


NORTH DAKOTA MEDICINE

University of North Dakota School of Medicine & Health Sciences



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NORTH DAKOTA MEDICINE

University of North Dakota School of Medicine & Health Sciences

UNIVERSITY OF NORTH DAKOTA
SCHOOL OF MEDICINE AND HEALTH SCIENCES

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ON THE COVER Dr. Philip Q. Johnson (MD '84) examines Team USA player Jeremy Morin at the World Junior Championships in Saskatoon in 2010. *Photo by the International Ice Hockey Federation.*

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THE IMPORTANCE OF PHILANTHROPY



In the last edition of *North Dakota Medicine*, I outlined the seven goals contained in the university's new strategic plan that was developed under President Mark Kennedy (see und.edu/president/strategic-plan.cfm). Some of the goals have more relevance elsewhere on campus, such as Goal 1 (provide a strong undergraduate liberal arts foundation). But most of the others resonate well with the purpose and mission of the UND School of Medicine and Health Sciences, especially Goal 4 (enhance discovery at a level consistent with most research-intensive universities) and Goal 7 (attract support for the university by actively engaging alumni and donors). Increasing financial support for UND from donors and benefactors is especially important in this time of budget cuts and the tightening of external financial resources.

But, you might ask, precisely why is philanthropy so important now? In answer, first a bit of background.

As one of the 28 community-based medical schools in the country that doesn't own or operate its own hospital, the School derives a much smaller fraction of its operating budget from clinical practice income than most other medical schools. Across the U.S., about 40 percent of medical school revenue

is derived from clinical practice; for us it's under 10 percent. That clinical income at other schools can be used to support a variety of functions and help buffer tuition increases. We don't have that luxury, but in turn we derive over a third of our revenue from the people of the state through taxes (general appropriations) and a mill-levy on property taxes. Yet, as you know, our state appropriations have been under great pressure for a number of reasons. While the Legislature worked hard last session to keep the budget impact on us as small as possible, we are dealing with the reality that we must live within our means. Thus, there is considerable pressure on us to raise tuition rates to help with the budget situation.

By being strategic and disciplined in our budgeting for this academic year, however, we've managed to keep the tuition increases for most of our students to just 3 percent, despite pressure for greater increases. This has resulted in our continued enviable position of having the lowest tuition of any of our regional medical school peers. Likely as a result, the School is able to attract the vast majority of college graduates from North Dakota who enter medical school—this past year, about 85 percent of them matriculated with us. That's important from a health care workforce perspective because the best way to retain doctors for practice in North Dakota—particularly rural areas—is to select students who come from those areas. Our low tuition is one of the attractions for those students, as they see the value proposition of a UND SMHS education—low cost and excellent training.

But when we say "low cost," that's still relative. In fact, our "low" tuition is around \$31,000 per year, or \$125,000 for all four medical school years. And that doesn't include living expenses and the cost of books and so on. Many of our students come from modest backgrounds, and they and their families typically don't have the resources to simply write a check for their educational expenses. Rather, many take out loans, so that the typical UND medical student has debt of about \$160,000 at graduation. That's an impressive sum, even with the prospects of a good income in the years after residency (post-MD) training.

What impact does high debt have on medical students' career choices, particularly which specialty and which locale (North Dakota versus elsewhere, rural versus urban) they choose? The data are somewhat mixed, but what is clear is that the two most important determinants of career choice are the "fit" of the specialty with the personality of the graduating student and the lifestyle choices (especially the balance of work and personal time) students make. And "fit" is surely influenced by the sense that going into a primary care specialty might subject the new physician to added financial pressures (because of the lower associated reimbursement long-term for primary care providers). So keeping student debt to a minimum makes sense, given our school's mission to help provide the physician and other health care provider workforce for North Dakota.

That's the main reason that philanthropy is so important to your UND School of Medicine and Health Sciences—to provide scholarship support so that student debt is reduced to more manageable levels for our students, who comprise the future health care workforce for this state. Donors have stepped up and helped reduce our medical students' debt from well above the national average to well below—as low as the 32nd percentile a year ago (meaning that about two-thirds of the medical students in the U.S. had higher cumulative debt at graduation than our students).

The second reason for philanthropy is to endow named professorships and chairs for faculty members. Endowed professorships and chairs (such as the Dr. David and Lola Rognlie Monson Chair in Medical Education, currently held by Dr. Rick Van Eck) not only provide financial resources to support the salary of the faculty member, but, perhaps more importantly, are an honorific recognition of the value of the faculty member to the institution. Because of this, endowments are critical in the recruitment and retention of high-impact faculty members. We compete for faculty on a national stage, and, to be frank, recruiting high-quality non-North Dakotans to North Dakota can be a challenge. But being able to offer an endowed position is of enormous help in the recruitment (and retention) process. By way of example, I got my Master of Business Administration (MBA) degree from the University of Chicago, arguably one of the five best MBA programs in the U.S.—it boasts more Nobel Prize winners in economics than any other university anywhere. The key to its success? Its

faculty, who routinely are rewarded with endowed chairs after achieving some measure of academic success.

Having the availability of about a dozen new endowed positions at the SMHS (one for each of the chairs and directors of our major departments and units) would help augment our current recruitment and retention efforts, and enable us to further elevate our already outstanding teaching and research programs.

Thus, philanthropy *is* important to the School, even with the outstanding support we get from the people of North Dakota through state appropriations provided by the Legislature. Both to mitigate student debt as well as enhance our faculty recruitment and retention efforts, philanthropy is especially important now and in the future. Please help if you can. I think that you'll be thrilled by the impact your generosity can have!

Susan and I extend our best wishes to you and yours this holiday season.



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

GOING PRO

SMHS alumni in professional athletics put one in the win column for UND

Matt Harder remembers the night well.

On November 19, 2016, Harder, Assistant Athletic Trainer and Strength Coach for the Tucson Roadrunners, was in the training room of the Tucson Arena preparing his Phoenix Coyotes-affiliated hockey team for a home game.



“We started CPR on the ice as we got him on a spine board.”

MATT HARDER

“I was getting the ‘scratches’ of the players who would be out for that night’s game, and one of our staffers ran in and told me that I needed to get out on the ice now—one of our players had gone down,” Harder recalls.

Looking to the training room’s game clock, Harder frowned upon realizing that the night’s contest *hadn’t even started yet*.

Nor would it start for some time.

What had happened minutes before the puck was set to drop was that former Boston Bruin and then-Roadrunner team captain Craig Cunningham had fallen inexplicably to the ice and was lying on his back, unconscious.

“I ran out on the ice to see what happened and the paramedics were out there already. His pulse was sporadic so we started removing his gear,” Harder continues, remembering how he was joined at the scene by Jake Wolff, Strength and Conditioning Trainer with the Manitoba Moose hockey squad, a Winnipeg Jets affiliate against which the Roadrunners were facing-off that evening. “We started CPR on the ice as we got him on a spine board. Once we got him off the ice we did [automated external defibrillation] and got him into the ambulance. I rode with Craig in the back—the paramedic and I traded performing CPR and we shocked him two more times.”

What Harder didn’t know as this dramatic event was unfolding was that Cunningham was experiencing a ventricular fibrillation—a type of arrhythmic quivering of the heart muscle

that without treatment results in cardiac arrest and thus death.

To this day, the reason for his arrhythmia remains unknown.

Given that the Cunningham survived the episode, it is not exaggerating to say that Harder and Wolff, the UND School of Medicine and Health Sciences (SMHS) alumni who once roomed together and got their start working on future professional hockey players at UND, helped save a life that night.

Harder and Wolff are not alone: from the minor leagues to the pros, from hockey and basketball to tennis and the Olympics, SMHS-trained physicians, therapists, and trainers have worked or are currently working with professional athletes at all levels in the U.S. and around the globe.

Team USA

Take Philip Q. Johnson, MD. Not completely satisfied after earning a physical therapy degree from the SMHS in 1980, Johnson looked to medicine almost immediately a quarter century ago. “I just decided I needed to go on,” Dr. Johnson said from his Grand Forks office of jumping into the School’s MD program, which he completed in 1984. “Being exposed to sports through high school and football here [Dr. Johnson was a wide receiver for UND Football in 1976 and ’77] led me to wanting to learn more about sport-related injuries. And I felt the profession that could best satisfy that interest, and allow me to do *more* for my patients, would be orthopedic surgery.”

Dr. Johnson, who is an SMHS clinical professor of Surgery, wanted not only to treat injuries, but fix them: “That’s what we do in orthopedic surgery. Structures fracture or become torn and we repair them and try to allow these patients to get back to the level of participation or work they’re used to.”

After a fellowship in sports medicine and surgery at the University of Western Ontario in Canada with Peter Fowler, MD, where he met Michael Stewart, MD, Johnson was given the opportunity to begin working with Team USA Hockey in 2000, shortly after Dr. Stewart was named the Chief Medical Officer for Team USA.

Dr. Johnson has been involved with the team in a variety of ways ever since, working with players and coaches at the International Ice Hockey Federation’s (IIHF) World Juniors Championship since 2004, the U.S. National Under-17 and 18 team, and the gold medal-winning Team USA World Junior Team hockey club. He was also Chief Medical Officer for the IIHF Under-18 World Championships in Fargo (2009) and Grand Forks (2016).

In February 2018, Dr. Johnson and Team USA will be off to Pyeongchang, South Korea, for the XXIII Olympic Winter Games—the first games in two decades that will not feature National Hockey League players.

“I’ve been fortunate enough and humbled enough to be taken on by the Olympic team this year. It’s going to be exciting,” says Dr. Johnson, who has also been team physician for Fargo-Moorhead Redhawks baseball and the International Basketball Association’s Fargo-Moorhead Beez. “It’s a different level—there are obviously more eyes focused on you than at the World Juniors, but it’s going to be fun in Pyeongchang.”

As the conversation was winding down, Dr. Johnson looked at his watch—it was UND hockey night after all: “We still watch as often as we can,” he admits. “We have our season tickets. It’s so amazing to me that I can turn on the television most any night and there will be players on my screen that I’ve seen through the years with Team USA. It’s fun to see players develop and grow, from when they were 17 years-old until they’re professionals.”



Dr. Philip Johnson (MD '84). Photo by the International Ice Hockey Federation.

Blazing the Trail

Perhaps even better than watching the pros on television, though, is working with them in person. This is exactly what Jesse Elis has been doing for years as well. After graduating from the SMHS with his Doctor of Physical Therapy degree in 2009, Elis completed a three-year post doctorate fellowship in orthopedic manual therapy and went on to be the Director of Physical Therapy at EXOS, a world renowned performance company. While at Exos, the Dickinson, N.D.-native added the title of performance therapist for professional tennis player CoCo Vandeweghe, who made the Wimbledon quarterfinals in 2015.

Elis first became interested in his future profession through a recommendation by his mother, who was diagnosed with multiple sclerosis in her mid-20s. Having attended a handful of his mother’s physical therapy sessions while he was a teenager, Elis came to appreciate not only the musculo-skeletal gains therapy offers, but the *emotional* impact it has on patients.

“Though it’s not in the job description, I get to deal with psychological issues every day, especially with the recent expansion of the pain sciences and their value in our clinical practice,” Elis told *North Dakota Medicine* in an e-mail, suggesting that sometimes a patient struggling with a major surgery, injury, or chronic condition just needs someone to talk to. “In sports especially, there is a high amount of mental stress required to compete at an elite level, and when an athlete is limited or required to rest due to an injury, a PT needs to step up and provide not only therapy but education and empathy. It takes a lot of emotional intelligence to earn the trust of an athlete, agent, coach, or general manager.”

It is for this reason that Elis feels that he spends as much time normalizing the healing process with many athletes—educating them and helping reduce their levels of anxiety or fear—as he does on the diagnosis and treatment of injury.

Elis must be very good at each of these things for in August 2017 he was named Director of Player Health and Performance for the NBA’s Portland Trail Blazers. As a Blazers news release on the hire noted, “Elis will lead all facets of the Trail Blazers medical staff to collaboratively provide preventive maintenance and rehabilitative health care to Trail Blazers players.”

When asked if he thought the move to focusing on a small set of one-sport athletes might affect how he practices his profession, Elis didn’t miss a beat.

“It changes my approach so far as there are more athletes to manage at once and each one has different movement dysfunctions or orthopedic problems,” noted Elis, who is board certified by the American Physical Therapy Association in both Orthopedics and Sports and designated as a Certified Strength and Conditioning Specialist. “We try every day to provide a ‘prescription’ for each player based on their current performance and how their body is adapting to the chronic stress—and keep them engaged.”

Or, as Elis says he tries to remind his players, “Good things happen when you stay hungry and put in the extra work that no one else can see.”

By Brian James Schill

GIVING BACK

Loan repayment programs help attract health care professionals to rural areas

It's no secret that there's a shortage of health care professionals in the United States, particularly in rural areas. It's also common knowledge that student loan debt can be daunting for graduates who trained for health care careers, especially for those with advanced degrees. But there is a solution that can help ease both problems—loan repayment assistance.

A variety of state-based loan repayment programs are available for health care professionals willing to work in rural and underserved areas. Nearly 60 health care professionals working in North Dakota right now are receiving loan repayment assistance from such programs as the Health Care Professional Student Loan Repayment Program (HCPS), the North Dakota Federal State Loan Repayment Program (SLRP), and the Dentist Loan Repayment Program (DLRP).

"The SLRP is an amazing program for the state to offer," said Tara Brandner, FNP-C, a family nurse practitioner at the Ashley Medical Center in Ashley, N.D.—her hometown. "It truly is one of the main attractions rural facilities have to attract quality applicants."

Brandner earned a bachelor's degree in nursing from the University of Mary in Bismarck. She went on to earn a family nurse practitioner master's degree and a doctorate in nursing practice both from George Washington University in Washington, D.C.

"I felt inclined to serve a health care area in need," Brandner said.

Brandner was accepted into the SLRP three years ago. The goal of repayment programs such as the SLRP is to help place health care professionals in public and nonprofit sites in areas where the need is greatest. Those eligible for SLRP assistance include physicians, registered nurses, registered pharmacists, dentists, nurse practitioners, physician assistants, psychiatric nurse specialists, certified nurse midwives, and those with expertise in mental and behavioral health, such as social workers, psychologists, licensed professional counselors, and addiction counselors.

"The loan repayment program means more financial freedom for my family," Brandner said. "I dedicated nine years of my life to continuing education and along with that comes a good amount of student loans. I had obtained three degrees, and

loan repayment was very attractive. I started to research what options were available to help our family with the loans I had accumulated. I contacted the Center for Rural Health, and they directed me to the SLRP program."



"The SLRP is an amazing program for the state"

TARA BRANDNER
FNP-C

Administered by the North Dakota Department of Health, the SLRP program offers up to \$50,000 per year in loan repayment assistance for a two-year commitment. The HCPS program offers physicians, for example, as much as \$20,000 per year for up to five years.

"Originally I was only accepted for the two-year program," Brandner continued. "The state's funding additional years for the [retention] portion of the program was a huge surprise and benefit. I am currently in my third year of the program and was recently accepted for my fourth."

Amy Holtan Ellingson earned a bachelor's degree in psychology from the University of North Dakota and a doctor of dental surgery degree from the University of Minnesota. A native of Grand Forks, she heard about the loan repayment program from a colleague.

"The doctor that I work with now received the loan repayment and talked about how helpful it was for him to lower his debt load," Holtan Ellingson said. "The loan program is a great tool to attract dentists to work in rural locations."

Holtan Ellingson works at James River Dentistry in New Rockford, and also serves as a contract dentist at the Spirit Lake Health Center in Fort Totten. Both Holtan Ellingson and Brandner said working in a rural area comes with many benefits.

“Patients in a rural community are very gracious and thankful for the services provided to them. It is enjoyable to see them outside of the clinic and hear how well they are doing or how I may have helped them or their family,” Brandner said. “Rural communities are very close, and I have found that rewarding to be part of.”

She added that rural living is a benefit for her family as well. She and her husband, Chuck, who teaches in Wishek, are expecting their first child in January.

“Raising a family in a rural community was something that was important to us,” Tara Brandner said. “We also were looking for a community where we would be welcomed and able to be active within the community. Living in a rural community allows for active participation on many levels, such as community events, organizations, clubs, and fundraisers. This does, of course, occur in larger communities, but the bond and camaraderie is different and more tight-knit [in rural communities].”

Holtan Ellingson said the loan repayment program made a big difference in her life as well.

“The loan repayment program has been great and a huge help in offsetting my student loans,” she said. “It’s a great program. I would highly recommend it. For me, having ties to a rural location made it easy to make the choice to accept the loan repayment program and work here. For those who are unfamiliar with rural North Dakota, it could be a challenge, but I think they may find that they really like working in a small community. People in the community are so happy to have a young dentist come and contribute, as well as provide a valuable service.”

Even though she’s done with the program, Holtan Ellingson still plans to continue working in New Rockford.

Brandner is happy with her choice too.



Amy Holton Ellingson, DDS

“Working in rural health care is one of the most rewarding careers I have ever held,” she said. “Getting to know your patients in this setting is like no other job. You are not just building trust and a relationship with your patients but instead your entire community.”

By Brenda Haugen



READING THE APPENDIX AGAIN

Dr. Marc Basson leads an appendicitis investigation for JAMA Surgery



Although the incidence of appendicitis in the United States has been in decline for many years, the condition still affects approximately seven percent of Americans annually. And for researchers studying the organ, new questions are emerging about how the environment, lifestyle, or genetics of this small cohort of patients might predispose them to appendicitis even as it becomes less common.

Researchers at the UND School of Medicine and Health Sciences (SMHS) are exploring such questions too—and coming up with novel answers.

“A number of my patients had undergone colonoscopies by different providers. Then I saw these patients and they had appendicitis, some within a couple of days of the colonoscopy,” explained Marc D. Basson, MD, PhD, MBA,



“There’s clearly more going on biologically with the appendix than we thought there was 100 years ago.”

MARC D. BASSON
MD, PhD, MBA, FACS

FACS, senior associate dean for Medicine and Research at the School. “And the patient would ask something like, ‘Gosh, did the colonoscopist do something wrong—why do I have appendicitis now?’ But since both colonoscopy and appendicitis are common things, the question became: is there a real correlation here, or are these two random events that were just occurring together by chance?”

Studying Appendicitis

To answer that question, Dr. Basson and a team of colleagues, which includes the chair emeritus of the SMHS Department of Internal Medicine, William P. Newman, MD, and Daniel Persinger, MD, a surgical resident at the time the research was performed and currently an SMHS junior faculty member in Surgery, got to work.

The result of that work was the article “Colonoscopy is associated with increased risk of appendicitis,” published in October by *JAMA Surgery*, the surgical offshoot of the *Journal of the American Medical Association*.

As it turns out, writes Dr. Basson’s team, there is evidence to suggest that colonoscopy can “prompt” appendicitis up to one week after colonoscopy, in at least certain patients.

Because drawing such a conclusion required access to a large amount of data in order to achieve statistical significance, Dr. Basson and his team turned to the Fargo Veterans Administration (VA) Healthcare System for access to Veterans Administration national data, which identified nearly 400,000 veterans across the United States who had experienced screening colonoscopy between January 2009 and June 2014, and whose incidence of subsequent procedures could be tracked.

“Depending on how you ask the question, it turns out that the rate of appendicitis and appendectomy in the first week after a colonoscopy was at least fourfold higher compared to these patients’ next 51 weeks,” Dr. Basson added, noting that the research accounted for differences in the coding of procedures

and other discrepancies in the administrative data. “By some measures the increase was *twelvefold*.”

Although the reasons why colonoscopy increases the risk of appendicitis remain unclear, the article offers some theories, including asking if bacteria within the colon are altered as the bowel is prepared prior to colonoscopy in ways that increase the likelihood of inflammation, or if the increased air pressure caused by colonoscopy may have effects on the colonic mucosa that can predispose people to appendicitis.

But Don’t Skip the Scope

Despite the paper’s significant findings, Dr. Basson urged patients not to draw the wrong conclusions: “To be clear, this is not to say that colonoscopy isn’t safe or that people should be afraid to have the procedure. Colonoscopy is valuable and the appendicitis rate is still very, very low—so low that we wouldn’t even have been able to define this increased risk without this huge dataset,” he explained. “But it is good to know that this is real, because this wasn’t known before. This opens up a new area of investigation, and now we can begin to ask questions about *why* this is happening. In addition, we can now have a higher index of suspicion for appendicitis in patients who have right-lower abdominal pain after colonoscopy, which may lead to earlier diagnoses.”

The bottom line of this study, says Dr. Basson, is that researchers have more work to do.

“My hope is that this study will spur more conversation, more studies, so we can learn more about all of this,” he concludes. “There’s clearly more going on biologically with the appendix than we thought there was 100 years ago.”

By Brian James Schill

Dr. Basson’s article is available online at: jamanetwork.com/journals/jamasurgery/.

ALEXEI V. TULIN, PHD

Alexei Tulin, Ph.D., is a professor with the SMHS Department of Biomedical Sciences and leader of the department's epigenetics program. His research has been supported by the NIH, Department of Defense, and other government agencies and foundations. He recently sat down with North Dakota Medicine to talk about his work.

Thank you for your time, Dr. Tulin. We should probably begin with the news of the major research grant you and your team recently received. How would you summarize that award?

This is a three-year award of \$900,000 from the Department of Defense through its U.S. Army Medical Research Acquisition Activity program to support our research on prostate cancer. When we were searching for molecules that could inhibit the activity of PARP [Poly-ADP-Ribose-Polymerase] protein, we discovered a large collection of previously unknown "inhibitors" that either kill cancer cells entirely or reverse the cells' tumorigenic activity—that is, they stop being cancerous. So we're developing a drug that would target only the tumor cells, but not affect normal cells, in prostate cancer patients. The drug should be effective even against the "castration resistant" prostate cancer, which is the type of cancer that recurs even after the prostate has been removed. Employing these inhibitors for clinical treatments could provide patients with a less toxic, yet highly effective, drug regimen for eliminating remaining or recurring prostate cancer cells.

That's remarkable. And it sounds like what you're doing falls within the category of Clinical and Translational Science, which the School has made a priority. I assume that if your project is successful you'll have an opportunity to bring something to market that could help to people suffering from these conditions?

Exactly. Our top priority is to identify effective molecules and conduct all pre-clinical and clinical trials necessary for their approval and implementation to the clinic. This is a long and complex process, requiring interdisciplinary collaborations between several research teams and medical doctors.

So can you help me understand how epigenetics as a discipline fits into this work?

Yes. All cells in our body have the same genes and are programmed to produce the same proteins. Without epigenetic regulation there would be no specialized cells; no brain cells, skin cells, stomach cells, blood cells; all cells in our body would be identical to one another. Epigenetic mechanisms

turn appropriate genes on and off during our development and aging. To put this in more technical language, epigenetic research explores the mechanisms that regulate the activation and deactivation of specific genes. Since graduate school, my primary interest has been the organization of DNA "packaging" and studying the normal mechanisms of development. My research team is using the *Drosophila melanogaster* fruit fly as a model organism, but we were also working with mammalian systems. Using *Drosophila* we discovered a new player in this regulation game known as the Poly-ADP-Ribose-Polymerase protein, commonly abbreviated as PARP. By itself, PARP has been known for 50 years. Its known functions were limited to its role in DNA repair. The key discovery of my team was showing the connection between PARP and gene regulation. We discovered that PARP can open tightly packaged, inactive DNA by pushing away packaging proteins. This unpacking mechanism is responsible for activating a number of genes involved in development and aging processes. Some of these PARP-regulated genes are known to be linked to cancer progression as well. We found, surprisingly, that PARP-dependent genes include functions that are involved in transforming normal cells into cancer cells. This discovery ignited my interest in cancer.

Do you intend to continue to study cancer specifically at UND? I imagine that if you're leading an epigenetics team you need to be exploring a little bit of everything.

To be honest, my primary interest is not cancer or disease, but the development of the normal state of organisms. The fundamental biological questions. But we've found quite a large collection of new—that is never published—inhibitors in PARP that turn out to be good tools for fighting cancer. We were looking at many types of cancer—breast cancer, kidney cancer, ovarian cancer—but the most progress we saw in inhibiting cancer was in the prostate.



Dr. Tulin in his research lab in Columbia Hall on the UND campus in Grand Forks.

Where were you prior to UND?

Philadelphia. I was an associate professor at Fox Chase Cancer Center, which is part of the Temple University system.

And how long have you been in Grand Forks?

Since July. My kids are still in Philadelphia—the two younger ones. I have a child in college too.

So you’ve not yet experienced a full North Dakota winter...

No, but it does get very cold where I’m from—

Which is where, exactly?

—I grew up in a small satellite city near Moscow. I studied molecular biology and genetics as an undergraduate and eventually earned my PhD in epigenetics at the Moscow State University. I came to the U.S. in 1997 as a postdoctoral fellow at Johns Hopkins University. I like the snow, though. I like skiing. We have a Siberian Huskie named Aike who is very happy here. Unlike in Philadelphia, he can run around outside here.

What brought you to the U.S. originally?

It was becoming very difficult to do science [in Russia] in the 1990s. There are just so many more resources available to do what I do in the United States—more research funding.

Do you miss Russia?

I do. But I think I miss the Russia that I left, not Russia the way it is now. It’s interesting that when I go back it seems that today Russians are more “Americanized” than Americans themselves, you know, the way Americans are portrayed in popular culture and blockbuster movies. There seems to be an inordinate drive towards being successful in business and making fortunes in Russia now. In a way I feel more “foreign” there.

Interview conducted and edited by Brian James Schill

THE RADON AWARENESS HEALTH INITIATIVE

SMHS researchers turn their attention to gamers to raise awareness of the dangers of radon

“Everyone knows it’s no longer okay to expose your children to cigarette smoke in the home,” begins Gary Schwartz, PhD, epidemiologist and professor of Population Health at the UND School of Medicine and Health Sciences, “but your house could have high levels of radioactivity in the air from radon gas, exposing your family to the equivalent of several packs of cigarettes each day, and many people do nothing. That’s a problem.”

According to Schwartz, while the colorless and odorless gas known as radon—prolonged exposure to which causes an estimated 21,000 deaths each year from lung cancer—is present in high levels in only four percent of homes nationwide, high levels can be found in 61 percent of homes in North Dakota.

Compounding the tragedy is that most of those 21,000 deaths are preventable because radon levels can be reduced by venting radon gas out of the home, which often can be accomplished for less than \$1,000.

Yet, hundreds of educational and awareness programs targeted at adults over the years have had little effect on reducing the population’s overall radon exposure—most still don’t know much, if anything, about radon. “It is a kind of chicken-or-egg problem; many homeowners don’t know about the dangers of radon so they don’t seek out educational materials with what little time they have for such activities,” Schwartz said.

So how can we reach these adults?

Richard Van Eck, PhD, hired the same year as his colleague, met Schwartz for coffee in 2015 to discuss the possibility of collaborating on a radon education project and got an education of his own.

“Gary told me about how prevalent radon was in North Dakota, what its health effects are, and how his house had high levels,” says Van Eck, professor of Population Health and Associate Dean for Teaching and Learning and the David and Lola Rognlie Monson Endowed Chair in Medical Education at the SMHS. “I had no idea how serious it was. My next question was, ‘how do I get my house tested?’”



Screen shot from a beta version of the Radon Awareness Health Initiative online game. Image by Triad Interactive Media.

This conversation got the researchers thinking about different ways to reach out to the public. Van Eck, who came to the SMHS hoping to leverage his background in education and instructional design on new ways of teaching future health care professionals, suggested the idea of developing a product targeted at middle-schoolers. He also sought to use a different approach to radon education: games.

To that end, the pair applied for and were awarded a small business innovation research grant from the National Institutes of Health.

The result of the researchers’ collaboration is the *Radon Awareness Health Initiative (RAHI)*. In the two-tiered program, students first learn about radon and its health effects through classroom instruction and then learn how to apply and deepen their knowledge through the Web-based game to extend their classroom learning.

As Van Eck, who has studied games and learning for 20 years, explains, “This project used game-based learning—the act of aligning computer games with learning in the way youth prefer to engage with content. It’s not just about appealing to students, though. Games can and do help students transfer ‘inert’ science classroom knowledge into tangible, real-world actions.”



Gary Schwartz, PhD (left) and Rick Van Eck, PhD (right) at the UND School of Medicine and Health Sciences in Grand Forks.

In the game, students help a group of extraterrestrials, the “Rahi,” whose spaceship has crashed on Earth and who need help finding their rescue ship on the other side of the city. The problem is that Rahi are extremely sensitive to radon—even a few seconds of exposure at levels above four parts per million per cubic liter of air (the current level recommended by the EPA for remediation of homes) can kill them. The Rahi educate students about radon and students learn to apply that knowledge by helping the extraterrestrials find the RAHI rescue spacecraft, using a radon-testing apparatus to chart a safe, radon-free path through the community.

“The kids can see, in real-world terms, what the levels of radon are in various homes or neighborhoods and how the level changes,” adds Van Eck. “That sort of hands-on immersion is a way for students to learn this conceptual knowledge in a way that is deeper than asking them to simply memorize facts about radon.”

This first phase of the project, which is being developed in partnership with Triad Interactive Media, an award-winning media services company focused on the design and development of learning and training media, will be tested in

seventh-grade health education classrooms in Grand Forks, N.D. The program will then be distributed throughout North Dakota and other states in a later phase.

For his part, Justin Otto, Radon Program Coordinator at the North Dakota Department of Health (NDDOH) in Bismarck, considers the videogame a useful addition to the radon education arsenal.

Otto’s office provides easy-to-use home radon test kits to North Dakota residents free of charge. To request a test kit, call the Department of Health at 701.328.5188, or e-mail Otto at: jotto@nd.gov. Test kits also may be available for purchase at local hardware stores, building supply stores, or local public health departments.

Back in Grand Forks, Schwartz and Van Eck hope to equip a generation of future homeowners with the knowledge they need to keep themselves and their homes safe from radon. “Once we have people’s attention, it does not take much to create that ‘aha’ moment,” Schwartz concludes, “to convince them that radon is a real threat that can and should be remediated.”

By Brian James Schill



THE PRIME OF THEIR LIVES

Health professionals and students gather for Primary Care Week at UND

The week of October 30, 2017, was Primary Care Week at the University of North Dakota. Jointly hosted by the UND chapter of the American Medical Student Association (AMSA) and the North Dakota Center for Rural Health, UND Primary Care Week is part of a national effort to highlight the importance of primary care and to enable and enhance discussions among health care professionals about the important role of primary care in our health delivery systems.

Anna Melicher and Benjamin Prout are both second year medical students at the UND School of Medicine and Health Sciences (SMHS). Together, they lead the UND AMSA chapter and helped guide the planning of the 2017 Primary Care Week events.

“This year, we wanted Primary Care Week to be more inter-professional than in years past, and to have a variety of topics to offer the students,” Melicher said.

Melicher, a Fargo native, has an interest in primary care and was excited to be part of the preparation for the week because of the potential impact it could have on the future of health care in the state.

“Primary Care Week is important for UND because it shows health care students what primary care is all about,” she said. “We need more nurses, physical and occupational therapists, and doctors in rural North Dakota communities. The Community Meet and Greet is an especially great event for learning about rural North Dakota and what those communities can offer health care workers.”

Throughout the week, medical students had the chance to participate in a number of different events, including a loan repayment and scholarship informational session and a presentation titled “Thinking Globally, Acting Locally,” given by Dr. David Schmitz, Chair of the Department of Family and Community Medicine at the SMHS. Other events, like the Community Meet and Greet, were open to multiple health disciplines across campus. The Community Meet and Greet is the largest event during Primary Care Week. This year, 22 health care organizations from across North Dakota came

to UND to talk with nearly 200 students from various health career programs across campus.

Organizations large and small, from as close as Grand Forks and Fargo and as far away as Hettinger and Watford City, were here for their chance to talk with students enrolled in health care programs and to express their need for primary care in their respective communities.

One of the health care organizations in attendance was Heart of America Medical Center in Rugby. Jodi Schaan, medical staff coordinator at Heart of America, drove nearly 150 miles to attend the three-hour event alongside UND Physician Assistant Studies graduate Dustin Hager, PA-C. Schaan enjoyed how engaged the students were and liked the variety of health care professions represented.

“My favorite part was seeing students’ thought processes expand as we talked. I’m sure many of these rural locations were not even on their radar prior to this event, and now they know their options for shadowing, rotations, visits, and hopefully employment,” Schaan said.

The Community Meet and Greet gives students like Melicher a chance to explore potential locations for upcoming clinical rotations.

“[At the Meet and Greet] I was able to ask the rural providers about rotations and even talk with a UND graduate who had just started working at a rural clinic,” Melicher said. Other health career students in attendance included those from occupational therapy, physical therapy, medical laboratory science, physician assistant studies, and graduate and undergraduate nursing programs.

Another inter-disciplinary event during the week was Screening, Brief Intervention, and Referral to Treatment (SBIRT) training. This training was offered both to medical students and Family Nurse Practitioner students, and was hosted by clinical faculty from the College of Nursing and Professional Disciplines. SBIRT training is an evidence-based practice used to identify, reduce, and prevent problematic use, abuse, and



Representatives of several regional providers met with students from all health professions at the “Community Meet and Greet” portion of Primary Care Week 2017 at the UND SMHS.

dependence on alcohol and illicit drugs. An evening primary care team panel presentation was also offered to all health profession students and included panelists from Unity Medical Center in Grafton and Sanford Health in East Grand Forks.

Dr. Schmitz said he was able to attend most Primary Care Week events and supports the inter-professional approach students took in planning out the week. “Our primary purpose remains to educate physicians and other health professionals to enhance the quality of life here in North Dakota.

Primary Care is a big part of this mission and the inter-

professional teamwork we have here at the School educationally reflects what is lived daily in serving the health care needs of our communities throughout the state,” Schmitz said.

Primary Care Week is traditionally held during the first week of the second MD block of the SMHS semester. For more information, contact Stacy Kusler at the Center for Rural Health at stacy.kusler@med.UND.edu.

By Stacy Kusler

A FAMILY TRADITION

Stenehjem family women show why the UND SMHS may be the country's best kept secret in medical education



Second-year medical student Kristen Stenehjem in the UND SMHS Simulation Center.

Kristen Stenehjem remembers hearing legendary stories about her great-grandfather, the only family physician in McKenzie County during the Great Depression. He was known for his dedication to patients and for using a sleigh in the winter to reach patients during smallpox and influenza outbreaks.

Those stories and her hometown physician inspired her to make her mark on North Dakota medicine by working to become a physician as well.

But Kristen was not alone in her desire to carry on a tradition that began with her great-grandfather. Today, four Stenehjem women—all related—are, or will be, graduates of the UND School of Medicine and Health Sciences.

Kristen is a second-year medical student who just completed a prestigious Summer Fellowship at Memorial Sloan Kettering Cancer Center in New York City. Brynn Stenehjem is a first-year resident at Abbott Northwestern Hospital in Minneapolis. McKayla Stenehjem is a third-year resident at the University of Minnesota Masonic Children's Hospital in Minneapolis. And Amy Stenehjem-Kelsch earned her medical degree from UND in 2000 and owns a consulting business helping people navigate the health care system.

Besides their names and affinity for medicine, the quartet serves as a case-in-point for why the UND SMHS may be the country's best kept secret in medical education.

The Medical Student

Watford City, N.D.-native Kristen Stenehjem, the youngest of the four relatives, credits UND's patient-centered learning curriculum for her medical student fellowship at Memorial Sloan Kettering Cancer Center.

"I had heard that the Sloan Kettering programs were very competitive," Kristen said. "I applied but didn't tell my family in case I didn't get in." But she did get in—and was the only student from the Midwest accepted for one of only 20 spots in the Cancer Center's Medical Student Summer Fellowship Program for first- and second-year students.

"Everyone else was from Ivy League schools and the East Coast," Kristen explained. "I proved myself by working harder and going in early and staying late. It's that North Dakota work ethic."

The effort paid off: Kristen was asked back to Sloan Kettering next summer.

In her own words, UND's School of Medicine and Health Sciences "is just as good as [Ivy League] schools" in terms of preparing physicians and other health professionals for patient care.

"UND's patient-centered learning really helped. We go through cases every week, and study patients, not just books. So I had worked with patients before, while many of the other medical students [in the summer program] hadn't," Kristen said. "We look at how patients are affected physically, mentally, and we meet with them in person early in our education. This really helped me with my fellowship."

At Sloan Kettering, Kristen worked in pediatric oncology, caring for adults who had childhood leukemia and looking at the long-term health effects they experience.

"We found that survivors are more likely to be obese or overweight, and to develop cardiometabolic diseases, including diabetes," Kristen said. "We wanted to find out why, and to implement diet and exercise programs to help survivors lose weight and prevent diseases. It was a great experience."

The First-Year Resident

Like her cousin Kristen, Brynn Stenehjem credits the SMHS patient-centered learning curriculum for her great experience as a first-year resident at Abbott Northwestern Hospital in Minneapolis.

“UND absolutely prepared me well,” said Brynn, who grew up in Ulen, Minn., about 40 miles from Fargo. “When I interviewed for my residency, I could demonstrate how much experience I had working in teams and with hands-on patient care. I had more experience than a lot of students from ‘big-name’ medical schools.”

“The patient-centered learning curriculum paid off,” Brynn added. “I realized later how much those communication-based third and fourth years helped me get to know patients. That connection with people is a North Dakota thing that carries into medicine.”

Brynn’s interest in pursuing medicine was kindled when she was eight years-old, she said, when a close family member developed a serious illness. In high school she worked as a Certified Nurse Assistant and shadowed an SMHS-trained physician.

“Health care fit my personality, and just seemed to be the right thing to do,” she said, never regretting choosing UND’s School of Medicine and Health Sciences. “It has a special thing that not all medical schools have. I remember my [residency] Match Day. I was waiting with my class for one piece of paper that would determine the rest of my life, and there was such a nice feeling of togetherness.”

The Third-Year Resident

This camaraderie borne of the culture at the SMHS is what sticks with McKayla Stenehjem as well, who graduated from the School in 2015 and says medicine is a calling.

Now in the third year of her pediatrics residency at the University of Minnesota Masonic Children’s Hospital in Minneapolis, McKayla finds working with children and their families to be extremely gratifying.

“I love working with kids,” said McKayla. “It’s a lot of fun. And it’s so rewarding to have families reach out to me after I’ve taken care of their children. Hearing about the impact I may have had is rewarding.”

McKayla grew up in Bismarck and Fargo, and earned her undergraduate degree in biology from UND before attending medical school. She said her UND education prepared her well for her residency, as did her third- and fourth-year clinical experiences at the Minot Center for Family Medicine, part of the UND SMHS.

“There aren’t a lot of physicians in my immediate family,” says McKayla, whose mother is a cousin of Kristen Stenehjem’s father. “But I couldn’t see myself doing anything other than medicine.”

The Alum

Having seen her mother struggle with lupus and spent time traveling to medical centers around the region as a child—

including Mayo Clinic in Rochester, Minn.—Williston, N.D.-native Amy Stenehjem-Kelsch noticed the difference in how different doctors made her mother feel better not only physically but emotionally.

So it is that since fifth grade Amy too knew she wanted to be a physician. And she always knew where she’d be going for school.

“I wanted to stay close to home,” explained Amy, who graduated from the SMHS in 2000, and from her physical medicine residency in 2004 from the University of Missouri at Columbia, where she was chief resident. “So UND was my first choice. I really didn’t even consider anywhere else.”

“UND medical school was a fantastic experience, and provided me with superb training,” Amy added. “I felt as well-trained, if not better, than residents all over the U.S., and I had fantastic classmates. We were all very close.”

After medical residency, Amy and her husband, Chad Kelsch, a UND Law alum, moved to the Twin Cities where Amy worked as a staff physician at Park Nicollet Clinic and later Physicians’ Diagnostics & Rehabilitation.

Diagnosed with a chronic autoimmune condition in 2011, though, Amy was forced to end her medical practice. So she recently started a consulting firm to help people with chronic health issues navigate the health care system.

“I miss practicing,” she said of the career shift, “but I can work from home and still interact with patients.”

Carrying the Tradition

In their own ways, each of the Stenehjem women are carrying on a new tradition. And the School of Medicine and Health Sciences has given them the tools to do so in any environment.

“North Dakota faces unique medical challenges,” concludes Kristen. “For example, Watford City has just one hometown doctor and a small hospital. I want to find ways to help rural communities get better access to care.”

Her experience at Sloan Kettering—coupled with her patient-centered curriculum at the SMHS—should help her do just that.

“It was very collaborative, very focused on patients. That’s the type of environment I want to work in. It was what we are being taught in medical school: to focus on the patient, not the disease. UND is preparing physicians well.”

By Jan Orvik

MS1? Check:**A NOTE TO FIRST-YEARS**

by Erica Nelson, MS2

Just over a year ago, I was sitting in Jack Trice Stadium at Iowa State University waiting to accept my college diploma. Little did I know I'd eventually find myself writing this note in Grand Forks, N.D., not long after completing my first year of medical school.

It seems unreal to me that these past 10 months have flown by so quickly. At times, I wasn't even sure I'd make it through the year, but here I am feeling elated and somewhat relieved. I can't put into words how accomplished I feel knowing I made it through my first year of medical school. And even though I know I have many challenging years ahead of me, I think my classmates would agree that we need to celebrate every accomplishment, no matter how small.

If you had asked me a year ago how medical school would change me, I would have had no idea how to answer. But now, with new experiences under my belt, you better believe medical school has changed me—often in ways I didn't think possible.

Last year, when school was grueling and the winter months felt never-ending, I had to stay positive lest I get consumed by negativity. I often found myself worrying about how I might fail an exam or whether or not I'd be a good physician. But each time these thoughts reappeared, I forced myself to focus. Soon, I found myself encouraging my classmates and myself to persevere. I tried to find something positive in everything that we did.

That's not to say I didn't have bad days. At times I didn't want to get out of bed, deal with my computer (which I had to eventually replace), be a morning person, or study. However, I managed to find motivation during those bad days; and thank goodness, because without motivation I wouldn't have finished this school year.

As the days went by, the idea of failing faded from my mind. I fell into a routine that churned along, day by day. I often didn't realize how much I had learned until test days began to approach, and the knowledge of how much I was learning overwhelmed me. I found these times to be extremely stressful: I would complain, I would get sick of studying, and I'd say I'm giving up. But I didn't quit because there was a part of me that always remembered to be patient.

Patience was never my strong suit. However, somehow within these past 10 months I found patience. I was reminded of this new-found patience, after my final first-year exams, when I was cleaning my room last spring. As I was rummaging through my sock drawer, I found a little piece of paper at the bottom that read: "patience." I had ripped the slogan off a sign posted at the School, at the beginning of the year.

At the time, I knew I would need patience if I was going to survive my first year of medical school. So, I took the piece of paper home and it somehow found its way into my sock drawer. When I found the paper again, I had to smile as I thought about how far I had come. Now if you ask me how medical school has changed me, I'd tell you it helped me find patience.

HAIKU

by Tirzah Wethern, MS3
 First...Fear, Doubt, Questions
 Next...Responsibility
 Lastly...Fulfillment

■ '10s

Megan Christensen, MD '13, has joined the anesthesia team at Altru Health System in Grand Forks. She earned her medical degree from UND and completed her anesthesiology residency at the University of Nebraska Medical Center in Omaha, Neb.

Bethany Gourneau, MD '13, has joined the anesthesia team at Altru Health System. She earned her medical degree from UND and a Master of Public Health degree from Dartmouth College in Hanover, N.H. Gourneau completed her anesthesiology residency at the University of Kansas in Kansas City, Mo.

James Miles, MD '12, has joined the neurology team at Altru Health System. Dr. Miles is one of only three pediatric neurology specialists in North Dakota. After earning his medical degree from the UND SMHS in 2012, Dr. Miles completed a Pediatric and Adolescent Medicine residency and Child Neurology Fellowship at Mayo Clinic in Rochester, Minn.

Brittany Person, DPT '17, has joined Rehab 4 Life Physical Therapy in Fargo, N.D. She has experience in outpatient orthopedic, inpatient neurologic and pediatric settings. She graduated with a bachelor's degree in exercise science in 2014 and earned her doctorate in physical therapy from the UND SMHS in 2017.

Rachel Peterson, MD '13, recently joined Sanford Obstetrics & Gynecology in Bismarck. A Mandan, N.D., native, Peterson graduated from the UND SMHS in 2013 and completed her Ob/Gyn residency at the University of Nebraska Medical Center.

Sherine Talaat, MD '14, has joined RiverView Health in Crookston, Minn. Dr. Talaat, who specializes in internal medicine, will see patients in Crookston and East Grand Forks, Minn.

■ '00s

Ann Hoff, MD '06, is helping Trinity Health in Minot expand its Palliative Medicine program. Dr. Hoff is leading a team of physicians, nurse practitioners, nurses, social workers, and other specialists in a program designed for people with serious and life-limiting conditions. After earning her medical degree from the UND SMHS in 2006, Dr. Hoff completed a residency in Emergency Medicine at Mayo Clinic in Rochester, Minn. She recently completed a palliative fellowship at the University of Minnesota.

Sam Milanovich, MD '06, was the subject of a *Forum* news story on the treatment of childhood leukemia recently. According to the article, Milanovich, who works at Sanford Research Center and completed residencies and oncology work in Pittsburgh, Penn., and Milwaukee, Wisc., manages several clinical trials exploring treatments for childhood cancers.

Rhonda Schafer-McLean, MD '05, an obstetrician/gynecologist at the UND SMHS Southwest Campus in Bismarck, is now performing outreach to the Linton Clinic in Linton, N.D. She is also seeing patients in Wishek, N.D., and Beulah, N.D.

■ '90s

Kimberly Krohn, MD '96, was presented the North Dakota Medical Association's 2017 Physician Community and Professional Services Award. The award is presented annually to a physician who demonstrates "outstanding leadership and services to the people of North Dakota and to the profession of medicine." Dr. Krohn joined Trinity Health's medical staff in 2016 in continuation of a 20-year career in comprehensive Family Medicine. In 2014 she was named North Dakota Family Physician of the Year.

■ '80s

Kathryn Obregon, MD '85, has joined Trinity Health in Minot, N.D. Dr. Obregon is a board certified pediatrician with over 25 years of experience providing expert care to children of all ages. Before joining Trinity, Dr. Obregon practiced in Bismarck, where she taught many UND SMHS students in the clinical setting at the SMHS Southwest Campus. A 1985 graduate of the SMHS, she completed her pediatrics residency at Graduate Medical Education, Inc., in East Lansing, Mich.



Megan Christensen, MD



Sherine Talaat, MD



Sam Milanovich, MD



Kathryn Obregon, MD

THE DR. WILLIAM AND HELENE POWERS SCHOLARSHIP ENDOWMENT

In 2015, Pam and Paul Lander established the Dr. William and Helene Powers Scholarship Endowment in honor of Pam's parents. The endowment established scholarships for 4th year medical students at the UND SMHS interested in primary care, providing a single scholarship to a fourth-year student annually.

But why UND? Why primary care?

"We decided on the UND School of Medicine and Health Sciences—and students interested in primary care in particular—because of the many opportunities the School provided to Pam's family," explains Paul. "We were motivated to set up the endowment as a way to honor not only Bill's long and successful career as a primary care physician in Grand Forks, but Helene, who made a significant contribution throughout her life supporting Bill's medical profession. We felt it was important to include both of their names in the endowment."

"You might say that my mother provided 'primary care' to our family for decades," adds Pam with a smile. "And because primary care and family medicine are a focus of the School of Medicine, UND was an obvious choice for us."

UND does seem to be in the Landers' blood: Pam's and Paul's parents, Pam and her five siblings, and Paul's sister all graduated from UND. Likewise, some of Bill's and Helene's grandchildren either attended or currently attend UND. Such a tradition started with the endowment's namesake. After earning his BS in Medicine from UND in 1953, William Powers went on to Creighton University, which awarded him an MD degree in 1955. Dr. Powers and his spouse then returned to the greater Grand Forks area almost immediately to practice at what was then Valley Medical Family Practice. Not long into his career, Dr. Powers found himself filling the role of Chief of Staff at the former St. Michael's Hospital, the former Deaconess Hospital, and the former United Hospital (which merged with the area Rehabilitation Hospital to become Altru Health System in 1997, two years after Dr. Powers retired). Over the course of his medical career, Dr. Powers also served as Public Health Officer for the City and County of Grand Forks, President of the North Dakota



Dr. William and Helene Powers (center) flanked by Pamela and Paul Landers

Medical Association, and President of North Dakota chapter of the American Medical Political Action Committee.

In addition to countless lives touched, the legacy of Dr. Powers' work is not only a named endowment but a named room at the new UND School of Medicine and Health Sciences building. To be specific, Simulation Room 1 in the SMHS Simulation Center—a fully-operational surgical suite used by medical students and other future providers each week as they train for any number of hospital scenarios—is known as the Dr. William Powers Room.

"I'm very happy with how it turned out," Dr. Powers explained of the visit he made to the Simulation Center recently, whereupon he witnessed "his" room in use. "We went up to see the space and there was a student and a doctor in attendance using the simulation room with a human patient—an actor—and it was very impressive. I'm very proud to have our name on that space."

Like the Landers, future donors interested in leaving a similar legacy are encouraged to inquire about matching gift programs such as the UND Promise, tax incentives such as the North Dakota Tax Credit on Charitable Gifts, and other pledges. Anyone interested in helping grow the Dr. William and Helene Powers Scholarship Endowment can make a donation to the fund at any time.

If you would like to contribute, please do so online at UNDalumni.org/givenow.

THANK YOU TO OUR THOUGHTFUL DONORS

who recently gave gifts or made pledges.

Ross Pettit, BSMed '70, of Grand Forks, N.D., established the Dr. Ross and DonnaLee Pettit Medical Scholarship Endowment, which provides scholarships to medical students. Dr. Pettit earned his Doctor of Medicine degree from St. Louis University in Missouri. He is a retired neurologist who practiced at Red River Neurology Clinic in Grand Forks.

Joseph Steininger of Eagan, Minn., established the Joe and Lynn Steininger Medical Scholarship Endowment, which provides scholarships to medical students. Steininger's son Robert is a second-year general surgery resident at UND, where he also earned his Doctor of Medicine degree.

The Dakota Medical Foundation in Fargo, N.D., established an endowment that will provide an annual scholarship for School of Medicine and Health Sciences students. Scholarship winners and donor naming rights will be awarded in a drawing each year.

Adopt-a-Med-Student Program

For the third consecutive year in the program's seven-year history, there were more Adopt-a-Medical-Student donors than students. Thank you, donors! Fifty-five donors provided funding for 78 stethoscopes, which were presented to first-year medical students during a luncheon Oct. 2. The students were excited to receive their stethoscopes and appreciated the personal connections with the donors. As one student said, "This is something I will have for a very long time, so I will carry your generosity with me!"

The full list of donors can be found at www.med.UND.edu/alumni-community-relations/adopt-a-med-student.cfm.

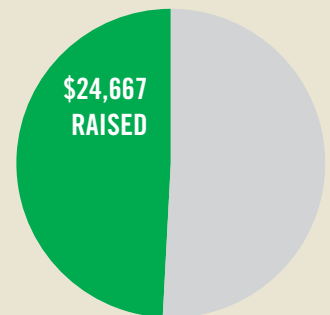


Left to right: Dean Joshua Wynne, John Botsford, Chris Walden, and Dawn Botsford.

The website also notes donors who have participated in the program all seven years: Mark Koponen, Grand Forks, N.D.; Donald Person, San Antonio, Texas; and Dean Joshua Wynne and Susan Farkas, Grand Forks and Fargo, N.D. As another student said, "Every time I look at my stethoscope, I will be reminded of the [physicians] who came before me. Knowing you and others are in my corner is comforting."

Physical Therapy 50th Anniversary Scholarship Endowment

- Our goal: \$50,000
- 49% has been raised as of October 30, 2017



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STOPPING THE BLEED

Dr. Mary Aaland practices what she preaches on blood loss prevention in trauma situations



The automobile that Dr. Mary Aaland, director of Rural Surgery and director of Clinical Research at the UND SMHS, came upon in September 2017. Photo by Forum Communications.

It goes without saying that the excessive loss of blood from any cause can result in death. By some estimates, 40 percent of trauma-related deaths, whether from automobile accidents, gunshot wounds, or work-related injury, are due to bleeding. So does it also go without saying that stopping massive bleeds faster and better could save countless lives.

To that end, North Dakota native Mary Aaland, MD, FACS, associate professor of Surgery, director of Rural Surgery, and director of Clinical Research at the UND School of Medicine and Health Sciences, has been passionate in bringing the American College of Surgeons (ACS) "Stop the Bleed" training program to rural North Dakota.

"Bleeding is of particular concern to rural residents, where professional medical treatment can be hours away," remarked Dr. Aaland following a "Stop the Bleed" event she coordinated with West River Health Services in Hettinger, N.D., this fall. The

event drew 80 participants of all ages, the first 50 of whom went home with a free Stop the Bleed Kit, courtesy of the ACS Foundation. "Many victims can die from uncontrolled bleeding within five to ten minutes of an injury or accident."

According to Dr. Aaland, 85 percent of all fatal crashes in North Dakota occur on rural roads. This is why she feels that just as the general public regularly learns and performs cardiopulmonary resuscitation (CPR), public education in proper bleeding control techniques, including how to apply dressings and tourniquets, should become the norm, especially in rural areas.

Dr. Aaland knows first-hand just how vital such training is, not only from her years as a trauma surgeon but most recently from an experience she had while returning home from performing surgery at a rural critical access hospital.



“We can literally save trauma victims’ lives simply by slowing—if not stopping—their bleeding.”

//// MARY AALAND
MD, FACS

As she exited the Interstate Highway and began travelling down a meandering two lane road this fall, she came to the scene of a violent collision that had occurred only minutes before.

“I was the third vehicle to arrive. A mid-sized car had struck a semi-truck. Glass and debris were scattered everywhere. There was smoke coming out of the car due to the deployed airbags,” Dr. Aaland recalled. “The driver of the first car to arrive at the scene was waving for help. Two individuals from a second car were also providing help—calling an ambulance. I stopped behind them and pulled out my Bleeding Control Kit and ran to the smashed car.”

As Dr. Aaland remembers the scene, two children in the car’s backseat were shaken-up but relatively uninjured. The car’s driver, however, was bleeding from a large laceration of the scalp.

“So I opened my kit,” she continued. “The driver was alert but trapped. Airbags had deployed and there was blood all over. I applied my hemostatic gauze, which is part of the Stop the Bleed Kit, to the driver’s scalp wound and held it tight as I continued to assess the patient. It was awkward to maintain pressure on the wound due to the car’s condition, but I was successful in stopping the bleeding. Within a few minutes, policemen and firemen were on the scene. The ambulance arrived five minutes later, all while I was holding the wound.”

But what about accidents where a trained physician doesn’t stumble upon the scene?

“Not all injured patients are so lucky,” Dr. Aaland admits. “It is for this exact reason that teaching non-health care professionals the essentials of how to stop bleeding and equipping them with the tools to assist in this task is a



First-responders work to extract a driver, who survived the crash, from a wrecked car. Photo by Mary Aaland.

must. Had I not had my Bleeding Control Kit, it would have been extremely difficult to obtain control of the driver’s injury, even though I’m an experienced trauma surgeon.”

Surgeon and good Samaritan, educator and evangelist: using her own experience to convey the value of trauma training for everyone, but especially small-town residents, Dr. Aaland says she will continue to schedule “Stop the Bleed” events in other North Dakota communities. “It’s my hope that before long the public starts to think of trauma bleed training the way it already thinks of CPR instruction: routine,” she concludes. “We can literally save trauma victims’ lives simply by slowing—if not stopping—their bleeding. And we’re moving in the right direction on this.”

By Brian James Schill



PHYSICIAN ASSISTANT STUDIES

The chair of the SMHS Department of Physician Assistant Studies reflects on 50 years of PA students at UND and the PA's role in an evolving health care system.

BY JEANIE MCHUGO

Associate Professor, Chair, Department of Physician Assistant Studies, School of Medicine and Health Sciences, University of North Dakota

Encouragement, inspiration, understanding, supportive, grateful: those words describe a letter from a recent Physician Assistant (PA) alumnus to the current class, which is working through its toughest semester of PA school. Reflecting on his experience of evaluating all levels of patients in his primary care clinical site, writing assignments for online courses (which included a scholarly project), and preparing for graduation in May and medical practice shortly thereafter is what keeps PA students awake at night, says the alum. This was why he offered bits of advice to ensure the best care for *all* patients, including the reminder that every rotation is a job interview, reference, or future consult; so “be nice, work hard and show up on time!”

Caring for patients—that’s what PA practice is all about. Since the inception of the profession in 1967, PAs have been improving patient care outcomes and moving health care forward. We have been innovative, flexible, and always ready for whatever comes next. As a key collaborative part of the patient-centered health care team, PAs are trained in the medical model, licensed to practice medicine, prescribe medication, treat chronic illnesses, and assist in surgery. PAs are critical to enhancing access to care in rural and underserved areas, improving care coordination, and elevating health outcomes that provide cost-effective utilization within health systems. For these and other reasons the demand for PAs has increased by more than 300 percent in the past three years. And this year we recognize our 50th anniversary!

Since nearly 85 percent of the PA curriculum is taught off campus, much of our innovation emerges through technology and the engagement of students through active learning strategies. Activities and technology embedded throughout the curriculum include: interactive case studies, clicker question response systems, videoconferencing, airmedia and podcast presentations, interaction in scale-up or “smart” classrooms, focal clinical problem labs, simulation activities, and guest patients.

Students engage in various inter-professional education activities throughout the curriculum as well, including developing a research project. Work on students’ scholarly research project involves not only a PA faculty member, but an expert outside of PA Studies able to provide input on the project and its implications to both disciplines. Resource librarians are also essential elements to the scholarly project and provide information regarding best practices in research and the development of an annotated bibliography as submitted in part to the full project. As a final, students prepare a poster presentation for their peers and local medical community; top posters are presented at the state NDAPA meeting each May.

Furthermore, students engage in community service projects during their time at UND. Most recently, PA students collaborated with physical therapy students and local clinicians to provide an evening of sports physicals at an area high school setting outside of Grand Forks. Other community service projects have included volunteering with the Special Olympics, the Wild Hog Marathon Race, HERO (Healthcare Equipment Recycling Organization), the Northlands Rescue Mission, and conducting minor skills labs and PA advocacy in high school settings.

Recently, the Department of PA Studies hosted an inter-professional Clinical Educators Workshop where more than 30 clinical instructors met to learn how to lead, develop, and prepare the next generation of health care professionals in the clinical setting. Health care professionals participating in this event were from the fields of occupational therapy, physical therapy, medical laboratory science, physician assistant studies, and speech-language pathology. This was a great opportunity for professionals to further discuss the knowledge and skills they need when working with students, and to promote clinical faculty development, longevity, and retention in clinical education.

The UND PA program continues to meet its mission of primary care in rural and/or underserved areas as evidenced by our graduates. Averages over the last five years demonstrate that:

- 78 percent of our graduates reside in the same city or town where they graduated
- 61 percent practice in primary care (family medicine, urgent care, internal medicine)
- 45 percent practice in a rural area (25,000 or less population)

The PA profession has proven a valuable contributor to the mission of primary care and is well-equipped to provide integrated team care in a rapidly changing health care environment. The generalist training allows for similarities in

function with primary care physicians, particularly in providing comprehensive and accessible health care, yet maintains a sense of adaptability within the profession. PAs provide high quality care, increase productivity and revenue for health systems while reducing patient wait times, and improve patient satisfaction.

If you know of a health care professional who is from a rural area and may have the attributes to join the PA profession, or if you or any of your colleagues are interested in serving as a preceptor for a PA student, please go to med.UND.edu/physician-assistant for more information.

CONTINUING MEDICAL EDUCATION OPPORTUNITY

OPIOID ISSUES

The UND School of Medicine and Health Sciences has brought together various health care experts from across the state to produce a seven-part series on opioid issues.

1. An Introduction to Series on Opioid Issues, Andrew J. McLean, MD, MPH (0.5 credits)
2. Opioid Pharmacology, James L. Roerig, PharmD, BCPP (1.0 credit)
3. Preventing Abuse and Misuse of Controlled Substances, Mark J. Hardy, PharmD (0.75 credit)
4. Non-Medication Treatment of Chronic Pain, Julie Lewis Rickert, PsyD (1.0 credit)
5. Issues of Addiction, Kurt A. Snyder, MMT, LSW, LAC (1.0 credit)
6. Medication Assisted Treatment of Opioid Use Disorder, Melissa J. Henke, MD (1.0 credit)
7. Opiate Prescribing in the USA, Manuel Dejesus-Colon, MD (1.0 credit)



Take these courses at med.UND.edu/continuing-medical-education/online-courses
Additional online courses are available.

Bande named chair of SMHS Department of Internal Medicine

Dinesh Bande, MD, clinical associate professor of medicine at the UND School of Medicine and Health Sciences and hospitalist with Sanford Health, has been named the new chair of the Department of Internal Medicine. Bande, who is based in Fargo, N.D., and has been the SMHS Internal Medicine clerkship director for third-year medical students since 2015, is assuming the role long held by chair emeritus William P. Newman, MD.



“Having been in the UND system for almost a decade, it has truly been an honor not only to train here, but to go on to serve the community and teach medical students and residents,” Dr. Bande said. “We like to think that it is our responsibility as a team to ‘train our own to take care of our own,’ which I hope becomes a mantra here.”

Bande completed his medical education at the University of Health Sciences’ Kurnool Medical College in India in 2006 and was a resident in Internal Medicine at the SMHS Southeast Campus in Fargo, N.D., from 2008 to 2011. An award-winning educator and researcher, he is certified by the American Board of Internal Medicine and a member of several professional organizations, including the North Dakota Medical Association, American College of Physicians, Alliance for Academic Internal Medicine, and Association of American Medical Colleges.

Photo by Kenneth Jones Photography.

Foster awarded multiyear grant from National Institutes of Health

James Foster, PhD, assistant professor in the Department of Biomedical Sciences at the School of Medicine and Health Sciences, has won a two-year award in the amount of \$417,000 for a project titled “Dopamine Transporter Palmitoylation.” The grant was awarded by the U.S. Department of Health and Human Services and the National Institutes of Health through a program that promotes the inclusion of undergraduate and graduate students in research.

Palmitoylation is a reversible cellular process wherein lipids (fatty acids) are attached to proteins for the purpose of adjusting protein function and activity. Foster and his colleagues have identified the dopamine transporter (DAT) as a palmitoylated protein. Dopamine is a chemical “messenger” that sends signals between neurons (nerve cells) and is highly regulated by the dopamine transporter, which transports dopamine back into the neuron from which it was released. Any irregularities that emerge in this process may result in one of several dopamine-related disorders of the central nervous system.

“The proposed research is especially relevant to public health because the dopamine transporter is essential for normal neurotransmission,” explained Foster. “Defects in transporter regulation may be involved with psychiatric and neurodegenerative disorders such as schizophrenia, attention deficit disorder, Parkinson’s, and cocaine and methamphetamine addiction. Figuring out how these processes work in neurons will help us determine how to better treat, if not prevent, these conditions.”

The Lieber Institute for Brain Development and SMHS partner to expand the largest Human Brain Repository in the world for the study of developmental brain disorders

In October, the Lieber Institute for Brain Development (LIBD) and the UND School of Medicine and Health Sciences (SMHS) announced the establishment of a new partnership to expand the largest human brain repository in the world for the study of developmental brain disorders. The partnership with UND marks the fourth collection site for the LIBD, and will allow researchers to accelerate the rate of tissue collection as well as diversify their samples based on the populations living in the UND region.

Mary Ann Sens, MD, PhD, professor and chair of the SMHS Department of Pathology, is spearheading the effort at UND.

“We’re thrilled to embark on this partnership with the LIBD, which will allow persons from North Dakota and the upper-

Midwest to participate in the exciting research of brain development and function already ongoing elsewhere in the country,” noted Sens. “We can now directly collaborate with world leaders in neuroscience through the Lieber Institute, which greatly expands our clinical translational research programs and brings a new level of excellence and opportunity to the region.”

This new collaboration will increase the diversity of brain samples collected, providing researchers with the opportunity to expand the study of neurological and cognitive disorders across the unique genomes that make up the population in North Dakota and the surrounding region.

Tim Shea, Simulation Coordinator at SMHS, Earns Certified Health Care Simulation Operations Specialist Credential



The Society for Simulation in Health Care announced recently that Tim Shea, Simulation Coordinator at the UND SMHS, has earned the International Certified Health Care Simulation Operations Specialist (CHSOS) credential. Shea passed an exam that assesses the knowledge and understanding of the principles, processes, and fundamentals for developing and delivering high quality health care simulation activities. The comprehensive CHSOS credential covers design, delivery, technological, and operational simulation principles, and the application of these to meet the needs of health care learners at all levels.

Shea joins Amy Malheim, MS, Simulation in Motion North Dakota and Simulation Center administrative director, in this designation. The two SMHS staff are two of only 159 individuals in the world who have achieved this distinction.

Shea has over 30 years of experience as a Nationally Registered Paramedic (NRP) in a hospital-based Advanced Life Support ambulance service and is Critical Care certified. He is certified by the American Heart Association to teach ACLS (Advanced Cardiac Life Support), PALS (Pediatric Advanced Life Support), and BLS (Basic Life Support). He is also a specialized instructor for ICS (Incident Command Systems), WMD (Weapons of Mass Destruction), and a certified ND EMS (Emergency Medical Services) instructor. Additionally, Shea is the Medical Operations Director for the SIM-ND program.

