



2018 COMMUNITY REPORT VITAL SIGNS

Educate. Discover. Serve.

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The primary purpose of the University of North Dakota School of Medicine and Health Sciences is to educate physicians and other health professionals and to enhance the quality of life in North Dakota. Other purposes include the discovery of knowledge that benefits the people of this state and enhances the quality of their lives.

—North Dakota Century Code (Section 15-52)

Educate

- More than 1,200 part-time or volunteer clinical faculty in more than 30 communities throughout the state help to educate medical students and residents.
- There are four clinical campuses located in Bismarck, Fargo, Grand Forks, and Minot.
- Health sciences students receive training not only in North Dakota but also across the country, including occupational therapy and public health programs in Casper, Wyo., and a medical laboratory science program at Mayo Clinic in Rochester, Minn.
- The School's patient-centered-learning curriculum is nationally recognized for producing caring, patient-centered, and dedicated practitioners.
- The School uses the latest in simulation technology for interprofessional teaching and serves as a valuable resource for healthcare professionals throughout North Dakota and the region.
- Interprofessional learning activities, including an interprofessional healthcare course and simulation activities, provide students with a strong practical understanding of the various healthcare professionals on their team.

Discover

Areas of Research Strength

- Aging
- Cancer
- Environmental influences on health
- Health disparities in rural and American Indian communities
- Infectious diseases
- Neurodegenerative disorders


The School has facilities for the study of drug addiction and neurodegenerative diseases such as Parkinson's, Alzheimer's, multiple sclerosis, and epilepsy. Faculty at

the UND SMHS not only publish their research in leading journals each year but apply for and are awarded tens of millions of dollars in grants from agencies such as the National Institutes of Health, the Centers for Disease Control and Prevention, and the Department of Health and Human Services. In 2018, researchers received grants dedicated to projects studying cancer, infectious disease, and epilepsy, among other awards.

The School's Department of Biomedical Sciences was awarded the UND Departmental Award for Excellence in Research in 2018.

Serve

- The School improves the health and healthcare of North Dakotans through research, community engagement, and prevention programs.
- Direct primary care to North Dakotans is provided through its family medicine clinics in Bismarck and Minot.
- The School leads the nation in rural health through the Center for Rural Health (CRH), one of the nation's best. It is home to seven national programs: the National Resource Center on Native American Aging, the National Indigenous Elder Justice Initiative, the Rural Health Information Hub, the Rural Health Research Gateway, the Rural Health Reform Policy Research Center, the Seven Generations Center of Excellence in Native Behavioral Health, and TruServe, a web-based information tracking system that is now used by most state offices of rural health. CRH works to develop capacity and skill at the rural community level through education, training, assessment, planning, and evaluation. Primary focus areas include community development, research, evaluation, policy, and education.
- The Center for Rural Health is a UND Center of Excellence in Research, Scholarship, and Creative Activity, and in 2013 was awarded the UND Departmental Award for Excellence in Research.



The UND School of Medicine and Health Sciences is one of 28 medical schools in the country that is community-based, meaning we don't own or operate our own hospital. Rather, we partner with healthcare providers in the community to educate our students.

Graduate Programs

Doctor of Philosophy and Master of Science degrees in Biomedical Sciences, with specializations in:

- Inflammation and Infectious Disease
- Neuroscience and Neurodegenerative Disease
- Epigenetics
- Molecular and Cellular Biology

Doctor of Philosophy and Master of Science degrees in Clinical and Translational Science, with specializations in:

- Molecular and Pathological Basis of Human Disease
- Bioinformatics and Human Population Genetics

Medical Doctor (MD) Program

All medical students spend their first two years in Grand Forks. They learn through lectures, laboratories, patient simulations, and in patient-centered-learning groups, where basic and clinical sciences are taught in the context of patient cases. They then spend two years of clinical training in Bismarck, Fargo, Grand Forks, Minot, or a rural community through the Rural Opportunities in Medical Education (ROME) Program.

Master of Public Health

The UND SMHS Master of Public Health program is designed to prepare students to respond to the growing demand for public health professionals who can promote health and wellness through population-based approaches.

Health Sciences

Athletic Training

- Four-year Bachelor of Science

Medical Laboratory Science

- Four-year Bachelor of Science or post-baccalaureate certificate
- Categorical Certificate
- Master of Science
- More than 60 clinical training sites in 10 states with more than half in North Dakota and the surrounding region

Occupational Therapy

- Two year pre-occupational therapy program and three year Master of Occupational Therapy
- Three year pre-occupational therapy program and three year Occupational Therapy Doctorate (starting Aug. 2019)

Physical Therapy

- Three-year pre-physical therapy and three-year Doctor of Physical Therapy

Physician Assistant Studies

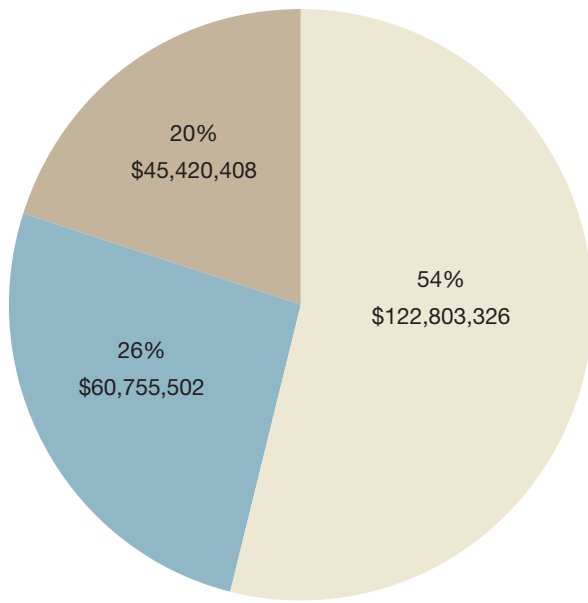
- Two-year Master of Physician Assistant Studies

Our biennial budget is \$228,979,236. The majority comes from non-state sources such as grants, contracts, patient revenue, and tuition.



Estimated Expenditures: 2017–2019

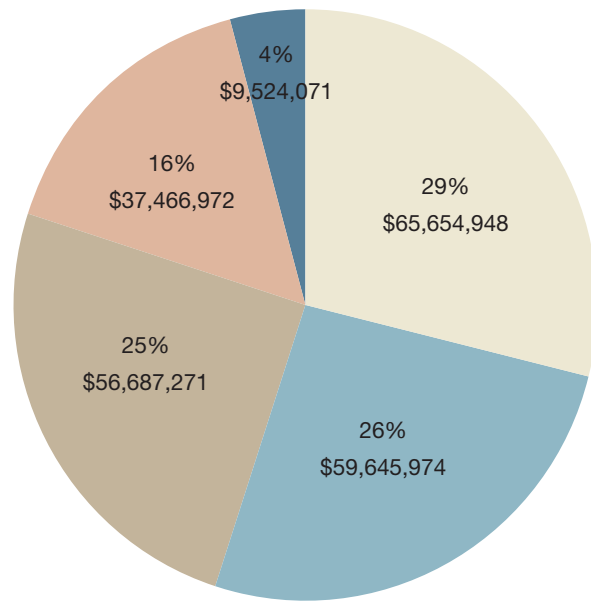
Total: \$228,979,236



- Salaries
- Operating & Equipment
- Fringe Benefits

Estimated Revenue: 2017–2019

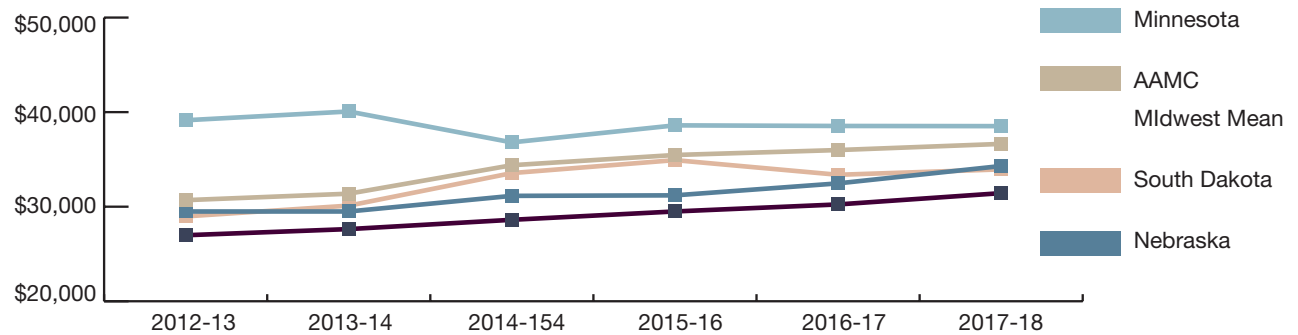
Total: \$228,979,236



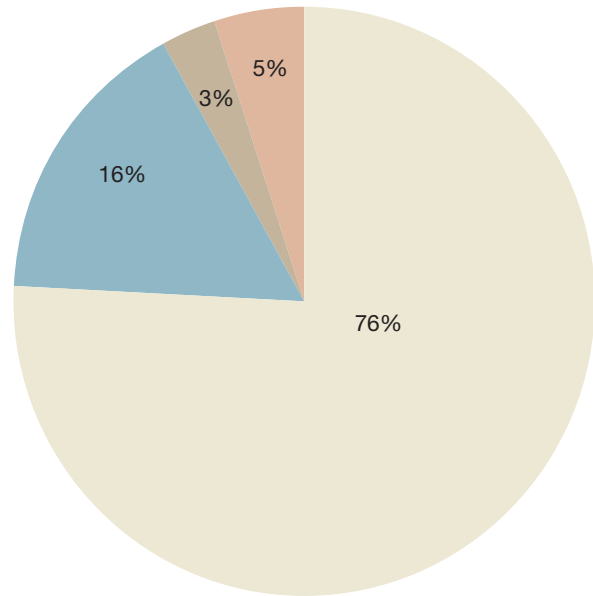
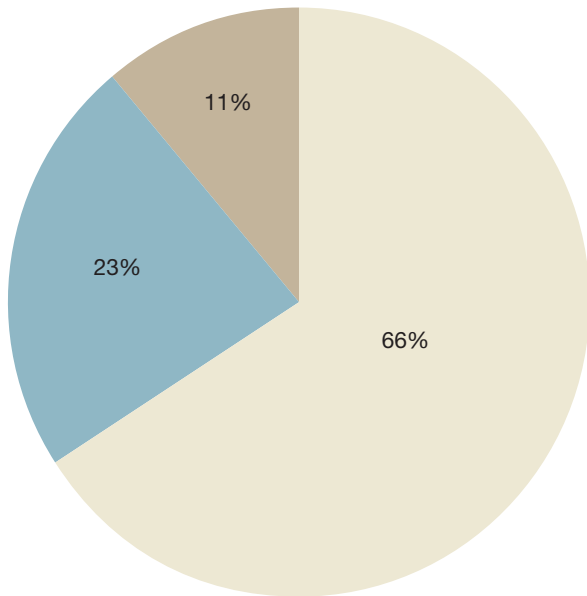
- State
- Grants & Contracts
- Patient & Education
- Tuition
- Mill Levy

For every \$1 appropriated to the School by the Legislature, the School generates over \$2 in grants, contracts, tuition, and service revenues. The total direct economic impact of the SMHS over the next three biennia should exceed \$750 million.

1st Year In-State Resident Tuition & Fee Rates for Regional Medical Schools



Sources of Donations, Fiscal Year 2018



Retained Donors	377
Reengaged Donors	133
New Donors	65
Total Donors:	575

Alumni	435
Friends	95
Corporations/foundations/ matching gifts	19
Other	26
Total Donors:	575

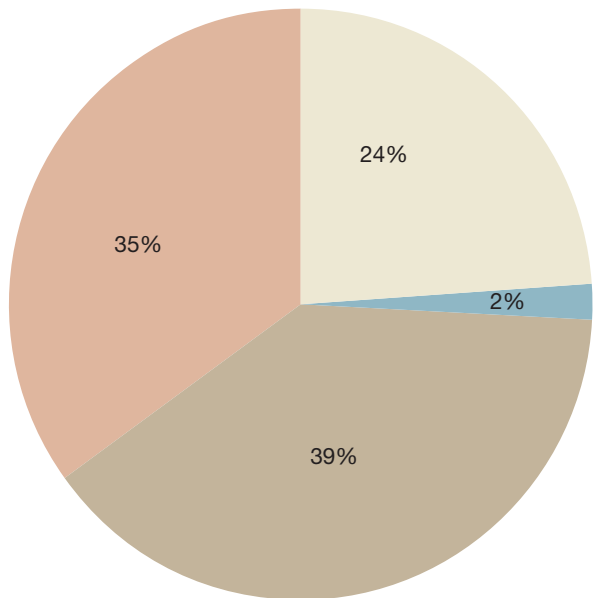
“Thank you for your commitment to future UND physicians, and most importantly **to our future patients!**”

SHANALEE MOUNTAN

UND Medical Student

Class of 2019

Uses of Donations, Fiscal Year 2018



Students	\$ 1,584,263
Educators (faculty)	136,800
Programs	2,564,300
Priority Needs	2,350,432
Total:	\$ 6,635,795

Fiscal Year 2017

Retained Donors	401
Reengaged Donors	172
New Donors	47

Total Donors: 620

Alumni	502
Friends	89
Other	20
Corporations/foundations/matching gifts	9

Total Donors: 620

Students	\$ 2,052,243
Priority Needs	1,519,488
Programs	1,078,400
Educators (faculty)	272,900

Total: \$ 4,923,031

Fiscal Year 2016

Retained Donors	509
Reengaged Donors	153
New Donors	51

Total Donors: 713

Alumni	570
Friends	90
Other	28
Corporations/foundations/matching gifts	25

Total Donors: 713

Students	\$ 6,810,848.71
Priority Needs	1,629,247.15
Programs	488,467.72
Educators (faculty)	154,217.78

Total: \$ 9,082,781.36

Student Enrollments by Major, Fall 2018

Anatomy and Cell Biology (Graduate—Master and Doctoral)	2
Biochemistry and Molecular Biology (Graduate—Master and Doctoral, includes Pathology)	3
Biomedical Sciences (Graduate—Master and Doctoral)	27
Clinical and Translational Science (Graduate—Master and Doctoral)	6
Total:	38

Medical Doctor	
Year 1—Class of 2022	78
Year 2—Class of 2021	79
Year 3—Class of 2020	81
Year 4—Class of 2019	67
Total:	305

Post-MD Degree (Training in family medicine, geriatric medicine, hospitalist, internal medicine, psychiatry, surgery, and transitional)	
Total	137

Health Sciences

Athletic Training	
Pre-Athletic Training	43
Bachelor of Science	31
Medical Laboratory Science	
Pre-Medical Laboratory Science	58
Certificate	100
Bachelor of Science	125
Master of Science	33

Occupational Therapy	
Pre-Occupational Therapy	83
Professional Year I (Undergraduate)	61
Professional Year II (Undergraduate)	63
Professional Year III (Graduate—Master)	59
Physical Therapy	
Pre-Physical Therapy	176
Doctoral	157
Physician Assistant (Graduate—Master)	63
Public Health	31
Total	1,083

The School's faculty also teach courses in biomedical sciences (anatomy, physiology, pharmacology, biochemistry, microbiology, immunology) that enroll over 1,000 undergraduate students each semester who will become physicians, therapists, nurses, nutritionists and dietitians, exercise scientists, public health professionals, teachers, and forensic scientists.

Now that the School's Healthcare Workforce Initiative (HWI) is fully implemented, 16 additional medical students, 30 health sciences students, and a variety of post-MD degree trainees are being educated through the UND SMHS each year, relative to 2012. And to house these dozens of new trainees (not to mention the requisite added faculty and staff), the new medical school and health sciences facility was completed on time and on budget in July 2016. In addition to expanding SMHS class sizes, the HWI utilizes a number of strategies to maximize success in increasing North Dakota's healthcare workforce:

- Acceptance of students to medical school weighted toward those from rural areas of North Dakota.
- Tuition forgiveness for those who commit to practice in a rural community in the state.
- Increased longitudinal experiences in rural communities.
- Increased geriatrics, population health, and public health focus.

Our goal is for our students in the health sciences and medicine to meet or exceed the accepted standard on nationally recognized exams measuring academic progress.

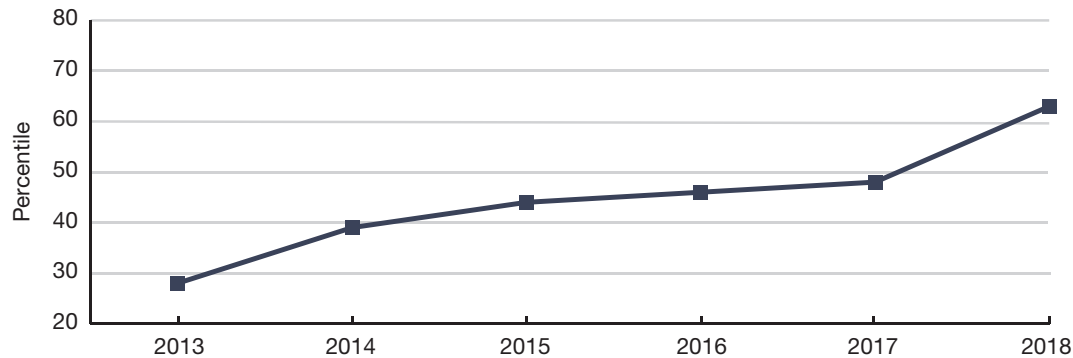


Student Performance on Nationally Recognized Exams

Program	UND SMHS Pass Rate	National Pass Rate
Athletic Training	100%	84%
Medical Laboratory Science	91%	74%
Occupational Therapy	100%	98%
Physical Therapy	96%	92%
Physician Assistant	100%	97%
Medicine		
Step 1		
UND	92%	96%
Step 2		
Clinical Knowledge UND	97%	96%
Clinical Skills UND	94%	94%
Step 3		
UND	100%	98%

Sources: Data are from the most recent examination in each respective area.

Retention of UND SMHS Medical Student Graduates for Practice In-State (compared with other medical schools)

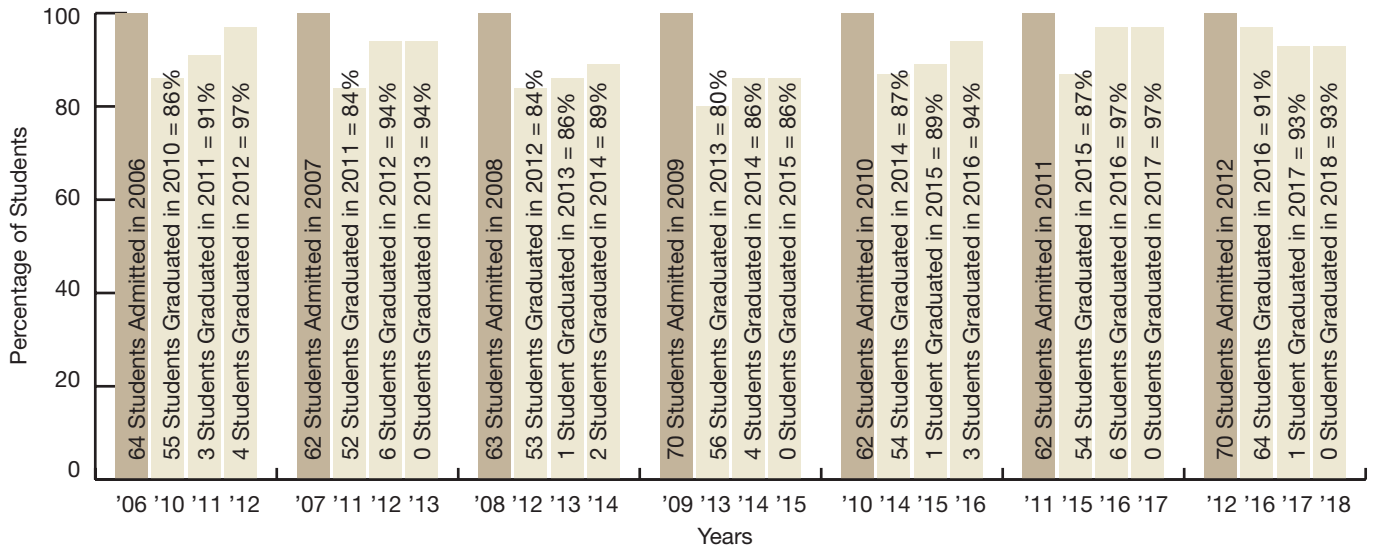


Source: Missions Management Tool, 2018 AAMC

Completion rates* measure the percentage of students who enrolled in a professional degree program and completed their degree within the maximum allowable time, which varies based on the program. Green bars represent the number and percentage of a class graduating relative to the initial number of enrolled students (gray) in a given year.

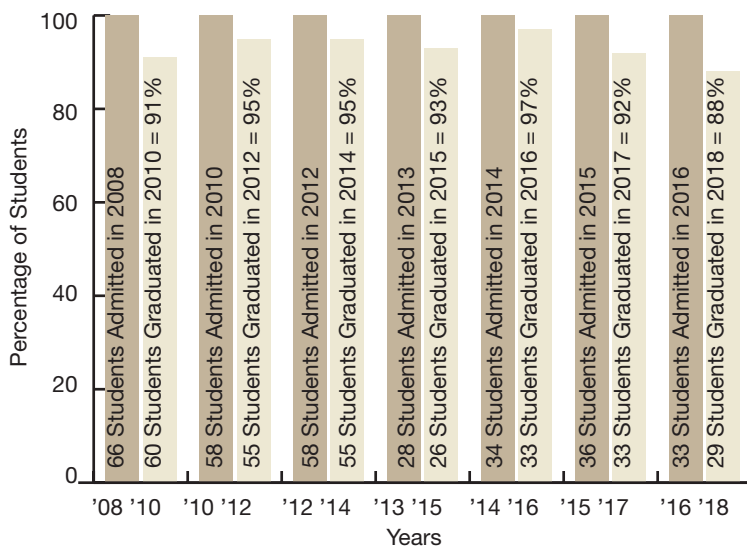
Doctor of Medicine (four-year program)

For Doctor of Medicine students at the School, the maximum time allowed to complete a four-year degree is six years. The national completion rate for medical students who graduate within seven years is 94 percent.



Master of Physician Assistant Studies (two-year program)

Beginning in 2006, the program accepted a new class every other year. It has returned to an annual admission structure effective with the class matriculating in 2013.

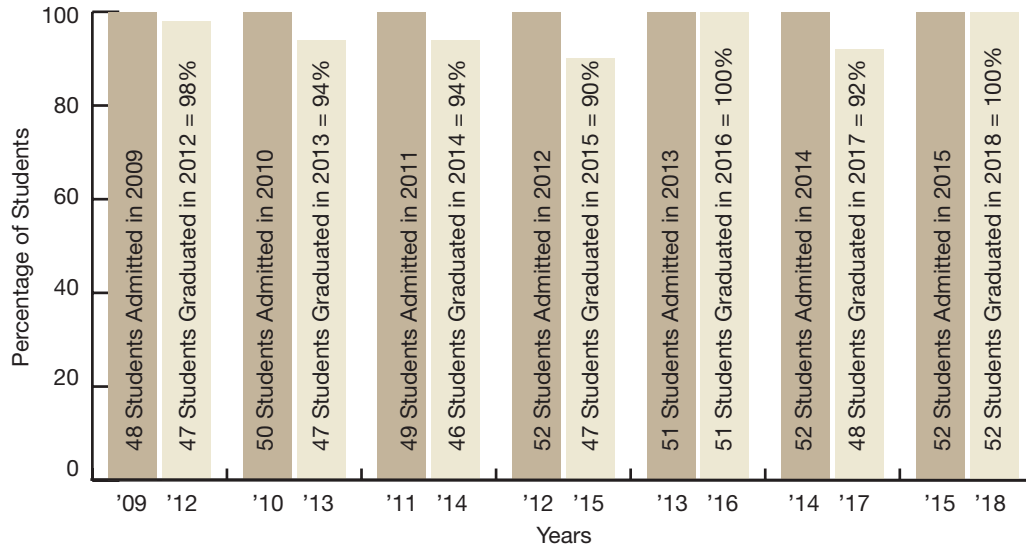


* Number Graduated/Number Admitted = Completion Rate

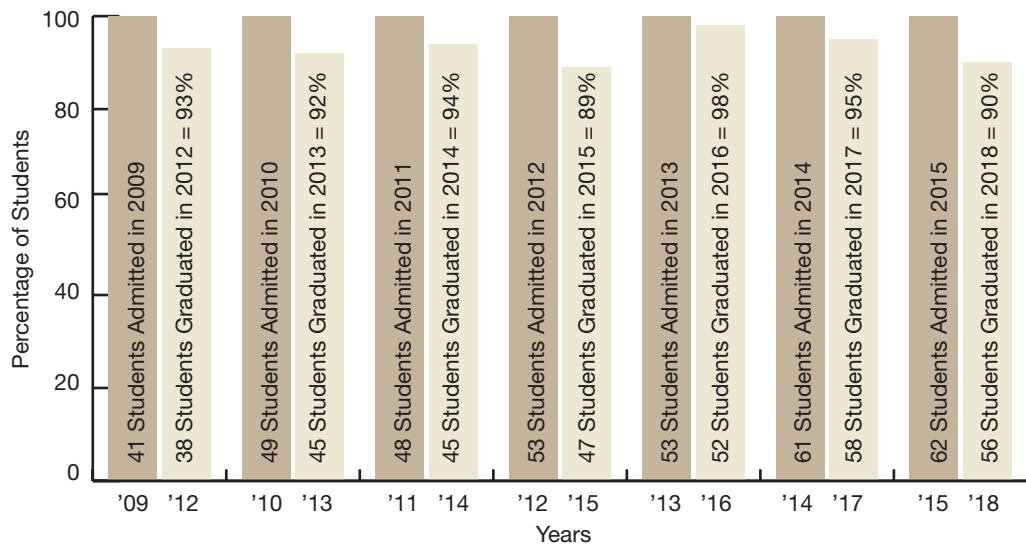
Our goal is to exceed the national benchmark for completion.



Doctor of Physical Therapy (three-year program)



Master of Occupational Therapy (three-year program)





From Bismarck, S. Nabeel Hyder, MD, shows off his Match Day letter, which describes his Internal Medicine residency match with University of Michigan Hospitals in Ann Arbor.

Residency Training

After graduating from medical school, physicians must complete residency training, a period of advanced intensive training in a chosen medical specialty before independent practice as a physician. Depending on the medical specialty, medical school graduates complete anywhere from three to seven years of residency training after medical school.

Residency training throughout North Dakota is provided in eight specialties:

- Family Medicine (Bismarck, Fargo, Grand Forks, Minot, Williston)*
- Geriatrics (Bismarck, Fargo)
- Hospitalist (Bismarck)
- Internal Medicine (Fargo)
- Orthopedic Surgery
- Psychiatry (Fargo)
- Surgery (Fargo, Grand Forks)
- Transitional** (Fargo)

Some of these residency programs have training specific to rural care. They are:

- Altru Health System Family Medicine Program in Grand Forks
- UND Family Medicine in Bismarck (Fort Yates), Hettinger, Minot (Garrison), and Williston
- UND Psychiatry Program (Telemedicine)
- UND Surgery Rural Track (Minot, Jamestown, Williston)

* The Family Medicine Program in Grand Forks is sponsored by Altru Health System. The Fargo Family Medicine residency program will offer rural rotations in Wahpeton, Jamestown, Hillsboro, Perham and Detroit Lakes, starting the 2018-2019 academic year.

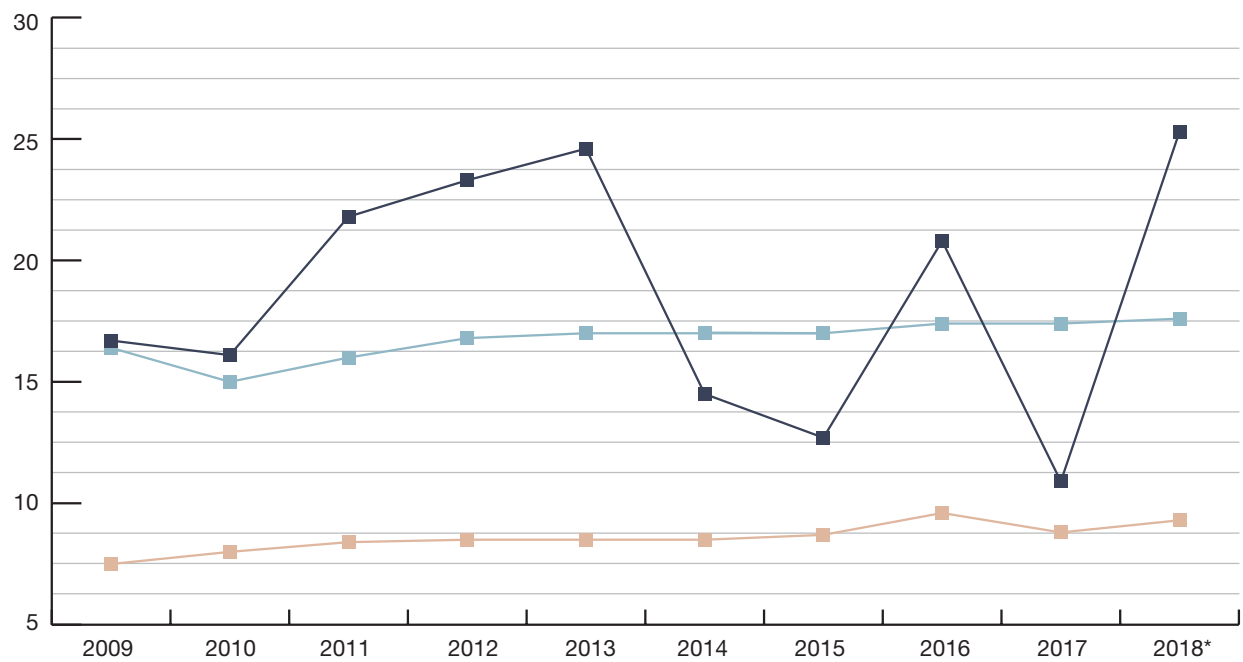
** Transitional residency is a yearlong program designed to introduce graduates to a wide range of medical and surgical specialties. The goal is to build a broad foundation of clinical skills as a base for future training in a medical subspecialty.

Our goal is to exceed the national average of students specializing in family medicine by 100 percent.



A study recently completed by the American Academy of Family Physicians (AAFP) noted that the University of North Dakota School of Medicine and Health Sciences was again among the top three contributors to building the nation's family physician workforce. This is the 36th national study conducted by the AAFP that reports retrospectively the percentage of graduates from U.S. Liaison Committee on Medical Education (LCME)-accredited; American Osteopathic Association (AOA)-accredited; and international medical schools who enter Accreditation Council for Graduate Medical Education (ACGME)-accredited family medicine residency programs as first-year residents.

Graduates Entering a Family Medicine Residency 2009–2018



Average 2009–2018

- UND SMHS 18.7%
- NATIONAL 8.6%
- UND SMHS Goal (double the national avg.)

Sources:
 Medical Education Division
 American Academy of Family Physicians, Leawood, Kan.
Family Medicine, STFM Journal
 Department of Family & Community Medicine,
 University of North Dakota School of Medicine 6/18

*U.S. seniors successfully matching in the National Resident Matching Program

EDUCATE MATCH RESULTS

In the fall semester of their final year of school, medical students apply to programs through which they hope to complete a residency—the period of advanced training in a medical specialty that students complete before engaging in independent practice as a physician. Residency interviews are conducted anywhere between October and January of that academic year for standard residencies.

In their last semester, medical school seniors across the country find out where they will complete their residencies on “Match Day,” a celebration of residency placements coordinated by the National Resident Matching Program (NRMP). The NRMP is a private, not-for-profit corporation founded in 1952 at the request of medical students to standardize the residency selection process and establish

a uniform date of appointment to positions in graduate medical education training programs.

The NRMP’s 2018 Main Residency Match was the largest in history, exceeding the more than 43,000 applicants who registered for the 2017 Match and the more than 31,000 positions offered last year. Results of the Main Residency Match are closely watched because they can predict future changes in the physician workforce.

This year, 68 UND School of Medicine and Health Sciences MD students successfully matched with residency programs. Thirty-nine of this group (58.2 percent) matched in the primary care fields of family medicine, internal medicine, pediatrics, and obstetrics & gynecology.



Members of the MD Class of 2018 who spent their clinic-based fourth year in Fargo, N.D., show off their residency match letters in March 2018 with SMHS Southeast Campus Associate Dean Cornelius “Mac” Dyke, MD (background-left).

