and quality of life.

Department of Geriatrics

1301 N Columbia Rd Stop 9037
Grand Forks, ND 58202
Phone: 701.777.6949
med.UND.edu/geriatrics

EDUCATIONAL INNOVATIONS

The Geriatrics Department recently published an educational article that describes the use of social media in medical education: “Integrating Geriatrics Knowledge into a Medical Student Clerkship Using Twitter Poll.” Currently, little is known quantitatively as to how social media affects medical knowledge. In this report, published in the *Journal of the American Geriatrics Society*, a Twitter poll was harnessed to engage third-year medical students in Board-like questions and answers.

Overall, seventy-eight medical students participated in the study, which was roughly half of the entire class. Several key observations were made:

1. 15.5 percent of students increased their geriatrics knowledge from the poll.
2. Males improved more than female students; however, women had higher baseline geriatrics knowledge entering their clinical rotation.

The figure (bar graph of percent improvement) shows how well students improved their geriatrics knowledge:

