

NORTH DAKOTA MEDICINE

THE UNIVERSITY OF NORTH DAKOTA SCHOOL OF MEDICINE & HEALTH SCIENCES



Two Your Health

Joycelyn Dorscher &
Raymond Goldsteen

Super Computers

Band of Doctors

Helping Hands

Native Son

Summer 2012
VOLUME 37, NUMBER 2
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Room for Growth



In my last Dean's Letter, I outlined how the School is evolving over time, with a shift in our educational, research, and service functions from an emphasis on the individual (whether provider, researcher, or patient) to an emphasis on teams (of providers or researchers) and populations of people at risk of disease. Since the School serves all North Dakotans, we have been focused in particular on the role that the School should play in helping to develop an optimal health care delivery system for the state, now and in the future. A critical component of that approach has been the development of a strategic plan that focuses on health provider workforce preparation and development. Prepared in conjunction with the School

of Medicine and Health Sciences (SMHS) Advisory Council, the plan is grounded in four basic principles—reduce disease burden, retain more of our provider graduates, train more providers, and work to improve the efficiency of our health care delivery system. One of the essential pillars of our plan—expansion of class size—is in progress. We'll welcome eight additional medical students and 15 health sciences students this summer, and the expansion of residencies in North Dakota—all with a rural focus—is well underway. An essential component of our class size expansion is a commensurate expansion of our physical plant. Since the state invested about \$1.5 million in 1985 to acquire the old St. Michael's Hospital in Grand Forks and convert it into our current main educational building, limited subsequent investments have been made in the School's educational facilities. However, we are extremely grateful for the Legislature's generous investment in the Center for Family Medicine clinic building in Bismarck, which is just in the process of opening. Thanks to financial support authorized during the last session of the North Dakota Legislature, JLG Architects in conjunction with the national design firm of Perkins + Will recently completed a space study intended to assess the ability of the current instructional facilities to accommodate the current and planned class size expansion. First, the consultants concluded we already are optimally utilizing our current space, exceeding national benchmarks for usage. Second, the consultants concluded we clearly will need additional facility space to handle the class size expansion already underway. Finally, they concluded that

it would be inadvisable to try to develop additional educational space simply by renovating the current building, as various structural and architectural features of the building make it ill advised to invest additional resources into it.

Rather, the consultants proposed three options—a combination of partial renovation of the current building with additional adjacent construction of about 80,000 square feet of new space at an estimated cost of \$38.5 million; renovation and construction of about 169,000 square feet of new space at an estimated cost of \$68.3 million; and a completely new instructional building of about 377,000 square feet along with repurposing of the current building at an estimated cost of \$124 million. The space report has been endorsed by the SMHS Advisory Council and was presented to the State Board of Higher Education as well as the Interim Health Services Committee of the Legislature this past April. The construction of more space at the School is the No. 1 capital construction priority of UND and UND President Robert O. Kelley.

I am delighted to report that Dr. Joycelyn Dorscher has joined us from the University of Minnesota as our new associate dean for Student Affairs and Admissions. I am pleased that Dr. Dorscher has accepted my invitation to be our speaker for the 2012 White Coat Ceremony, in which we officially welcome the first-year medical students

into the community of healers as future physicians. I also am pleased that Dr. Raymond Goldsteen of the State University of New York at Stony Brook has joined us as the founding director of the Master of Public Health Program at

UND. The first students in the program, which we are undertaking in conjunction with North Dakota State University, will arrive in September.

And finally, graduation this past May was a particularly memorable experience. Not only did we graduate 61 medical students, 47 physical therapy students, 85 medical laboratory science students, 32 occupational therapy students, 4 athletic trainers, 55 physician assistants, and 2 graduate students but we also had the great privilege of

welcoming Judy DeMers back to campus to give the graduation address at commencement. Our graduating medical students did quite well in the residency match, and the majority are off to their first choice. We certainly wish all of them the best!



Joshua Wynne, MD, MBA, MPH
UND Vice President for Health Affairs
and Dean

Congrats Grads!

61 medical students

47 physical therapy students

85 medical laboratory
science students

32 occupational therapy students

4 athletic trainers

55 physician assistants

and

2 graduate students



32nd Annual Frank Low Research Day winners named

The 32nd Annual Frank Low Research Day (April 12) was a success. Participation by students and faculty of the School of Medicine and Health Sciences was at a high level. UND Vice President for Health Affairs and Dean of the School of Medicine and Health Sciences Joshua Wynne provides

ongoing support of this important annual event; Senior Associate Dean Gwen Halaas delivered opening remarks at the oral session, and Dr. John Watt served as chair of the afternoon oral session.

To read more, please visit <http://bit.ly/HNdDa7>.



Antioxidant may disrupt Alzheimer's disease process

Amsterdam, NL—Alzheimer's disease (AD) is now the sixth leading cause of death among Americans, affecting nearly 1 in 8 people over the age of 65. There is currently no treatment that alters the course of this disease.

However, an increasing amount of evidence suggests that changes in the way the body handles iron and other metals like copper and zinc may start years before the onset of AD symptoms. A new study shows that reducing iron levels in blood plasma may protect the brain from changes related to AD. To read more, please visit <http://bit.ly/IK2Nkj>.



Gray elected to American Psychological Association's Rural Health Committee

Jacque Gray, PhD, was elected to the American Psychological Association's Committee on Rural Health. Gray is an associate professor and director of the National

Indigenous Elder Justice Initiative in the Center for Rural Health at the University of North Dakota's School of Medicine and Health Sciences. Gray is one of eight members and will serve a two-year term. To read more, please visit <http://bit.ly/Hp5JXe>.



Maliske wins AURA Award

Ben Maliske from Beulah, N.Dak., won an Advanced Undergraduate Research Award from the North Dakota Experimental Program to Stimulate Competitive Research. Maliske is a student in the Department of Anatomy and Cell Biology. His faculty mentor is Bryon Grove.

Ben Maliske

University of North Dakota School of Medicine and Health Sciences Doctor of Medicine Class of 2012 Award Winners

Graduating medical students and faculty of the School were recognized at the UND School of Medicine and Health Sciences MD Class of 2012 commencement awards ceremony on Sunday, May 13. For a complete list of awardees, please visit <http://bit.ly/K3v1JH>.



UND School of Medicine and Health Sciences presents Doctor of Medicine Degrees

The University of North Dakota School of Medicine and Health Sciences conferred the Doctor of Medicine (MD) degree during commencement ceremonies Sunday, May 13, at the Chester Fritz Auditorium on the UND campus in Grand Forks. Sixty-one degree candidates were awarded their medical doctorate.

Judy DeMers, RN, BSN, MEd, associate professor emerita of family and community medicine and longstanding former associate dean for Student Affairs and Admissions at the School of Medicine and Health Sciences

delivered the keynote address titled "The Meaning of Success." She has served North Dakota and UND as a nurse, health educator, and administrator. In addition, she represented her constituents with distinction in both the North Dakota Senate and House of Representatives. The North Dakota Women's Network named DeMers Woman of the Year in October 2011.

For a complete list of graduates, please see the commencement program at <http://bit.ly/KoJ4sU>.

Johnson earns Kupchella Preventive Medicine and Wellness Award

Eric L. Johnson, MD, assistant professor in the Department of Family and Community Medicine at the University of North Dakota School of Medicine and Health Sciences, has received the Charles E. Kupchella Preventive Medicine and Wellness Award. To read more, please visit <http://bit.ly/JR6f24>.



Eric L. Johnson, MD

Eken garners Hippocratic Dignity Award

Randy S. Eken, MPA, associate dean for Administration and Finance at the University of North Dakota School of Medicine and Health Sciences, has received the Hippocratic Dignity Award. To read more, please visit <http://bit.ly/L3Q914>.



Randy S. Eken, MPA



Jillian Jacobson presents her research at the Scholarly Project Poster Display.

PA Program's Scholarly Project Poster Session was a success

Winners have been announced for the Scholarly Project Poster Display hosted by the University of North Dakota Physician Assistant (PA) Program on May 1 at the School of Medicine and Health Sciences. Best Scholarly Project Award winners were selected by a consensus of their peers:

- First place—Sheryl Alexander, Florence, Mont.
- Second place—Matthew Massmann, Winger, Minn.

The following 2012 PA graduates earned scholarships from the program:

- Matthew Massmann—Katherine Maryann Rasmussen Scholarship (\$2,000). The Rasmussen endowment provides scholarships to one or more high achieving and qualified students enrolled within the Physician Assistant Program at the UND School of Medicine and Health Sciences. Recipients shall be of high moral character and demonstrate the potential to lead successful lives and careers. Massmann will be employed at Riverview Health in Crookston, Minn.
- Jeffrey Moberg, Grand Forks—Mickey Knutson Scholarship (\$800). The Knutson endowment provides scholarships to UND students, allowing them the opportunity to complete their studies and pursue careers in the health field. The Knutson endowment is awarded to a graduate who will be working in primary care in a rural or underserved area. Moberg will be employed at the Tioga Medical Center in Tioga, N.D.

UND Physician Assistant Class of 2012 Hooding and Commencement

The University of North Dakota School of Medicine and Health Sciences conferred the Master of Physician Assistant Studies (MPAS) degree during commencement ceremonies on Saturday, May 12, in the Alerus Center. Fifty-five candidates received the degree. They are the 38th class to

UND School of Medicine and Health Sciences recognizes volunteer faculty

The University of North Dakota (UND) School of Medicine and Health Sciences presented the Dean's Special Recognition Awards for Outstanding Volunteer Faculty to the following individuals during commencement ceremonies on Sunday, May 13.

- William M. Bellas, DO, clinical associate professor of pediatrics, Fargo.
- Karen R. Brown, MD, clinical assistant professor of pediatrics, alumnus (MD Class of 1993), Bismarck.
- Lisa Francis, MD, clinical assistant professor of internal medicine, Bismarck.
- Aaron M. Garman, MD, clinical assistant professor of family and community medicine, alumnus (MD Class of 1996), Beulah.
- Thomas L. Herzog, MD, clinical assistant professor of obstetrics and gynecology, alumnus (MD Class of 1979), Fargo.
- Michael D. Kaspari, RN, clinical instructor of clinical neurosciences, Fargo.
- Gaylord J. Kavlie, MD, clinical associate professor of surgery, alumnus (MD Class of 1979), Bismarck.
- Jacinta T. Klindworth, MD, clinical assistant professor of family and community medicine, Beulah.
- Nadim Koleilat, MD, clinical associate professor of surgery, Bismarck.
- Kathleen M. Perkerewicz, MD, clinical assistant professor of obstetrics and gynecology, alumnus (MD Class of 1999), Bismarck.
- James B. Ragland, MD, clinical professor of clinical neurosciences, Bismarck.
- E. Dexter Scott, MD, FRCS, clinical instructor of surgery, Minot.
- Jeanette M. Viney, MD, clinical professor of surgery, Bismarck.

As a community-based medical school, the UND School of Medicine and Health Sciences relies on almost 1,000 part-time or volunteer faculty in over 30 communities throughout the state to educate medical students and residents. Two out of three of the state's physicians assist the school in teaching the patient-centered curriculum and conducting performance-based assessments of the professional competence of the 252 students enrolled in the four-year Doctor of Medicine program.

graduate from the UND Physician Assistant (PA) Program. The graduates participated in a special hooding ceremony on May 11. The medical school has more than 1,600 graduates from the PA program. To read more and for a complete list of graduates, please visit <http://bit.ly/1MeWG6>.



Dean Joshua Wynne, Myra Quanrud, and Meredith Reisenauer



Dean Joshua Wynne, Christopher Irmen, and Elizabeth Blixt

UND doctors receive Humanism in Medicine Awards

Myra J. Quanrud, MD, clinical associate professor of pediatrics at the University of North Dakota (UND) School of Medicine and Health Sciences Southeast Campus in Fargo, was honored with the prestigious Leonard Tow Humanism in Medicine Faculty Award at the medical

school's commencement on May 13. Christopher P. Irmen, MD, a 2012 UND medical school graduate, received the Tow award for graduating medical students. To read more, please visit <http://bit.ly/KmOgOt>.

UND lauded for percentage of grads choosing family medicine

Ten medical schools that have contributed the most to the pipeline of family physicians were honored when the American Academy of Family Physicians (AAFP) presented its Top Ten Awards during the Society of Teachers of Family Medicine Annual Spring Conference on April 27 in Seattle. The awards recognize schools that, during a three-year period, graduate the greatest percentage of students who choose first-year family medicine residency positions.

The University of North Dakota (UND) School of Medicine and Health Sciences (SMHS) is one of the top medical schools in the country for producing family medicine physicians, with 18.1 percent. The overall U.S. match rate for family medicine this year is 8.4 percent, according to the AAFP, and thus the SMHS produces more than twice the family physicians per class as the typical medical school in the United States. The other regional school recognized by the AAFP was the Sanford School of Medicine of the University of South Dakota, with 15.2 percent; the University of Minnesota was not in the top ten this year. To read more, please visit <http://bit.ly/ISregh>.



Jane R. Dunlevy, PhD, and Jennifer Larson

Larson receives Achievement Award from Society of Toxicology

Jennifer Larson was awarded the Women in Toxicology Graduate Student Achievement Award at the 2012 Society of Toxicology (SOT) meeting held in San Francisco, Calif. The Bismarck, N.D., native is a fifth-year graduate student in the Department of Anatomy and Cell Biology at the University of North Dakota School of Medicine and Health Sciences. Jane R. Dunlevy, PhD, is Larson's faculty mentor. To read more, please visit <http://bit.ly/K8DXkl>.

Two Your Health

Meet the newest members of the School's leadership team.

By Juan Pedraza



Joycelyn Dorscher, associate dean for Student Affairs and Admissions, and Raymond Goldsteen, director of the Master of Public Health Program, contribute critical expertise to the School.

Joycelyn Dorscher

Associate Dean for Student Affairs and Admissions

Joycelyn Dorscher, MD, earlier this year accepted the position of associate dean for Student Affairs and Admissions. An enrolled member of the Turtle Mountain Band of Chippewa Indians, Dorscher brings the vital perspective of diversity and her experience as a practicing family medicine physician to the table.

"The UND School of Medicine and Health Sciences has such a strong reputation," Dorscher said. "I am honored to be a member of the administrative team, where core interests are the success of students and the needs of communities."

Dorscher joined UND from the University of Minnesota Duluth, where she was director of the Center of American Indian and Minority Health and an assistant professor in the Department of Family Medicine and Community Health.

Dorscher spent her early life in North Dakota; her parents Conrad and Lucille (Belgarde) Dorscher grew up in the state, and she still has many family members throughout North Dakota.

"Dr. Dorscher combines a passion for student education with a quest for excellence that will resonate with our students" said Joshua Wynne, MD, MBA, MPH, UND vice president for health affairs and dean of the School of Medicine and Health Sciences. "She is an eloquent and seasoned clinician-educator. We are delighted that we were able to recruit her to the School."

Dorscher earned her Doctor of Medicine from the University of Minnesota School of Medicine. In addition to her MD degree, she holds a Bachelor of Arts degree in Medical Technology from the College of St. Scholastica in Duluth. Dorscher maintains an active clinical practice to keep her close to patient care, most recently with the Mille Lacs Band of Objive Outpatient Clinic in East Lake, Minn.

She chose UND as her new home because of its reputation.

"As an institution, UND works very hard to choose not only the best and the brightest students for this educational opportunity but also those individuals who represent the future professionals who will one day fill the health care needs for North Dakota (rural and urban areas) as well as Native American communities across the nation," Dorscher said.

"To support the development of these future health professionals requires that they be nurtured in a way that they feel supported through this difficult educational process while at the same time assisted in their professional development so that they can take their place in society as

well-prepared, well-educated, dedicated, and professional physicians," she said.

As a leader in a broad array of public health organizations and foundations in the Upper Midwest, Dorscher provided her medical expertise to help prevent cancer, heart disease, and tobacco abuse, as well as to improve child care and American Indian health. She is active in medical research, with a focus on American Indian communities.

Dorscher last year won the YWCA Women of

Distinction Award, which recognizes women who embody the mission of eliminating racism, empowering women, and promoting peace, justice, freedom, and dignity for all. The University of Minnesota honored her in 2007 with the President's Outstanding Service Award for her local, state, and national efforts to promote diversity in medical education.

Dorscher has held appointments at St. Luke's Hospital System (Duluth) as an urgent care practitioner. She was also

a member of the At-Risk Population Project Tribal Meeting Advisory Committee and is cochair of the Fond du Lac Reservation Cancer Team among many other appointments and memberships.

Her work as a youth mentor has won her acclaim, too. Dorscher won the 2005 Minority Access National Role Models, Minority Access Inc., Las Vegas, Nevada, Award for Exemplary Achievements in Motivating, Counseling and Guiding Others. Minority Access, Inc. is a non-profit educational organization that supports individuals, institutions, federal, state, and local government agencies, and various corporations to diversify campuses and worksites by improving the recruitment, retention, and enhancement of minorities.

Her current successes were signaled early. Dorscher was the 1994 Intern of the Year at St. John's Family Practice Residency, voted by nonphysician hospital personnel to be the first-year resident with whom they like working with the most.

Dorscher was cochair of the Duluth American Indian Commission for three years with Michelle Gordon and a member of the Commission for a total of eight years. The Commission's primary goal is to act as an advisory group to the mayor of the city on issues affecting the American Indian community, the largest minority population in Duluth.

“The UND School of Medicine and Health Sciences has such a strong reputation.”

Raymond Goldsteen Founding Director of UND's Master of Public Health Program

“We’re looking to become the best program with a **rural health care focus**—a relatively small program with a national reputation.”

With his freshly minted diploma, Raymond Goldsteen launched a career at age 17 as a medical technician in a Philadelphia hospital. He put eight years into that job before beginning his academic career at Columbia University in New York, where he majored in history. Later, his early health care experiences would draw him into public health and academia.

Goldsteen is the new—and first—director of the Master of Public Health Program at UND. He comes to UND from the State University of New York (SUNY) at Stony Brook, where he was professor of preventive medicine and founding director of the Graduate Program in Public Health.

The North Dakota State Board of Higher Education approved a new Master of Public Health Program to be offered jointly by North Dakota State University and the University of North Dakota in November 2010. Full implementation of this collaborative academic program occurs this fall.

“My work in the clinical side of hospitals exposed me to a number of problems in medicine that could be addressed through public health,” said Goldsteen, an authority on MPH program development and management and the coauthor of a critically acclaimed text *Introduction to the U.S. Health Care System*, now in its 7th edition, and *Introduction to Public Health*, both published by Springer Publishing.

“It became clear to me during this time that I wanted to pursue a career in public health because I thought that it could make a difference in the number of people who needed medical care as well as maintain and improve the health of people overall,” Goldsteen said.

Goldsteen was first drawn into a major public health crisis when the Three Mile Island nuclear power station suffered a partial meltdown.

“I was ready to begin my dissertation research when the accident occurred, and it inevitably became the subject of my dissertation after I initiated a study of the event’s impact on surrounding communities and populations,” said Goldsteen, who cowrote a major study of the community health repercussions of the Three Mile Island accident shortly afterward. This book is still in print. His research was also the basis of the report on the accident’s behavioral and mental health effects on nearby residents, which was prepared by the President’s Commission on the Accident at Three Mile Island.

Later, a three-year stint as a uniformed officer of the U.S. Public Health Service in Baltimore solidified Goldsteen’s commitment to public health. From there he dove into a career in the academic side of public health—a move that included the public health program at the University of Illinois. He’s been in the academy ever since.

“I’ve seen up close several key challenges in health care—first, I noticed that we’d see the same people coming into the hospital over and over, being treated for the same health problems,” Goldsteen said. “That’s no way to run a health care system. It’s expensive, and with so much money going into treatment for the same people and the same conditions, we reduce funding for other productive activities in our economy. And for the individuals themselves, there is tremendous cost in terms of financial well-being and quality of life. These are systemic problems.”

“When you’ve got systemic problems such as we have in our health care system, you need a systems approach to solutions,” said Goldsteen. “Public health emphasizes systems thinking and primary prevention of health problems in partnership with the

medical community and others.”

In his role as director, Goldsteen will be raising awareness about the value of public health and the health problems that can be addressed through a public health approach.

So why move from a successful MPH program at SUNY Stony Brook—with 25,000 students in a cosmopolitan area of about 3 million people—to North Dakota, with less than one-third that population?

“I was attracted to the University of North Dakota School of Medicine and Health Sciences because of its national reputation in family medicine and rural health,” said Goldsteen. His wife Karen, a PhD and longtime academic collaborator with her husband, has received an appointment to the UND Center for Rural Health.

“People of North Dakota are relatively healthy compared to residents of other states, and I was interested to find out why and discover ways to improve it even further and perhaps export this knowledge outside the state,” Goldsteen said.

“I was also very impressed that Dean Joshua Wynne holds, in addition to his MD and MBA degrees, a Master of Public Health,” Goldsteen said.

Learning that President Robert Kelley has knowledge of public health from former positions as well made it clear to Goldsteen that the UND leadership understands the value of a public health program.

Additionally, Goldsteen says, it was clear that the university system’s leadership and policy makers in Bismarck saw the need for an academic public health program to serve the practical needs of public health in the state.

“We expect that this program will attract many professionals, including physicians, physician assistants, advanced practice nurses and other health professionals, MBAs, law school students, and others to joint degrees, such as the MBA/MPH and, of course, in our medical school, the MD/MPH,” Goldsteen said. “These people will enrich their fields and careers with

exposure to public health knowledge and practice.”

Among his broad menu of duties as director, Goldsteen holds a teaching appointment.

“I plan to teach, with Donald Warne, the MPH director at NDSU, the introductory public health course this fall,” Goldsteen said.

Goldsteen also plans to continue an intensive program of research.

“My basic public health interest now is early intervention in the newborn-to-five-year-old population,” Goldsteen said. “Early intervention focuses on primary prevention, and that’s by far the best investment.”

Ultimately, Goldsteen said, it’s about putting the new Master of Public Health Program on the map.

“We’re expecting to become the best MPH program with a rural health focus—a small, high quality program with a national reputation,” Goldsteen said. “I think that as a result of the collaboration between the two state universities, we’ll advance the field and improve health in rural populations in the northern Great Plains.”



Raymond Goldsteen



Joycelyn Dorscher

Super Computers

The School's statistical duo make sense of the numbers for students, faculty, and researchers.



Survey design, collection, analysis, and reporting enable the School's leaders to "make smarter decisions, solve problems, and improve outcomes."

By Juan Pedraza

For statisticians Clint Hosford and Kurt Zhang, there's nothing casual about "how's it going?"

Hosford, who works for the School's Office of Medical Education, and Zhang, a bioinformatics expert and biostatistician in the Department of

Pathology, focus their professional expertise on accurate answers to that question.

Hosford works with data mostly derived from surveys of students and teachers and student data such as test scores. Once he's satisfied with the

analytical results of a particular questionnaire or survey, he reports to the people who decide about the content and delivery of courses taken by the future physicians enrolled at the SMHS.

"This job is first about collecting a lot of data—from students, from teachers," said Hosford, a graduate of UND's PhD program in research methodologies. It's painstaking work, and people like Hosford, with the intense preparation required for the numbers-oriented PhD he has, are the ones who do it.

From all of that data flow, Hosford produces reports for the School's leadership so that they can tweak—or revamp—medical education programs as needed to keep UND at the peak of its educational form.

"Primarily, what I do is geared to program evaluation, which is different from academic assessment. This means that I collect a lot of data related to our medical education program," said Hosford, who spent nearly 10 years as a practicing physical therapist at a hospital in Williston, N.Dak.

Designing the survey is just as important as collecting results.

"I design surveys so that they accurately measure what medical students are thinking about the courses they take during their four-year program of study at the UND School of Medicine and Health Sciences," Hosford said.

"I'm responsible for collecting, analyzing, and reporting these data; the reports give various stakeholders insight into how things are going for UND medical students. We get a lot of this feedback from students through surveys and questionnaires."

Of key importance are the evaluations of lecturers—especially first-time lecturers—and facilitators for PCL (patient-centered learning) groups.

"In all of this—whether we're doing formative or summative evaluations—we're looking for feedback from students, and at the same time, we get performance data that tell us how students are doing," said Hosford, who, in addition to his analytical duties also teaches graduate statistics courses. "We

all want to know that what they are learning is what we think we're teaching them. We're always interested in improving our performance in this area without disrupting the flow for our students."

The difference between formative and summative evaluations (or assessments) boils down to an analogy written by Robert Stake, a nationally known University of Illinois expert on education evaluation: "When the cook tastes the soup, that's formative; when the guests taste the soup, that's summative."

Hosford earned his PhD at the UND College of Education and Human Development in research methodologies with an emphasis in statistics.

Today's statistician, he notes, does a lot more online.

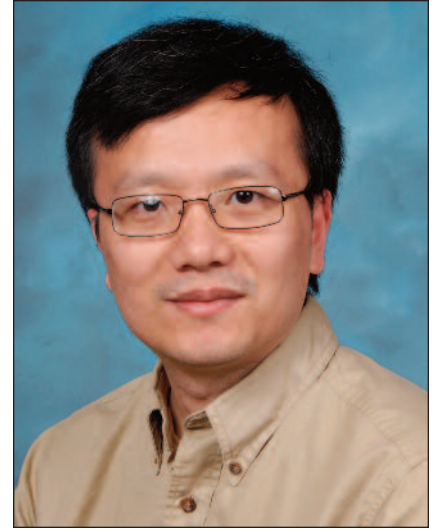
"In fact, I worked with software developer Eric Walters in the School's Information Resources Department to develop a proprietary Web-based survey tool that streamlines the data-collection process," Hosford said. "We get a lot of information about our medical program direct from students keystroking answers to surveys. This software automates a lot of the survey work—students and teachers both use the same system to fill out our surveys.

It's automated and even does the analysis so that we can produce reports more efficiently."

No matter how the data are gathered, analyzed, and reported, the results are routinely compared year to year, across campuses, to accreditation standards, or national trends.

"Thus not only are we looking at what we do internally, comparisons help us figure out where we stand nationally, and we can use the results to make smarter decisions, solve problems, and improve outcomes," said Hosford, who describes himself as an applied, as opposed to a theoretical, statistician.

"What I do is work on a statistical window into what we do," Hosford said. "It's all about constantly evaluating and improving the education of future physicians."



Kurt Zhang



Clint Hosford

Statistics in service of research

While Hosford works the evaluative side of the statistical service, Zhang is on the data-processing side, working with researchers in the School and across campus. He works mostly with an ultra-fast computer purchased by the North Dakota IDeA (Institutional Development Award) Network of Biomedical Research Excellence (ND INBRE), based at the School of Medicine and Health Sciences Department of Pathology.

"I spend most of my service time doing computing work, basically running the University's supercomputer, which is right down the hall from my office," said Zhang, who hails from Changsha, the capital city of Hunan province in China. He also works with bioinformatics, a related and equally complex profession.

"Well, the computer is not really 'super,' but it's very powerful," said Zhang, who got an undergraduate degree in biology in China and a master's degree in computer science and a PhD in theoretical statistics from Kansas State University–Manhattan. "Our computer has 32 cores and can simultaneously run 64 operations with 500 gigabytes of memory—I'd say that it's the most powerful computer on campus right now."

Good thing, too, because research demands for fast computing increase daily, especially in the biosciences, the main focus of research at the SMHS—one reason why UND has already authorized the purchase of an even faster computer that'll be installed in the soon-to-be-built state data center on campus.

"I originally came out of biology, biochemistry, and molecular genetics, but since grade school, I've always been interested in math," said Zhang. "So I developed an interest in using computational statistics and computer power to solve biological problems. My professional focus has been in both bioinformatics and biostatistics."

Briefly, bioinformatics is computer science and information technology applied to biology and medicine. Biostatistics is the application of statistics to biology and medicine; it includes the design of biological and medical

experiments and the interpretation of experimental results.

"A big problem for biomedical researchers—and other scientists, too—is first how to design an effective experiment and then how to analyze the data produced by the experiment," Zhang said. "Biological research is generating data faster than computing power can keep up, and researchers lack the time and expertise to make sense of those data. In fact, the data deluge is the limiting factor for most researchers."

What's the big deal?

It adds up to several key and closely related questions: how to collect, analyze, and interpret data.

"A major challenge for researchers is that journals increasingly are demanding that publications include robust and verifiable statistical support for research claims—you have to demonstrate statistical significance of your findings."

So, Zhang says, researchers recognize that accurate and thorough statistical analysis is essential to the success of the research project, and to the successful publication of their results.

"So collaboration is a major part of my job, whether I'm helping a researcher design his or her research project or grant application, or whether I'm working with someone on my own research," said Zhang, who is professionally competent in more than 10 computer languages and fluent in several, including C—considered the fastest language—and R, a statistics-focused language.

"Researchers today need statisticians to design experiments or clinical trials so that they get useful results," Zhang said. "For example, a physician needs to calculate the optimum number of patients to recruit for a clinical trial. I would help that physician both before and after the trial, sort of a quality control process. The before is actually the more important phase of experiment design—if the design is faulty, then it's nearly impossible to get good data. Flawed design leads to failed experiments."

Thus, Zhang said, it's critical for researchers to include a statistician in their planning before the research starts.

"Even before you submit your grant proposal," he said. "After that, if you don't have a good design, it may be impossible to salvage an experiment or clinical trial. Today, scientists from all of our departments come to us for help: pathology (where my lab is located), biochemistry, physiology, pharmacology, and therapeutics, biology, and now, atmospheric sciences and others across campus."

People come to Zhang for help big and small.

"Some people come here with questions that are easy to answer: they're looking for the proper test procedure or to set up an experiment. Those kinds of challenges I can mostly deal with quickly," Zhang said. "At the other end of the spectrum, I get questions, especially involving genetics, that can take substantial time. We're talking experiments that generate terabytes of data—that's thousands and thousands of gigabytes, or trillions of bytes! Some of these data take a month or more to process, working all 32 processors in our supercomputer 24-7. One recent example—we found a code error toward the end of the run and had to start all over again."

Zhang said the pressure to boost computing power is intense.

"The emerging science of next-generation gene sequencing is incredibly complex; for example, in analyzing short sequences of the genome from cancer patients, just trying to find the relationship between the gene mutation and the disease requires a lot of computing power," Zhang said. "I have 100 terabytes of data on my server, and I'm constantly purchasing more disks."

The challenge is that current computing science is close to the physical limits of data-processing speed even as biodata accumulate at an ever-increasing clip.

Moore's law is at work.


"It was developed by Gordon Moore, a cofounder of Intel, who said that the number of components in an

integrated circuit doubles every 18 months to two years," Zhang said.

"But that's not nearly fast enough for us—the biosciences data increases at five times that rate, so we've hit a choke point," Zhang said. "Traditional computing is putting more and more components on smaller chips, but we're still using the same basic technology developed 30 years ago. Meanwhile, biotechnology has undergone several revolutions—we're already on second-generation gene sequencing and a third generation is emerging."

The answer lies in new computing technology, such as the Data Vortex system, which UND recently decided to adopt and will be installed in the new data center being constructed on campus this year.

Ultimately, computational statistical masters such as Zhang figure they've got a few tricks, too.

"We're designing new software, including a package that will make it user friendly," Zhang said. "We're considering speed as a major factor, and we're very excited about what we're doing here at UND." 

Federal Rural Health Outreach Grants—Reaching Out in North Dakota



Federal investment in cooperative programs leads to local health solutions.

By Kristine Henke

Since the Rural Health Outreach grant program started in 1991, 25 grants have been awarded to various rural organizations in North Dakota. This federal grant program is specifically designed for rural communities. All applicants must be rural and non-profit organizations. Another key factor is that three separate organizations must work together to address local or area health issues. By working together and sharing resources, ideas, and skills, there is a greater opportunity for a positive effect. In the 20-plus-year history of the Rural Health Outreach Grant program, over \$14 million has been invested in rural North Dakota to improve health access and outcomes.

One program funded in 2000 through an Outreach grant is Pathways to Healthy Lives in Dickinson, N. Dak. Pathways to Healthy Lives is a community-based program aimed at reducing the risk of cancer and cardiovascular disease as well as detecting them as early as possible. Pathways offers free cancer screening to residents who live in the eight-county area the program serves. The objective of this program is to increase accessibility and reduce the distance people must travel to receive screenings. Pathways covers the counties in “west-river,” the eight counties west of the Missouri in southwestern North Dakota. The local


partnership involves leadership from the public health district, hospital, and community action agency in Dickinson. The Rural Mental Health Consortium (RMHC or Consortium) based out of Minot, N.Dak., is a collaboration of what was formerly UniMed Medical Center, which is now Trinity Health in Minot, Kenmare Community Hospital, St. Aloisius Medical Center in Harvey, St. Andrew's Health Center in Bottineau, and Presentation Medical Center in Rolla.

The RMHC started in 1991 with a \$50,000 Community Transformation grant, funded by the Centers for Disease Control and Prevention. This initial funding allowed the founding members of the Consortium to find what was already in existence in rural North Dakota in terms of mental health care; what, if any need there was for care; and provide mental health education to schools and health care providers in the serviced areas. As a result, when the initial providers associated with this program went to local emergency departments to provide education to staff, the emergency department staff reported a decrease in the number of crisis cases they see because of the earlier intervention by other health care professionals. Through this work, the Consortium discovered there was a huge need for mental health care in the rural communities serviced by the participating members.

The Consortium was able to build sustainability and provide services with an Outreach grant they received in 1994. This \$500,000, three-year grant gave the Consortium the opportunity to hire clinicians to provide mental health care to rural North Dakotans who received care from any one of the hospitals who are members of the Consortium. The Consortium found willing and qualified local individuals, and educated or sent them to be trained as advanced practice registered nurses.

Collaboration is key to the vitality of the RMHC. The participating health care entities provide office space, information technology support, financial and benefit management, and a "liaison" who is a full-time employee

in another capacity, but takes on the task of coordinating and scheduling mental health appointments. Eighteen years after its first Outreach grant, the RMHC is no longer depending on federal grant dollars to carry out their work. Today, it is sustainable from revenue earned from client appointments. Julli Nissen, business manager for the Consortium, said, "This is successful for us, but challenging. When we are able to provide services through a contract, we are fulfilling a need in areas that do not have providers." Unfortunately, if one day the Consortium has a provider driving to a rural facility and then they have several cancellations, this ultimately affects their bottom line. In addition to this, the Consortium's mental health providers put on a lot of miles each way to get to their clients. This can eventually add up to burn-out, which results in having to search for new providers, who can be few and far between. In addition to the financial burdens from the business side, Nissen shares that available means of payment are becoming more difficult for people to find. This can include anything from lack of health care insurance or other means to pay for services, insurance deductibles that are too expensive, or insurance policies lacking mental health coverage altogether.

Rural health leaders have channeled their best thoughts and ideas through start-up grants like Rural Health Outreach so they can better address local health needs. Thanks to seed money from federal grant sources, the Rural Mental Health Consortium and Pathways to Healthy Lives continue to be great examples of investing in local solutions through collaborative efforts. 

Band of Doctors

By Christen Furlong

India Ink, a band of mostly medical students, makes its mark on the local music scene.



Tom Miskavige, MD Class of 2012, strikes a chord in discordant garb while performing at Springfest (photo courtesy of Cullen Donohue).

You might have seen them at Springfest in Grand Forks, rocking the bandstand in the early afternoon in bright, spring clothes and animal suits. A crowd formed early in their performance, and by their last song, India Ink had fans screaming for more.

The unique aspect of India Ink revolves around their ties to the UND School of Medicine and Health

Sciences. The band was originally formed in the winter of 2010 just before the annual UND SMHS Talent Show, which takes place every January. The original band consisted of seven medical students who all, coincidentally, play different instruments: Tom Miskavige on lead guitar, Charlie Lenz on lead vocals, Andrew Swenson and Michael Greenwood on bass, Erica and Brian

Sauer on keyboard, and Justin Ferragut on drums. "Tommy's always been the boss who put it all together, but it just turned out that we had enough people in our class to make a whole band," said Lenz, originally from Duluth, Minn.

Since 2010, Sauer and Greenwood moved on to their first year of post-graduate residencies, and several of the other members have gone their separate ways. But that didn't stop India Ink from continuing to perform. Today, the band has six members, not including guest singers and musicians who often join them onstage. Two of the members, Jessica Burkholder and Mark Hovland are undergrads majoring in biology. Hovland plans on undertaking the path set down by his future bandmates, and Burkholder plans to apply to the Physician Assistant Program this summer.

As a Grand Forks native, Miskavige uses his connections to build not only a following for India Ink but also a foundation for concerts and appearances for the band. His persistence landed him a very rare opportunity to play a show at downtown's Joe Blacks, an establishment that typically refuses to host musical events. The band remembers the show fondly as one of the most entertaining performances of the season. Miskavige's promise to establishment owners and event coordinators is simple: "You won't be disappointed."

The band name, India Ink, might sound unusual, a theme that resonates happily with music fans, but to the members, it has a particular medical significance. India ink, at its most basic form, is composed of a very fine variation of soot that when combined with water forms a liquid great for use in pathology and microbiology with surgically removed tissues to maintain their orientation or in staining microorganisms on microscope slides. Medical students find themselves using India ink during their second-year in the School, and the band members had to rely on memory and one another to remember where they first encountered it. "I just remember coming across it, and I thought that's actually a pretty cool term," said Miskavige. "It didn't

look like a medical word. It was something people could understand, but it had a meaning to us."

As they've passed through the years of medical school, learned more songs, and played more venues, the band has developed a following. "People who come to our shows, come to every show," said Andrew Swenson. "We can always count on our crowd being there. Part of that is because medical students are such a tight-knit group." After graduation, Swenson will be moving to Grand Rapids, Mich., to begin his residency in emergency medicine.

At this year's Springfest, the band rocked the stage by wearing flamboyantly colored outfits and animal suits, and with their over-the-top dancing that the crowd loved. "We look like idiots, but there'll be a big crowd," Miskavige predicted a few weeks before the show. All the members agree that dressing up is all part of the fun of Springfest.

India Ink has accepted its inevitable fate of dissolution after this spring as most of the members spread out across the Midwest for their residencies, but fans hope there will be a reunion somewhere in the near future. Tom Miskavige will be doing his residency in internal medicine at Abbott Northwestern Hospital in Minneapolis and then hopes to move on to cardiology. Charlie Lenz also plans to do his residency in internal medicine at the Mayo Clinic, and hopes to keep some of the band going while he and Miskavige are relatively close in location. Eric Jacobson, a Fargo-native somewhat new to India Ink after being recruited after January's talent show, is only in his second-year of medical school and is unsure of what he intends to do after graduation.

The band has a Facebook page, <https://www.facebook.com/IndiaInkBand>, where fans can get to know the group, check out photos, or spot a lucky clip from a recent show. 🍷



“It just turned out that we had enough people in our class to make a whole band.”

Helping Hands

Occupational Therapy professors keep young vet on the march toward his degree.



By Denis MacLeod

Steven Huft, Anne Haskins, and Izaak Schafer. The flag in the case on the shelf behind them flew over Schafer's base overseas.

World enough and time separate Izaak Schafer from his occupational therapy teachers at the School of Medicine and Health Sciences—almost seven thousand miles and nine time zones. Yet, that doesn't come between him and his work to become an occupational therapist. Staff Sergeant Schafer has been stationed in Kuwait since July 2011 with the 1st Combined Arms Battalion, 194th Armor, a Minnesota Army National Guard Battalion headquartered in Brainerd. The 1-194 CAB is on a one-year deployment in support of Operation New Dawn, the drawdown phase of U.S. military

operations in Iraq, which is the second largest deployment of the Minnesota National Guard since World War II.

Originally from Staples in north central Minnesota, Schafer's first love was football, where in high school he played defensive back and receiver. The 9/11 attacks occurred when he was a junior in high school, after which he felt the call to serve in the military and began talking to a recruiter. "I felt obligated to go in; that it was my job," Schafer said. "I didn't feel I was being a patriot, but that everyone needed to do their part." At the same time, Schafer also was drawing the interest of college

coaches at Bemidji State, Moorhead State, and Concordia to play football for them, but “I wanted to try my luck at UND, because all three of my brothers attended school at UND.” His brothers Josh and Mike are pilots with Pinnacle Airlines, and his brother Ben is a mechanical engineer with Caterpillar Inc. Josh and Mike developed their interest in aviation from their dad who was a private pilot.

“So I figured I could try to walk on at UND,” Schafer said. “If I wasn’t successful, I would go into the military.” Schafer came to UND in 2003. “When I realized I wasn’t big enough to play, I decided to go into the National Guard, where I could attend school and get my degree but also serve my country.” After his first semester, at age 19, he enlisted. “I took a semester off and went into the military.” Schafer signed on for a six-year enlistment on January 9, 2004, and completed basic training at Fort Knox, Ky., on July 23, 2004. He came back to UND for the fall 2004 semester. Schafer’s family has a history of military service from his grandfather, who was a Seabee during WW II, to his brother, Mike, who was deployed in Bosnia when Schafer joined the National Guard.

As an undergraduate, Schafer did maintenance work at the UND Wellness Center when it opened in September 2006. After a year and a half at the Center, he became a personal trainer when a position opened up. After graduating from UND with a Bachelor of Science in Physical Education and Exercise Science in December 2007, he was recruited by Lifetime Fitness in Maple Grove, Minn., to be a personal trainer. Schafer is a certified strength and conditioning specialist. He worked for five months when “I realized the work wasn’t the right path for me,” Schafer said. “I worked with rehabilitation of post-surgical patients whose insurance wouldn’t cover further rehab; they came to Lifetime to continue their rehab. I looked at cardiac rehab at first and found occupational therapy through a friend who was attending UND at the time. While I was at Lifetime Fitness, I

worked with a 32-year-old client who had bypass surgery. His goal was to live to see his two-year-old child turn 18.” Encounters like this affected him more than working with people who were already in shape and wanted to maintain or reach the next level of fitness. “Those clients were fun to work with, but it didn’t mean as much to me. When I started working with people who really needed more help just to live every day is what drew me to occupational therapy.”

He chose occupational therapy because “I liked how they worked on everyday activities,” Schafer said. The clients he enjoyed the most when working at Lifetime Fitness were the “clients who wanted to be able to play with their kids again.” Schafer had spoken with Amos Harstad, a friend who was an occupational therapy graduate from UND, who told Schafer to give it a shot and shadow an OT. In the summer of 2008, Schafer shadowed an occupational therapist at the hospital in Staples for a couple of days, preparing the ground for pursuing a career in OT. “I knew the staff at the hospital from working with them for my internships in the exercise science program as an undergraduate. What excited me about OT probably was while I shadowed the OT in Staples. I saw how she built a rapport with her clients; she built a relationship with each one. Clients came in and enjoyed being there. They were excited to see her. That’s what I loved when clients came in while I was a trainer: that they were excited to be there. Every time I shadowed her, her clients were excited to be there. They were making improvements; they were accomplishing their goals of doing meaningful activities again. She listened to her clients’ needs and wants, striving to meet their goals rather than some arbitrary goals.”

His sights now clearly focused on occupational therapy, he came back to school in the fall of 2008, dedicating a year to complete the prerequisites for entry to the OT program, which included shadowing OTs around Grand Forks and again in Staples. For Schafer,

“ I didn’t feel I was being a patriot, but that everyone needed to do their part.”

““ My professors made my life easier.””

attending UND and serving in the military seem to go hand-in-hand: after his six-year commitment, he re-enlisted in the Guard in March of 2009. He started in the OT program in the summer of 2009. He would have graduated in May of this year but his overseas duty with the Guard pushed back his graduation. At the end of his deployment, he will complete classes and required fieldwork this fall and next spring, and then pursue an optional fieldwork internship, with plans to graduate in the summer of 2013.

Schafer believes joining the military was the right decision. “You can’t beat the benefits the military provides, especially when it comes to pursuing my education,” Schafer said. But it wasn’t the reason he enlisted the second time. “The camaraderie that I developed with the guys is what drove me to enlist for another six years in March 2009. I developed lifelong friends in basic training and at leadership schools I attended. During my overseas deployment, I got to meet a lot more people from across Minnesota who were needed to fill out our battalion for our overseas mission. My second enlistment wasn’t because I was gung-ho. I came into the military because of patriotism, but I stayed in because of the guys around me. I reenlisted knowing that we would be overseas. Elizabeth wasn’t happy about it, but she understood why I did it for the guys. I felt like I would be turning my back on them if I left the military.” The 27-year-old Schafer celebrated his second wedding anniversary in May with Elizabeth, who is a licensed practical nurse. Their son William was born March 15, 2011. “He is the reason I took my leave so late in my deployment, so I could be back for his first birthday.”

Schafer is also honest about the sacrifices required in serving your country. “Yes, the time it takes away from your life—family life and school,” Schafer said. “I don’t think there was a semester in school where I didn’t have to meet with my teachers to arrange for time away from school: my unit was called on to provide security for the

Republican National Convention in Saint Paul and for the Presidential Inauguration in January 2009. They don’t give you a lot of notice. I would get a call on Wednesday and have to report for duty on Friday morning. That is one of the things I am thankful for in going to school at UND. Everybody understands and is willing to work with you. I have not had a bad experience working with a teacher to get an exception made for a test or a class. When I went to the inauguration, I was going to drop a class, but I didn’t get it dropped before the deadline because I was gone. I talked to the people at UND; they said they understood the circumstances and let me drop the class without being charged.”

Anne Haskins, PhD, OTR/L, associate professor in the Department of Occupational Therapy, is Schafer’s advisor. Since Schafer has been deployed, he has been working with Haskins and Steven Huft, his thesis partner, on their senior-year scholarly project titled “Role Transitioning for Athletes Coping with Injury and Occupational Loss,” which explores getting occupational therapy involved with athletes who fear reinjury or who will not be able to play again. Their project also took into account the transition high school athletes must make to compete at the college level. “Dr. Haskins would set up Skype meetings with me in Kuwait and stuff like that to work with me on my project and review course material,” Schafer said. “OT faculty came into work early just so they could Skype with me before I ate supper or went to bed. The time difference is nine hours ahead between Kuwait and North Dakota. All my professors, Dr. Jedlicka, Dr. Fox, and Dr. Zimmerman constantly e-mailed articles to me so I stayed up to date on OT practice, which will help me next year when I take my certification exam.”

Upon graduation, if he doesn’t go active duty with the military in OT, Schafer might specialize in hand therapy, an interest sparked by a week of shadowing an OT in hand therapy at Altru Hospital. Haskins background in



Izaak, Elizabeth, and William Schafer

orthopedics has influenced Schafer to contemplate orthopedics as a specialty, which would draw from his interest in exercise science. He also is considering psychosocial and inpatient rehab.

"I've heard from people in my unit who have struggled with their professors at their schools when they have been deployed," Schafer said. "My professors made my life easier. I just want to thank the faculty in general at UND, the faculty in the Department of Occupational Therapy as well as the faculty in Physical Education, Exercise Science, and Wellness for how well they worked with me over the years. For the amount of time I've had to miss for the military, I appreciate how understanding and helpful they have been. It would have been a lot more stressful without their help. For example, last semester before I left for

overseas, they let me take my tests two weeks in advance. They allowed me to work ahead of classes, do my presentations earlier just so I could spend another week with my family before I left. Things like that made it easier for me and my family to deal with preparing to be deployed."



ALUMNI NOTES

'00s



Jessica Carlson, MD '08, recently became board-certified through the American Board of Family Medicine. Carlson practices family medicine at Medcenter One in Bismarck.



Becky Dockter, MPT '01, has been hired by Orthopedic and Sports Physical Therapy in Breckenridge, Minn. Dockter specializes in lymphedema management as well as postural restoration techniques.



Jill Klemin, MD '07, recently became board-certified through the American Board of Family Medicine. Klemin practices family medicine at Medcenter One in Bismarck.



Jonathan Haug, MD '01, was recently appointed to a four-year term on the North Dakota State Board of Medical Examiners by North Dakota Governor Jack Dalrymple. Haug is an anesthesiologist and chair of the Department of Anesthesiology at Altru Hospital in Grand Forks.



Rebekah Tompkins, MD '06, recently joined the team at Sanford Health in Wahpeton, specializing in obstetrics and gynecology.



Gretchen Fawcett, PA '01, recently received the Physician Assistant Hero Award from *Health Monitor* magazine, which is affiliated with the American Academy of Physician Assistants. "Gretchen is not just a physician assistant," said the patient who nominated her. "She is my, Friend, my Angel, and my Hero!" Fawcett works for Table Grove

Family Practice in Table Grove, Ill. Read more at <http://bit.ly/LsRcry>.



Joshua Gapp, MD '04, has joined KDL Pathology, a privately held specialty pathology group that provides comprehensive testing for skin and ophthalmic disease. Gapp is a member of the American Medical Association and the American Society of Dermatopathology.

Got news?

We want to hear it!

Please send your news items for the next issue of **North Dakota Medicine** to Kristen Peterson: kristen.peterson@med.und.edu or call 701.777.4305.

ALUMNI NOTES

'90s



Biron Baker, MD, '95, was recently honored through UND's More Than Beads and Feathers poster campaign, which this year featured nine successful American Indian graduates representing various majors at UND and the tribes of the state of North Dakota. Baker is a family practice physician at Baker Family Medicine in Bismarck. He is an enrolled

member of the Mandan-Hidatsa Tribe. For more information about the More Than Beads and Feather campaign, visit www.und.edu/americanindian/.

Irfan Vaziri, IM Res '92, began patient care in April at Perkins County Health Services in North Platte, Neb. Vaziri is board-certified in both oncology and hematology and will treat patients with all types of solid tumor cancers as well as those with blood disorders such as leukemia.



Kirsten Peterson, MD '87, recently began practicing internal medicine at Altru Health Systems in Grand Forks.

'70s

Kevin Fickenscher, MD '78, was recently appointed chair of the Intelligent InSites Healthcare Advisory Board. Intelligent InSites, Inc. is a provider of enterprise real-time location systems software, helping hospitals improve patient care and increase health care efficiency. Fickenscher is president and chief executive officer of the American Medical Informatics Association and the founder of CREO Strategic Solutions, LLC.



Genevieve Goven, MD '90, was recently appointed to a four-year term on the North Dakota State Board of Medical Examiners by North Dakota Governor Jack Dalrymple. Goven is a family practice doctor at the Sanford Health Valley City Clinic.

'80s



Richard Vetter, MD '88, has been elected to a two-year term as chair of the Dakota Medical Foundation board in Fargo.

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Native Son

Mayo physician has championed prevention and wellness for decades.

By Denis MacLeod

Donald Hensrud, his daughter Gabrielle, a junior at Century High School in Rochester, and SMHS Director of Development Dave Miedema pose in front of the Alumni Center. The Hensruds were on campus in April to tour UND.

In the early story of our lives, our life's purpose is sometimes dimly lit. People and experiences unbeknown to us will eventually help to illuminate our goal. Such was true of Grand Forks native Donald Hensrud, BS '80, BS Med '82, whose path to a successful medical career was enlightened by teachers and his family. He is chair of the Division of Preventive, Occupational, and Aerospace Medicine, and associate professor of preventive medicine and nutrition at Mayo Clinic College of Medicine in Rochester, Minn. Hensrud is certified by the American Board of Internal Medicine, the American Board of Preventive Medicine, and the American Board of Physician Nutrition Specialists, of which he is a past president. He was the editor of *The Mayo Clinic Diet*, a *New York Times* No. 1 best seller, and award-winning Mayo Clinic cookbooks, one of which won a 2005 James Beard Foundation award. He has three children: Gabrielle, 17, Alexandra, 13, and Isaac, 10.

"When I was in high school, I had a teacher who instilled in me an interest in medicine," Hensrud said. "He was kind of a role model. But I was intimidated after hearing stories about how difficult it is."

Hensrud's motivation to pursue medicine came from Clarence Thompson, his biology teacher at Central High School. "In my senior year, I took a course from him that he developed, it might have been the first year it was offered, called Medical Biology. He told me that he wished he would have gone into medicine. He really helped me out; he helped me get a scholarship at UND."

"I had a pretty modest background," Hensrud said. As a high school student, he worked at the Red Pepper restaurant, a local favorite of high school and college students. "Law didn't interest me, so the next best thing was engineering. I spent three years as an engineering student."

But thoughts of a medical career abided. "I did pretty well in engineering, and thought that maybe I could handle medicine. I had a talk with my mother,

and she encouraged me. After speaking with her, I decided to pursue what was really my passion."

"So I switched to premed, and did reasonably well." He graduated with a Bachelor of Science in Natural Sciences in 1980, and that fall started medical school at UND. Hensrud's sister, Tammy Hensrud, is also a UND graduate, receiving her Bachelor of Music in 1981 and a Master of Music as well as a Master of Arts in 1984. She was a Fulbright Scholar in Stuttgart, Germany; and performed in opera houses in Germany and across Europe as well as for the Cleveland Opera, Metropolitan Opera, and New York City Opera. She sang opera in Germany for eight years and has served on the faculty of Hofstra University since 2004 as an adjunct associate professor of voice.

Hensrud's incoming class was the last to have part of the class transfer out after two years of study. Nancy Furstenberg was the associate dean for Student Affairs. At that time, the School would get in contact with other medical schools to see if they had a position open or someone had dropped out or they were expanding. "UND had a good reputation, and they would work with people and send them all over the country," Hensrud said. "I wanted to go west. Dean Furstenberg encouraged Peder Svingen, myself, and others to apply to the University of Hawaii, and Peder and I ended up going."

"I am from Grand Forks, and spent seven years on this campus, and I loved it, but it was time to see something else," Hensrud said. "It took about a year to adjust, but once I did, it was a good experience." He received his MD from the University of Hawaii. While looking at residency programs, Hensrud remembers coming back to Grand Forks to talk to Reed Keller, chair of Internal Medicine from 1973 to 1991. "He was a wonderful person. He was an icon."

"I looked at a lot of programs, mostly on the West Coast. I liked Hawaii, so I decided to either stay there and go through their program and hang out at the North Shore or I was going to go to Mayo Clinic and get what I

“We’ve got to help people do what they can to improve their health in a realistic, effective, but enjoyable way.”

thought would be the best training.” He thought he would go to Mayo for three years and then go back to Hawaii. “But Mayo has a way of growing on you.”

For his residency, Hensrud was drawn to specialize in preventive medicine in part because of his background in athletics. “I played sports at Central for Dick Vinger and Ron Bergh.” As an undergraduate at UND, he pitched for Pinky Kraft’s baseball team. “Since I had switched majors, I went five years as an undergrad, and I stayed on as a TA assistant coach for Pinky during my fifth year. I remember UND President Tom Clifford had to sign off on my being a TA. I was a little intimidated, but what a guy. I walked into his office, and he said with a big smile on his face as he signed the agreement, ‘So you’re going to coach a little baseball for us this year? Good luck!’ I’ll never forget that.”

“Being in sports, I was interested in health in general,” Hensrud said. “At that time there wasn’t the emphasis on wellness as there is now. But, intuitively, staying active and good nutrition made sense to me. So I started getting interested in it when I was in college.” Hensrud developed a further interest in medical school. “I always wanted to do something in wellness and prevention and nutrition. I didn’t know what, because I didn’t have any mentors at that time. There was a lot of controversy and confusion and quackery out there. I wanted to try and do it the right way and get a good foundation. So I thought internal medicine would give me a good broad background.”

He completed his three-year internal medicine residency at Mayo, followed by a two-year preventive medicine fellowship also at Mayo, and a two-year nutrition fellowship at the University of Alabama at Birmingham, where he received his MS in Nutrition Science. Hensrud also earned an MPH

at the University of Minnesota. Hensrud’s medical and public health expertise and that of other physicians like him will be necessary on the frontlines of the health crisis facing the United States. On one side, the Centers for Disease Control, the Institute of Medicine, and others have partnered to sound the alarm about the nation’s obesity epidemic, whereas on the other side, Americans are inundated daily with images of the fantasy world of the “thinspiration culture,” where people look up to models as the ultimate cosmetic example to pursue rather than the path

of moderation and overall health.

“There are only a few supermodels in the world, but many millions of people with obesity,” Hensrud said. “We’ve got a real problem that has developed over the past 30 to 40 years with obesity and inactivity. We’ve got

to help people do what they can to improve their health in a realistic, effective, but enjoyable way.”

“Our environment has changed so much. Millions of people didn’t decide to gain weight. There are powerful forces that are determining this. Look at all the factors that influence what we eat. We’ve also engineered physical activity out of our lives. We are not working in the fields anymore. Even the people who are, are using technology. People are involved with computers, video games, and all kinds of ‘step-saving’ activities more than they are with physical activity.”

“It’s human nature in how we evolved. Five thousand years ago the person who ate the most and did the least activity was the one who survived. That’s our inner brain and we still think like that because way back then it had a survival advantage. We have to make a conscious effort to outsmart our limbic brain and those powerful drives that have helped to reshape the environment

“We have to make a conscious effort to outsmart our limbic brain and those powerful drives that have helped to reshape the environment and use that to our advantage.”

and use that to our advantage. I believe it was Einstein who said, 'We shall require a substantially new manner of thinking if mankind is to survive.' We have to reverse the inertia in the environment today regarding lack of physical activity and suboptimal nutrition."

Progress is being made, Hensrud admits, but he says it is challenging. "Academia, government, the private sector (businesses), health care and public health, and the built environment are all going to have to come together," he said. "Some companies actually have been the most aggressive, because they see their bottom line change. Ultimately that's the way the world goes around. Economics is going to drive this."

For Hensrud, effective change in the health of people is really a matter of getting back to basics. "Look at the things that we can change, the preventable causes of death: smoking is No. 1, diet, activity, and weight follow. Behavior change in these areas can have a much more powerful effect than people realize. The data are there. But there are objective data and there are subjective factors. And it is the subjective factors that often influence our behavior: what we grew up eating, food availability, cost, marketing, taste preferences, convenience, all those kinds of things. So I think we need to acknowledge the objective data, but also realize that we don't make changes based on that. We have to come up with effective ways to manage the subjective factors. It is ironic that I have gone to school for a long time to be able to tell people to eat more fruits and vegetables. But it's so powerful, and people don't realize the difference it can make in the long run; it's huge. You have to take that and present it in such a way that it motivates people. That it isn't drudgery. It can be a wonderful lifestyle. People say, 'When I was more active, I felt better.' We should use examples such as that to help people make changes in their lives."

What advice would Hensrud give current students? "Don't lose your idealism. I think a lot of medical

students start out with some idealism and interests such as helping people, an altruistic outlook, and perhaps more interest in the lifestyle area. But somehow these views seem to change as they go through their training. I became interested in prevention early on and didn't want to lose that, so I made a conscious decision not to." First and foremost, Hensrud said, "Follow your passion. When I started in school, I had no idea of where I would end up or what I would do. But I'm happy I followed this path, and I'm grateful to UND for helping me get started."



Donald Hensrud

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Kristine Henke
Communication & Development Center for Rural Health

New Webisode:
Electronic Health Records
Part I

Education + Research Better Care

By William Newman, MD
Assistant Dean, Veterans Affairs
Chair and Professor, Department of Internal Medicine
Chief, Division of Endocrinology, Veterans Affairs Medical
Center Fargo

The Department of Internal Medicine, located on the Southeast Campus in Fargo, is one of the largest clinical science departments of the UND School of Medicine and Health Sciences.

Faculty members from the department actively support the preclinical, third-year clerkship, fourth-year Internal Medicine electives and additional educational activities (e.g., research) of medical students. Academic and community faculty members play key roles educationally and administratively in the Internal Medicine and Transitional Year Residency Programs. Department faculty also play important roles in the administrative aspects of the School as dean, the designated institutional official, the VA dean, and three of the four campus deans. Our 15 academic faculty members and nearly 300 community faculty members continue to be key providers of both clinical health care and general medical education services to the state and region. Internal Medicine faculty members win numerous awards acknowledging their leadership and professionalism.

Research activities by both community and academic faculty have been presented locally, regionally, nationally, and internationally. Four research grants were awarded to our faculty this year, and several faculty participate in nationwide clinical trials.

Internal medicine has been the leading discipline in the development of clinical epidemiology. The Department of Internal Medicine at the School teaches students and residents the fundamentals of clinical epidemiology by providing learners with the necessary skills in clinical research methods. Residents pursue topics about which they feel passionate and support applications for fellowship.

Internal Medicine faculty contribute extensively to years one and two of block education at the School in Grand Forks and are responsible for all internal medicine third- and fourth-year student activities. Third-year internal



Left to right: Dr. Michael Greenwood, MD '11 and transitional year resident; Dr. M. Samir Toumeh, internal medicine resident '08, Sanford Hospitalist, and clinical assistant professor of internal medicine; Dr. Rekha Kallamadi, program year (PGY) three internal medicine resident; and Dr. Rishi Seth, PGY-1 internal medicine resident. Photo courtesy of Michael K. Smith, Sanford Health Marketing.

medicine experiences are offered on all four clinical campuses and all ROME (Rural Opportunities in Medical Education) sites. Additionally, fourth-year medical students have both required general internal medicine and elective subspecialty experiences on all four campuses. The School's graduates pursue internal medicine residencies in the country's finest residency programs, often returning to pursue their academic and clinical careers in North Dakota.

Residency Activities

The Department of Internal Medicine sponsors an internal medicine residency on the Fargo campus with 24 residents. Following completion of this three-year residency, graduates begin the practice of general internal medicine, become specialists in hospital medicine, or pursue subspecialty fellowships. Over the past 10 years, 58 percent of graduates have returned to practice in North Dakota.

Additionally, the Department of Internal Medicine is a cosponsor of the transitional year residency with eight residents per year. Graduates of this program go on to pursue more advanced training but often return to practice in North Dakota following completion of their advanced residency.

In summary, the Department of Internal Medicine sponsors and supports a large range of educational, research, and clinical care activities in North Dakota. Graduates of our residency program provide the underpinnings of internal medicine care in the state. The department is proud of its almost 40-year devotion to improving the medical education and clinical care of North Dakotans.



Infectious Disease Research

The ID group builds key research collaborations within UND and beyond.

Submitted by the Department

Some of the first multidisciplinary research endeavors occurred between microbiologists and immunologists studying host: pathogen interactions, now oftentimes loosely termed infectious disease (ID) research. The ID research group at UND has a strong record of collaborative research both across the host–pathogen interface and beyond traditional microbiology and immunology. The addition of Bibhuti Mishra, PhD, this past October strengthened this group’s collaborative possibilities, both within and outside ID.

Mishra’s research focuses on two areas of host immune responses to helminth (intestinal parasite) infections: how parasites evade or suppress the host immune response and the specific role of myeloid (bone marrow) derived suppressor cells (MDSCs) in parasitic infections. One of the parasites studied in Mishra’s laboratory, *Taenia solium* (pork tapeworm), can cause a variety of symptoms from headaches and dizziness to neurocysticercosis (Mishra’s area of interest), which can lead to epilepsy, seizures, and lesions in the brain, with 50 million people affected and 50,000 dying each year worldwide. In understanding how the parasite evades the host’s immune response, Mishra has identified both specific parasitic molecules that are immunosuppressive as well as the potential of the parasites to hijack normal blood cell differentiation, resulting in the production of MDSCs, a newly described immunoregulatory cell type that suppress the functions of T-cells, which are important in the body’s immune response, by down regulating the proliferation and activation of T-cells. Characterization of these two phenomena has resulted in collaboration with Drs. Brij Singh (Biochemistry and Molecular Biology) and Jyotika Sharma and David Bradley (Microbiology and Immunology).

Interestingly, helminths can live within their hosts for years, and yet, many infected individuals are asymptomatic, while others exhibit acute and chronic pathologies leading to severe morbidity and a major impact on socioeconomic development in endemic areas. In light of helminths’ extensive regulation of host inflammatory responses, it has been proposed that the increased cases of autoimmunity in the developed world could be a direct result of the successful eradication of parasitic helminths in these communities. Thus, in addition to understanding the immune evasion or suppression by *Taenia solium* that causes significant health issues worldwide, Mishra is also attempting to utilize the parasite-derived immunosuppressive molecules or the MDSCs or both to therapeutically address a variety of autoimmune/inflammatory disease conditions. This has also led to numerous



Back row: David Bradley, Clint Schmidt, and Bibhuti Mishra.
Front row: Kate Claycombe, Catherine Brissette, and Jyotika Sharma.

collaborations at UND, including the potential of the parasitic molecules to suppress rheumatoid arthritis (Dr. David Bradley), sepsis (Dr. Jyotika Sharma), and obesity and Alzheimer’s disease (Dr. Colin Combs, Pharmacology, Physiology, and Therapeutics). The goal of this work is to identify specific triggers of immunosuppression, possibly utilizing the newly described MDSC population, that could be synthesized and commercially developed to treat a range of inflammatory diseases, including autoimmune diseases, obesity, and sepsis.

While the microbiologists and immunologists collaborate extensively with each other to understand the relationships at the junction of the host and pathogen, the ID group has numerous collaborations outside of their two disciplines, including studies of inflammation and infections of the central nervous system with UND neuroscientists, the role of infection and inflammation in obesity with scientists at the USDA Human Nutrition Center, and the potential nanotechnology and alternative natural sources for therapeutics and vaccines with UND biologists, chemists, and several regional biotechnology companies. “The continued development and expansion of this kind of multidisciplinary research is the best chance for success in understanding and then treating or preventing infectious diseases,” said David Bradley, chair and associate professor, in the Department of Microbiology and Immunology. “The current ID group understands and aggressively pursues these collaborations, and this will lead to additional future funding and scientific successes.”

Named Endowments

By Dave Miedema

Making a gift that lives “forever” would seem to be the ultimate benefit that investors in the School of Medicine and Health Sciences could ever hope to receive from their acts of generosity.

- Imagine a gift that can be made today and still be living and giving decades from now.
- Imagine a gift that can be named for the investors, parents, other special relatives, or friends, forever carrying forward to new generations valued principles and ideals.
- Imagine a gift that will grow in value over time, all the while providing meaningful allocations to assist the UND School of Medicine and Health Sciences students, faculty, and departments in their continuing quest for excellence.

Such a gift is possible and is known as a named endowment. The popularity of these “gifts that live forever” has grown substantially over the years, kindled in part by most everyone’s desire to leave the world a better place—to leave their mark.

But hand-in-hand with honoring and remembering loved ones is the satisfaction that our investors experience, knowing their gift will live in perpetuity and will aid in the continued growth and development of the School of Medicine and Health Sciences.



Dean Joshua Wynne; Angela Eakin, MD 2012, and Director of Development Dave Miedema

Dr. Steve (BS Med '61) and Sue Laxdal established a named endowment within the UND Foundation and expressed their feelings this way: “Creating a named endowment allowed us to achieve our goal to provide a truly meaningful gift that we know will help fund quality educational opportunities for many future generations of young aspiring medical professionals.”

A named endowment can be established from a variety of direct and deferred giving arrangements. For example, a named endowment can be funded with an immediate gift of cash, securities, other property, or by a testamentary provision in one’s will or living trust.

The UND Foundation currently administers more than 1,000 named endowments. A simple written agreement between investors and the UND Foundation clearly directs how allocations will be utilized each year. Investors also receive a comprehensive financial report on their endowment, including an overview of investment performance.

Those who benefit from a named endowment will help shape and guide this world for generations to come. What finer investment could there be? I encourage you to contact me, and let’s begin the conversation.

For additional information on how to best structure your bequest or gift to benefit the School of Medicine and Health Sciences, please contact:



Dave Miedema,
 Director of Development
 School of Medicine and Health
 Sciences
 UND Foundation
davem@undfoundation.org
 (701) 777-4933
 (800) 543-8764

John Allen DeKrey, BS Med '56, age 86 Fort Collins, Colo., died April 19, 2012. He was born in Pettibone, N.Dak., August 13, 1925, to Charles and Lillian DeKrey. He enlisted in the Naval Reserves and served in the Pacific during World War II, returning to attend Jamestown College, where he met and married Sybil Mae Smith of Kulm, N.Dak. Together John and Sybil taught in high schools around rural North Dakota until the Navy reactivated him for the Korean conflict. Afterward, John joined the commissioned ranks and entered medical school at the University of North Dakota, graduating from Southwestern Medical School in Dallas, Texas, in 1958. He completed an internship at St. John's Hospital in Fargo and an anesthesia residency at Swedish Hospital in Seattle before returning to active duty with the Navy. John was assigned to Naval Hospital San Diego where he remained until retiring in 1984. In addition to his inpatient clinical practice, he trained medical students, provided medical support in Cuba, Haiti, and Vietnam, and developed new techniques of regional anesthesia. John rose to the rank of captain and chaired the Department of Anesthesia. John is survived by children Lesley DeKrey, Juneau, Alaska, and Gregory DeKrey, Loveland, Colo.; siblings, Lillian DeKrey, Velva, N.Dak., Dorinne DeKrey, Ames, Iowa, Florence Hieggelke, Fargo, N.Dak., Iris Leuhr, Helena, Mont., Joyce Hasle, Woodbridge, Va., and Charles Ross DeKrey, (and second wife, MayElla Dring, Willow Springs, Mo.), of Bismarck, N.Dak. He is predeceased by his wife Sybil; as well as sisters, Elna DeKrey and Elaine Leuhr, Pettibone; and canine companion, Sarah.

Nadine Miller, BS PT '88, age 46, of Chaska, Minn., died Friday, Feb. 24, 2012, at Fairview University Medical Center in Minneapolis. Nadine was born Jan. 21, 1966, in Golden Valley, Minn., to Harvey and Lilah (Larson) Hammer. She was one of three children. Nadine grew up in Paynesville, Minn., and was a graduate of the University of North Dakota with a degree in physical therapy. She has worked at North Memorial Hospital, Trevilla of Golden Valley, and Integrated Health Care Services. Preceding her in death was her dad Harvey Hammer; infant brother Donald; and father-in-law Dave Spanier. Survivors include her husband of 23 years Troy; daughters Kiera and Ellie; mom Lilah Hammer of Paynesville, Minn.; sister, Laurel (Chris Bissener) Hammer of Denver, Colo.; brothers-in-law, Terry (Lisa) Miller of Grove City, Minn., Todd (Jackie) Spanier of Paynesville, Minn., Tory (Sarah) Spanier of Montrose; mother-in-law, Geri Spanier of Paynesville, Minn.; and many other relatives and friends.

Rita R. Kubal, BS PT '92, age 43—wife, mother, daughter, sister, aunt, and friend — entered the everlasting peace of her Father near Scotland, S.Dak. On December 14, 1968, Rita Jackson was born to Darrel and Mary Ann (Bradley) Jackson of Wessington Springs, S.Dak. Rita attended Northern State University in Aberdeen, S.Dak., before transferring to Mount Marty College in Yankton, S.Dak. She served the sisters at St. Joseph Care Center as a nurse's assistant and attended the University of North Dakota, where she completed a degree in physical therapy. On May 17, 1993, she was married to Dan Kubal of rural Lesterville, S.Dak. She worked at the Menno nursing home, the Freeman hospital, the Tyndall Hospital, the Yankton Care Center, and Sacred Heart Hospital throughout the years. She served the Sioux people at Indian Health Services in Wagner, S.Dak. Rita was preceded in death by her father Darrel Jackson, brother Mark Edward Jackson, niece Jennifer Reed, and grandparents. She is survived by husband, Dan Kubal, her children, Dana, Elizabeth, Kohl, John, and Kaleb, all from rural Lesterville, S.Dak., her mother, Mary Jackson of Lane, S.Dak, and her ten siblings and siblings' spouses, Steve, John, and Kelly Jackson, all from Lane, S.Dak., Tim and Laura Jackson of Woonsocket, S.Dak., Travis and Karen Jackson of Lane, S.Dak., Mary and Bill Reed of Gillette, Wyo., Sandy and Michael Neth of Scotland, S.Dak., Lori and Bob Schleich of Mitchell, S.Dak., Tim and Linda Foes of Milbank, S.Dak., and Michele and Jeff Bigelow of Mitchell, S.Dak.

Deane Stites, BS Med '72, 65, died April 23, 2012. Deane was born February 22, 1947, in Oakes, N.Dak. He graduated from Oakes High in 1965 and attended the University of North Dakota, where he received a BS in 1969 and a Master of Science in Physiology and Pharmacology in 1972. He earned his MD from Tufts University in 1975, and completed his orthopedic residency at UC San Francisco in 1979. Deane started his orthopedic practice in Truckee, Calif., in 1979, and soon became a board-certified orthopedic surgeon. He served several appointments as chief of staff of Tahoe Forest Hospital, taught as a clinical instructor for UNR and UC Davis, and was a member of the Academy of Orthopedic Surgeons. Deane is survived by his wife, Sue Stites; his children, Ryan and Anneliese, Alison and Ty, and Julie; his grandchildren, Bodi, Jaxson, Kinley, Finnegan, and Resi; his brothers, Randy, Tom and Syl, and Greg and Nancy.

Congratulations, Grads!



MD CLASS OF 2012

Row 1 (left to right) INMED Director Eugene DeLorme; Assistant Dean Thomas Hill; Assistant Dean Patrick Carr; Assistant Dean Kenneth Ruit; Associate Dean Nicholas Neumann; Associate Dean Charles Christianson; Senior Associate Dean Gwen W. Halaas; Dean Joshua Wynne; Associate Dean Randy Eken; Associate Dean Julie Blehm; Assistant Dean Martin Rothberg; Assistant Dean Jon Allen; Interim Associate Dean Robert Beattie; Assistant Dean William Newman; and Assistant Dean Steffen Christensen.

Row 2 (left to right) Susan Derry; Archana Varma; Laura Matzke Bitterman; Jenna Cusic; Elizabeth Hagan; Angela Eakin; Christine Carlson Rahn; Melissa Austreim; Katie Wetsch, and James Miles.

Row 3 (left to right) Mark Detwiller; Erica Sauer; Colin Fitterer; Kailey Witt; Lindsay Carlile; Morgan Grundstad; Amber Tincher; Kassi Roselius; Seth Maliske; and Patrick Britton.

Row 4 (left to right) Christopher Irmen; Stephanie Foughty; Amanda Dhuyvetter; Lance Doeden; Eric Ragland; Melanie McCarroll; Brianna MacQueen; Justin Ferragut; Elizabeth Blixt; and Diane Voeller.

Row 5 (left to right) Gwen Thompson; Michelle Reinholdt; Kristen Fried; Cody Pratt; Tiffany Doyle; Adam McGauvran; Katherine Neubauer; Andrew Swenson; and Ray Rivas.

Row 6 (left to right) Meredith Reisenauer; Rochelle Palmiscno; Jess Belling; Kathleen Carlson; Jennifer Risan; Jennifer Brottlund; Sarah Tillman; Thomas Miskavige; Jennifer Wolf; and Amy Stokka.

Row 7 (left to right) John Wagener; Luke Roller; Robert Marshall; Derek Kuntz; Brett Oestreich; Justin Mauch; Nathan Harris; Kathryn McEvoy; Aaron Audet; and Charles Lenz.

Not pictured: Adam Cole and Sarah Cole.



Doctor of Physical Therapy Class of 2012

Front row, left to right: Kelsey Hest, Keith Bluel, Jonathan Jurgens, Stephanie Pohia, Miranda Johnson, Marissa Laddusaw, Hayley Letvin, Sasha Berg, Brittany Brenny, Rachael Peterson, Sheena Dauer, and Elizabeth Kornkven.

Row 2, left to right: Jill Halstenson, Trevor Northagen, Christine Jensen, Alyssa Carignan, Allison Breker, Katelin Sievert, Ashley Gunkelman, Lindsey Nelson, Whittney Gomendi, Elizabeth Hoff, Whitney Reyerson, and Amanda Hawrelok.

Row 3, left to right: Jennifer Hohl, Erik Jensen, Benjamin Wolden, Ashley Falk, Bruce Belland, Jennifer Pallansch, Kristine Dahlheimer, Deena Hansen, Brittany Kohler, Michael Schmidt, and David Farder.

Row 4, left to right: Megan Koelln, Ryan Enger, Michael Hildahl, Rebecca Shane, Craig Turnow, Jessica Gertken, Will Slocum, Steven Halcrow, Brittany Hagen, and Brady Swenson.



Occupational Therapy Class of 2012

Front row, left to right: Jenna McGregor, Lindsey Wolsky, Kelli Atkinson, Amanda Ralston, Stephanie Blonigen, Crystal Brecht, Allison Kalb, Lindsey Sauer, Kathryn Zavarol, Amy Ferguson, Amanda Rositas, Chelsey Ekren, and Michael Nelson.

Back row, left to right: Cody Link, Gregory Holubok, Elizabeth Reynolds, Chanae Jones, Brittany Mayer, Danielle Schepers, Christa Haas, Meghan Lyle, Lindsay Farkas, Nicole Knutson, Amanda Myklebust, Elizabeth Schleicher, Andrea Hensrud, and Diane Huettl.



2012 Physicians Assistant Graduates
 Front row, left to right: Gina Hester, Karen Belvin, Lin Hodges, Mendy Corter, and Joyce Laktari.

Back row, left to right: Ronald Caporale, Nikki Welk, Susan Ogden-McKee, Mindy Rupprecht, Angela Mathiason, Natalie Whitley, Paul Kelley, Dr. Vikki McCleary, Thao Lo, Casey Burch, and Reginald Joseph.

2012 Physicians Assistant Graduates
 Front row, left to right: Valerie Krebs, Anna Stelter, Tamara Perez, Jadon Redington, Ashley Jones, and Brad Hirst.

Back row, left to right: David Conner, Jennifer Van Hecke, Sherrie McCoy, Lacey Langerak, Julie Andersson (faculty), Josh Arickx, Jeff Moberg, April Burns, Lori Wolff, Matthew Massmann, and Erika Hunt.



2012 Physicians Assistant Graduates
 Front row, left to right: Tania Dickson-Humphries, Joshua Killpack, Shad Brophy, Sheila Bondell, Art Renner, Jennifer Jallo, and Jesse Doll.

Back row, left to right: Dr. Susan Kuntz, Steve Norman, Dave LaBore, Jillian Jacobson, Jennifer Schneider, Jennifer Asche, Christine Brandt, Keith Hatch, Amanda Pratt, Corbin Moberg, and Brian Dewitt.





Medical Laboratory Science Class of 2012
 Front row, left to right: Mohammed Isse, Casey Myklebust, Michael Pitzer, and Adam Deyoung.

Back row, left to right: Kayla Pazdernik, Kayla Lee, Hana Tibebu, Michelle Thomas, Cass Roberts, Brittany Monson, Hannah Kennedy, Carly Rudolpf, and Breanna Henke.



2012 INMED Graduates

Front row, left to right: Amber Tincher, Susan Derry, Estelle Ostgard, Alexis Jones, Cassie Roselius, Katheryn McEvoy, Brittany Crawford, and Jeri Ann Azure.

Back row, left to right: Gerald Yutzenka, University of South Dakota Sanford School of Medicine; Eugene DeLorme, INMED director; Jan Goodwin, Nutrition and Dietetics; Vern Lambert, Spirit Lake Nation; Susan Splichal, Family and Community Medicine; Jim Malatare, Confederated Salish and Kootenai Tribes; Gwen W. Halaas, senior associate dean; David Gipp, Standing Rock Sioux Tribe; and Joshua Wynne, UND vice president for Health Affairs and dean.



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