Center for Rural Health's National Indigenous Elder Justice Initiative announces awards

Several Native groups from across the United States will receive funds to help address elder abuse thanks to grants from the National Indigenous Elder Justice Initiative (NIEJI) Innovation program at the SMHS Center for Rural Health. The NIEJI Innovation program announced \$150,000 in "Native Elder Abuse Innovation Awards" for 2017.

Tribes from around the U.S. submitted proposals to create programs to prevent, identify, and address elder abuse, neglect, and exploitation in their communities. NIEJI Innovation awarded funding to eight tribes from eight states to help them develop programs for their communities:

- Confederated Salish & Kootenai Tribe of Montana: \$17,148 for "Elder Abuse Infrastructure Development Project."
- Eastern Band of Cherokee Indians Tribe of North Carolina: \$19,704 for "Elder Justice Project."
- Maniilaq Association of Alaska: \$20,000 for "Challenging Elder Abuse in the Northwest Arctic."
- Muckleshoot Indian Tribe of Washington: \$20,000 for "Elders Abuse Community Empowerment."
- Ponca Tribe of Nebraska: \$17,148 for "Elder Abuse Prevention Project."
- Shoshone Bannock Tribes of Idaho: \$18,000 for "Elderly Protection Improvement Project."
- Spirit Lake Sioux Tribe of North Dakota: \$20,000 for "Dakota Elders Preservation Traditions Project."
- St. Regis Mohawk Tribe of New York: \$18,000 for "Multidisciplinary Team Implementation to Address Elder Abuse Issues."

NIEJI Innovation provides grants to tribal community-based organizations to carry out activities to prevent, identify, and/or address elder abuse, neglect, or exploitation in local tribal communities, rural or urban. These grants are for one-year for projects that address elder abuse in recipient communities and are funded by an award from the Administration for Community Living.

Alzheimer's Disease Research Fellowship Awarded to UND SMHS Faculty

In October, Harpeet Kaur, PhD, postdoctoral fellow in the SMHS Department of Biomedical Sciences, received the *2017 Alzheimer's Association Research Fellowship* for her work to help end a disease that impacts over 14,000 people in North Dakota. Over the course of three years, Kaur will receive \$175,000 to discover probiotic effects on the progression of Alzheimer's disease.



"We have a lot of patients suffering from this disease, and a lot of medical care is being spent on people with it," said Kaur, who works in Colin Combs's lab. "I want to study the role of gut-brain interaction in Alzheimer's and develop novel therapeutic approaches aimed at intestinal microbiota to slow down the progression of the disease."

Alzheimer's is characterized primarily by brain changes, such as the clumping of harmful beta-amyloid and tau protein. Recent studies, however, have found that the disease may also be linked to changes in the bacteria of the intestine. These bacteria help control how the body breaks down substances, and alterations in this system have been shown to affect brain chemistry in ways that either promote or reduce the risk of Alzheimer's.

For their current grant, Kaur and her team will conduct a large study on mice models of Alzheimer's. They'll feed the mice a probiotic nutritional supplement that has health promoting bacteria, which populate the intestines and "crowd out" disease promoting bacteria, possibly promoting a benefit against Alzheimer's.

Interment Ceremony honors donors of Deeded Body Program

In September, an interment ceremony honoring the memory of people who donated their bodies for the benefit of medical education took place at the UND School of Medicine and Health Sciences plot at Memorial Park Cemetery in Grand Forks as the School paid respect to donors of the Deeded Body Program.



"This service is a way to give thanks to both the donors and their families, and a way to express honor for the gift we have been given through their donation," said Mandy Meyer, PhD, assistant professor in the departments of Occupational Therapy and Biomedical Sciences and director of the Deeded Body Program at the SMHS. "The education these individuals have given is invaluable to our future health care providers; they truly teach students about the form of the human body and in many ways are students' *first* patients."

The School conducts the interment ceremony once every three years to inter the cremated remains of donors who have chosen to be interred in the UND School of Medicine and Health Sciences plot. Family members of donors being interred have been invited, as have the School's faculty, staff, and students, who often look forward to the opportunity to show their respect and appreciation for the donors who have contributed to their learning and scholarship.

North Dakota Brain Injury Network receives increase in state funding

The North Dakota Brain Injury Network (NDBIN) at the Center for Rural Health has received an increase of \$100,000 in state funding for this fiscal year. The additional funding will be used to develop a statewide brain injury strategic plan under the newly formed Governor's Advisory Council for Brain Injury.

The additional funding is provided through the North Dakota Department of Human Services (DHS). Rebecca Quinn, NDBIN program director, said the increase makes up about one third of NDBIN's \$292,000 budget. Last year NDBIN's funding was reduced, so this year's amount essentially restores their

original budget. "North Dakota's brain injury services are still in the developmental phase," Quinn said, "and the additional funds will help us develop a more strategic way to continue our education and outreach work."

NDBIN was established in 2013 and is funded by a contract with the North Dakota Department of Human Services to provide information and support to individuals with brain injury and family members, and to assist them with navigating the service system.

Center for Rural Health's Lynette Dickson receives award



Lynette Dickson, associate director of the State Office of Rural Health (SORH) Program at the Center for Rural Health (CRH), received the James D. Bernstein Mentoring Award at the 2017 National Organization of State Offices of Rural Health (NOSORH) annual conference in Savannah, Ga. The award honors an experienced, long-time rural health leader who is a member of NOSORH, is actively involved in a State Office of Rural Health, has sincere interest in emerging leaders' professional growth, and has played a key role in developing future leaders within the national rural health movement.

Dickson has been at the CRH since 2003. She directs the SORH grant program, Flex program, and the Small Hospital Improvement Program. She also directs outreach to North Dakota health care providers for the partnership with the Regional Extension and Assistance Center for Health Information Technology (HIT), serving North Dakota and Minnesota.

North Dakota Simulation Center receives sustaining grant

The Simulation Center at UND's School of Medicine and Health Sciences (SMHS) has received the first half of a two-year \$250,000 grant for a project titled "Sustaining the SIM-ND Program." The multi-sponsor grant was awarded jointly by five health care providers from across the state: Altru Health System, Essentia Health, CHI St. Alexius Health, Sanford Health—Fargo, and Trinity Health. Each provider has agreed to contribute \$25,000 per year to the SMHS Simulation Center for two years.

The Simulation Center manages four custom-built, 44-foot long Simulation In Motion-North Dakota (SIM-ND) learning labs on wheels. SIM-ND units bring simulation education to all third-year medical students training at SMHS campuses away from Grand Forks. Units also provide health care education to rural areas of North Dakota so emergency responders and other providers can upgrade their skills closer to home rather than leave their service areas for training.

"Simulation in Motion—North Dakota has reached more than 11,000 learners, provided more than 1,100 continuing education hours, and traveled at least 94,000 miles in the four years the program has existed," said Amy Malheim, MS, program administrator for the Simulation Center. "Through the continued partnership between the UND SMHS and the five major health systems in the state, SIM-ND will continue to carry out its mission of improving the health of all current and future North Dakota residents."

Ruit appointed associate dean for Education and Faculty Affairs

Kenneth G. Ruit, PhD, associate professor in the Department of Biomedical Sciences, has been named associate dean for Education and Faculty Affairs at the UND School of Medicine and Health Sciences. Ruit previously served as associate dean for Educational Administration and Faculty Affairs and is taking much of the work previously managed by Gwen Halaas, MD, MBA, who retired in July 2017.

"Graduates from our innovative and high-quality programs and our faculty's remarkable research achievements are impacting health care in North Dakota and nationwide," said Ruit. "That's a reflection of the value the School places on cultivating and sustaining an environment in which students and faculty members can achieve their personal and professional goals. I am excited to be given the opportunity to serve the School in this role."

Ruit received his PhD in Cell Biology, Neurobiology and Anatomy from Loyola University of Chicago in 1989. A faculty member at the SMHS since 1991, he teaches human anatomy and neuroscience to undergraduate, graduate and medical students. First serving as assistant dean for Academic and Faculty Affairs in 2008, Ruit assumed the role of associate dean for Educational Administration and Faculty Affairs in 2014.



Marvin W. Christianson, BS OT '76 Marvin Christianson was born on February 20, 1951, in Pekin, Illinois, the son of Marvin E. and Donna (Andrae) Christianson. He attended school in Halstad, Minn., and graduated from Halstad High School. An avid learner, Marvin attended the University of Minnesota, Concordia College, University of North Dakota, and the University of Connecticut, obtaining degrees in Biology, Occupation Therapy, Exercise Physiology, and Hospital Administration. On April 29, 1972, Marvin was united in marriage to Bethel Helgeson. The marriage was blessed with three children, Eric, Andrea, and Sara. While working in the Grand Forks United Hospital and Rehab Hospital as Director, Marvin was instrumental in getting National Licensing for therapists. In 1986, the family moved to Pennsylvania where Marvin worked in rehabilitation and hospital administration at Geisinger Medical Center in Danville, Penn. Upon returning to Minnesota in 1999, he worked at Fairmont Community Hospital until becoming disabled in 2004. Marvin was a 12 year cancer survivor and was a 27 year Parkinson's warrior in addition to battling Polycythemia Vera. Left to cherish his memory are his wife, Bethel Christianson of Fairmont, Minn.; son Eric (Jennifer) Christianson of Blandon, Penn.; daughters, Andrea (James) Miller of Fairmont, Minn., and Sara Christianson of Brookhaven, Penn; sister, Lori (Doug) Manley of Rosemount, Minn.; brother, David (Dana) Christianson of Fairmont, Minn.; five grandchildren; as well as many other extended family and friends. Marvin was preceded in death by his parents, Marvin E. and Donna Christianson; and his grandparents.

Irven Iner Dahl BS Med Technology '53 Irven Dahl was born in North Branch, Minn., on Friday, April 13, 1921. The youngest of John Edward and Ella Albertina Dahl's six children, he passed away peacefully on August 17, 2017, at 96 years old. In WWII, he worked in the Army Medical Corps in England. After the war he attended UND, graduating in 1953 with a B.S. in Medical Technology. He worked briefly at Mounds Park Hospital, and in 1956 he joined the Minneapolis Veterans' Hospital as supervisor of the Clinical Laboratory. After retiring in 1981, he volunteered until 2010, winning many awards. He is survived by his nephew Ken Koeneman (Sharon) of Lakeville; his niece Carolyn Dahl (Thomas Perry) of Houston; niece Sue (nephew Ronald, deceased) Koeneman of Delano; niece Diane (Bob) Andrews of Kansas City; his grand nephew Peter (Jessica) Koeneman; and three grand-nieces Lisa Koeneman, Kari (Dave) Ecklund, and Amy Korsbon.

Lorraine Ettl, BS Education '68 Lorraine Ettl was born on February 24, 1925, in Lakota, N.D., and married Frederick Ettl and they had four children. She lived in Grand Forks starting in 1949 and resided in the same home on Belmont Road for over 50 years. Lorraine graduated in June 1968 with a Bachelor of Science in Education. She received her Master's degree in Library Science from UND shortly thereafter. She worked as a librarian at the Harley E. French Medical Library in the UND School of Medicine and Health Sciences from 1970 to 1995. As part of her work, Lorraine traveled thousands of miles to small rural communities and 36 Indian Health Service facilities throughout the Dakotas and Nebraska, where she trained 500 health care professionals and students to search medical databases using computers. Lorraine retired from UND in 1995 as the library's head of public services. After retiring from that position, Lorraine worked at the Altru Cancer Center Library for many years. She also worked at the Chester Fritz Library. She fully retired in 2012. Lorraine was preceded in death by her parents and her devoted son Rick, and her two brothers Bob and Tracy. Lorraine is survived by her children, Linda Waring, Minnesota; Paul Ettl (Imelda), Japan; and Christine Ettl (Gary Mlynek), North Carolina. Lorraine is also survived by her grandchildren, Michael Ettl, Ryan Waring, Erina Waring, Erika Ettl, and Mylo Ettl. She will be greatly missed by all her family and friends.

Michelle Kay Fenske BS MLS '97 Michelle Fenske, age 42 of Oakes, N.D., formerly of Ottertail, Minn., died Friday, September 8, 2017, in Sanford Medical Center, Fargo. Michelle was born October 10, 1974, in Wadena, Minn., the daughter of Orville and Gladys (Smith) Fenske. She was baptized and confirmed at St. John's Lutheran Church near Ottertail, where she was still a member. Michelle graduated from Perham High School in 1993 and attended junior college in Fergus Falls, Minn. In 1997, she earned her Clinical Laboratory Science [now Medical Laboratory Science] degree from the University of North Dakota School of Medicine and Health Sciences. Most recently, Michelle worked at the Oakes, N.D., hospital as a lab technologist. She loved her three cats. Surviving Michelle are her parents Orville and Gladys of Ottertail, and her brother Brian of Ottertail. Preceding Michelle in death was her brother Terry.

Donald Ross Halliday BS Med '55 D. Ross Halliday, MD, passed away on July 31, 2017, at his home in Scottsdale Ariz., with his wife Jan and daughter Kathryn by his side. He was 84 years old. Ross was born on August 12, 1932, in Kenmare, N.D., to Dr. David James Halliday and Clara Margaret (Allingham) Halliday. He graduated from Kenmare High School and then went on to the University of North Dakota where he earned his BS, BA, and Graduate degrees in 1955.

In 1957 he completed his Doctorate of Medicine Degree at McGill University, Montreal, Quebec, Canada. Ross began his internship at Ancker-Ramsey Hospital in St. Paul, Minnesota, and completed his residency in 1964 at Mayo Clinic in Rochester, Minnesota. He then earned his Master's degree in Orthopedics at University of Minnesota. He served in the U.S. Air Force as a flight surgeon from 1958 to 1960 at the Minot Air Force Base. Ross started his career at the Fargo Clinic in 1964 and he opened his own practice, Orthopedics Associates, in 1967. Ross married Ruth (Olson) Halliday in 1958 at Trinity Lutheran Church in Pelican Rapids, Minn. They soon became the proud parents of Laura (Boyer), Lynn (Zarling), Mark Halliday, and Kathryn (Wanous). Ross was preceded in death by his father, his mother, and his two brothers. Ross is survived by his wife Jan, former wife Ruth, Son Mark Halliday. Daughters Laura Boyer (Jim Boyer), Lynn Zarling, Kathryn Wanous (Doug Wanous). Grandchildren James Moe (Kelsey), Jessica Johansen-Moe (Jordan), Jack Zarling, Helen Zarling, Sally Zarling, Haley Halliday, Hunter Halliday, Luke Wanous, Millie Wanous, and great granddaughter Avery Moe.

John J. Marrella BS Med '62 John "Jack" Marrella, MD, 85, a resident of Northbrook for over 50 years, died Saturday, August 26, 2017, after a short illness. He leaves his beloved wife of 61 years, Barbara (Huntley) Marrella, his loving children, Janet (Frank) Aiello, and John Marrella Jr.; his cherished grandchildren, Kathryn Aiello, Kristin (Kent) Lencseski, Jacquelyn Marrella, and Michael Marrella; his precious great granddaughter, Lily Lencseski and great grandson, Walter Lencseski, born Sunday, August 27, 2017; and many cousins, nieces, nephews, and their families. He was predeceased by his parents, Natale and Angeline Marrella, and brother, Robert Marrella. He leaves a sister, Carol Lindstrom, and sister-in-law, Antoinette Marrella. Jack was a 1950 graduate of De Paul Academy in Chicago, winning many medals in track and field. While attending the University of Illinois he was drafted into the Army and served at Fort Carson, Colorado. After graduating from Northwestern Medical School in 1964, he completed an internship and a four-year residency program at Passavant and the Veterans Hospitals. He joined the practice of family medicine in Des Plaines at Ellinwood Medical and was on the staff at Lutheran General Hospital for 43 years, retiring in 2002. Dr. Marrella was a well-respected, passionate, and dedicated physician. He was a great teacher and mentor with the highest ethical standards and generosity, making many house calls and not charging patients unable to pay. He will be missed.

Kenneth Dan Peetz BS PT '80 Kenneth "Dan" Peetz, age 63, of Elkhorn, Neb., died on Thursday, September 14, 2017, at Lakeside Hospital in Omaha. He was born to Kenneth James and Margaret Mary (Dorwart) Peetz on June 6, 1954, in Sidney, Nebraska. He attended and graduated from Sidney High School and later from the University of North Dakota with a degree in Physical Therapy. For a time, Dan served his country with the United States Air Force and was honorably discharged in May of 1978. On May 20, 1977, Dan was united in marriage to Patricia Hughes in Columbus, Nebraska. He was a practicing physical therapist, having owned and operated Skyline Physical Therapy Services, P.C. in Omaha for 31 years. Dan was a member of the Nebraska Physical Therapy Association (NPTA) and The Nebraska Foundation for Physical Therapy. He received the Mary Ellen Sacksteder Award in October 2016 for his many contributions to the field of physical therapy and the NPTA. Survivors include his wife, Patricia Lynn Peetz, Elkhorn, Neb.; son, Phillip James Peetz, Kansas City, Mo.; daughter-in-law, Emily (Ceru) Peetz, Kansas City, Mo.; daughter, Anne Hughes Peetz, Kansas City, Mo.; sister, Suzanne (Peetz) Conrad, Sidney, Neb.; brother-in-law, Paul Conrad, Sidney, Neb.; brother, Timothy Peetz, Sidney, Neb.; sister-in-law, Julie (Edwards) Peetz, Sidney, Neb.; and six nieces and nephews. He was preceded in death by his father, Kenneth James Peetz, his mother, Margaret Mary (Dorwart) Peetz, and his brother, Philip John Peetz, all from Sidney, Neb.

Janice Walette BS Med '82 Janice Walette, MD, Casa Grande, Ariz., passed away on Wednesday, June 28, 2017. She was born on Sept. 14, 1955, in Garrison, N.D., to Lawrence "Bud" Walette and Gertrude (Boyer) Walette. A proud member of the Turtle Mountain Band of Chippewa, she grew up in Belcourt, N.D., and graduated from Turtle Mountain High School in 1973, and then UND as an undergraduate. She was accepted into the UND School of Medicine and Health Sciences INMED program as a BS Med student and received her MD degree from Michigan State University in 1984. Dr. Walette worked for the Indian Health Service for 20 years in Belcourt and Sacaton, Ariz. She is survived by her husband Michael "Mick" Shanley (Casa Grande, Ariz.); son Gabriel Shanley (Phoenix, Ariz.); daughter Angela Shanley and granddaughter Mikela Shanley (Chandler, Ariz.); sister Carol Walette (Belcourt); niece Christine Walette McCleave (Minneapolis, Minn.); brothers Richard Walette (Las Vegas, Nev.) and Darrell (Jaclynn) Walette and their children Nathan Malaterre, Natalie Davis, Riel Walette, and Ellyn Walette (Fargo, N.D.); aunt Bernice Robbins (Belcourt); and many cousins and in-laws. She was preceded in death by her parents; brothers Donald, Larry, and Ronald; and sister Lynn. She will be missed.



The North Dakota Medical Association presented former SMHS Associate Dean for Administration and Finance Randy Eken (right) with a Friend of Medicine Award at its 130th Annual Meeting, held in Grand Forks on October 6, 2017. Eken was nominated by Dr. Joshua Wynne.



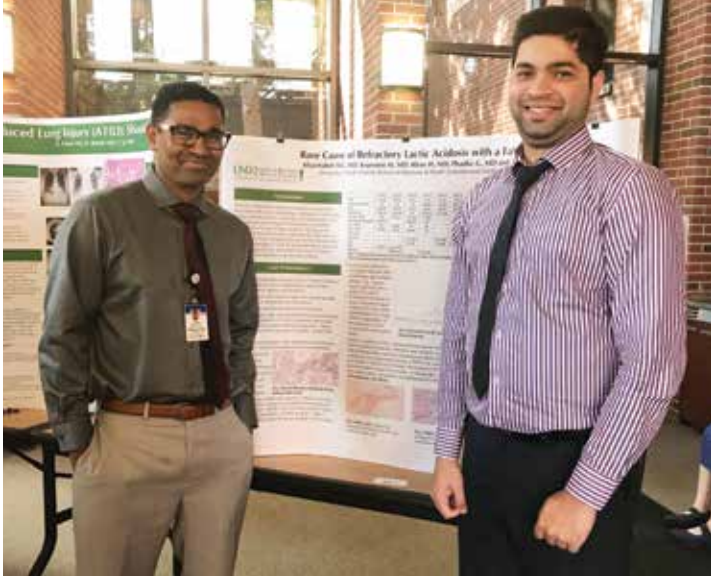
Members of the BSPT class of 1975, Renee Mabey, Jim Schill, Mark Medalen, Mavis Benson, and Tom Mohr, reminisce at the 50th Anniversary reception for the UND SMHS Department of Physical Therapy at Homecoming 2017.



Students in the UND Occupational Therapy Program pose in front of one of four SIM-ND mobile simulation trucks at the 2017 Homecoming Parade.



Dr. Joshua Wynne with SMHS Class of 1957 graduates Ken Kihle, BS Med (left), and Don Feist, BS Med (center), at the 2017 Homecoming Banquet at UND in October.



Dr. Dinesh Bande, chair of the Department of Internal Medicine at the SMHS, and Mahammed Khan Suheb, MD, and Internal Medicine resident at the SMHS Southeast campus in Fargo, at the American College of Physicians (ACP) North Dakota Chapter poster competition in October 2017.



SMHS medical students were busy in November, providing exams to teddy bears and other stuffed animals brought in by Grand Forks Public School students at the annual Teddy Bear Clinic event.



First-year physical therapy student Nich Riveland braves the wind and rain to perform a violin solo at this year's SMHS Deeded Body Ceremony at Memorial Park Cemetery in Grand Forks in September.



Dr. Joshua Wynne (right) with SMHS BS Med Class of 1967 graduates at the 2017 Homecoming Banquet at UND in October. Left to right are: Timothy Reichert, Glenn Sondag, Bruce Becker, and Carrie Sylvester.

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OCCUPATIONAL THERAPY
April 2018* - Salt Lake City

Photo by Adam Barker.



PHYSICAL THERAPY
Feb. 22, 2018 - New Orleans

Photo by Todd Coleman.



PHYSICIAN ASSISTANTS
May 3, 2018 - Fargo

* exact dates TBD.