More than 700 practicing physicians now serving North Dakota communities received their education at UND.

Percentages of Physicians Practicing in North Dakota Who Graduated from the UND School of Medicine and Health Sciences or Completed an In-State Residency

All Specialties	44%
Family Medicine	72%
Internal Medicine	50%
Obstetrics and Gynecology	63%
Pediatrics	42%
Psychiatry	46%

Source: Medical Marketing Service. (2017). *AMA Master File*, 2017. [Data file]. Wood Dale, Ill. Medical Marketing Service.

Percentages of Other Healthcare Providers Practicing in North Dakota Who Are Graduates of the UND School of Medicine and Health Sciences

Athletic Trainers	28%
Occupational Therapists	52%
Medical Laboratory Scientists	40%
Physician Assistants	39%
Physical Therapists	53%

Data were collected from North Dakota state licensing boards and academic departments.

School of Medicine and Health Sciences Alumni

Medical Laboratory Scientists	2,324
Athletic Trainers	260
Physicians	2,168
Physical Therapists	1,864
Occupational Therapists	1,949
Physician Assistants	1,841
Public Health Professionals	42

UND SMHS Medical Doctor Program Outcomes

Metric	Percentile Rank
Graduates entering primary care (2003-2007)	75th
Graduates practicing in rural areas (2003–2007)	98th
Graduates practicing in family medicine (2014–2016)	89th
Fraction of class identifying as American Indian	100th

Source: Missions Management Tool, 2018 AAMC

Growing Our Own: Innovative Programs to Produce Healthcare Providers for North Dakota

The School has implemented the Healthcare Workforce Initiative (HWI) and has constructed a new \$124 million home. The HWI is a four-pronged plan to help address North Dakota's healthcare workforce needs now and in the future by reducing disease burden, retaining more of our graduates for practice in North Dakota, training more practitioners, and improving the efficiency of our healthcare delivery system.

RuralMed

RuralMed is a tuition waiver program (or scholarship) designed to encourage medical students to select careers in family medicine and other shortage specialties and increase the number of providers for rural North Dakota. Students accepted for the RuralMed Program have the entire cost of tuition waived in return for their practicing in North Dakota. Students will not have to borrow money for tuition and accrue interest for medical education. Currently, 23 students are accepted or enrolled in the program, and all are destined for rural practice in North Dakota.

INMED

The Indians into Medicine Program (INMED), which was established in 1973, is a comprehensive program designed to assist American Indian students who aspire to be health professionals to meet the needs of our Indian communities and to serve reservation populations. INMED has assisted approximately 20 percent of U.S. American Indian physicians with their education.

ROME

Rural Opportunities in Medical Education (ROME) is a 24–28 week interdisciplinary experience in a rural primary care setting that is open to third-year students at the UND School of Medicine and Health Sciences. Students live and train in nonmetropolitan communities under the supervision of physician preceptors. ROME students experience healthcare delivery in rural areas throughout the state of North Dakota, where providing access to healthcare is sometimes challenging. Students learn about problems commonly encountered in primary care, from routine health maintenance to medical emergencies and rare and unusual diagnoses. Each primary preceptor is board-certified in family medicine, but students also work with board-certified surgeons, internists, pediatricians, and other specialists available in the community.

Interprofessional Healthcare Course (IPHC)

The course includes nine allied health professions on campus and is run on a collaborative model that doesn't assign a higher value to any one profession or specialty over any other. More than 3,900 students have completed the course.

The IPHC is modeled on the School's acclaimed patient-centered learning small-group curriculum. The focus of the course is to learn about the role of other healthcare professionals and how to interact as a healthcare team. Eight disciplines are involved in the course: medicine, nursing, occupational therapy, physical therapy, communication sciences and disorders, social work, counseling psychology, and nutrition and dietetics.

The goal of IPHC education is collaborative practice. Students learn every person on a team is a patient advocate, which significantly reduces errors in the healthcare system and leads to improved cost efficiency, an appropriately important issue for the twenty-first century.

Minot Integrated Longitudinal Experience (MILE)

A clerkship is a course of clinical training that third-year medical students undertake in specialty areas. In the summer of 2012 in Minot, the first cohort of medical students undertook an integrated, longitudinal experience.

Students work with preceptors in each of the specialties. For example, a student might balance the work week with time in the primary care preceptor's office, time in surgery, an obstetrics & gynecology shift, and emergency room time. An important feature of the new MILE is that students develop a panel of patients whom they follow throughout the year, accompanying them to consultant visits and procedures, and following them through hospitalizations.

R-COOL-Health Scrubs Camps

Rural Collaborative Opportunities for Occupational Learning in Health (R-COOL-Health) Scrubs Camps are one-day learning experiences where students are able to explore healthcare careers from their local healthcare providers through hands-on, interactive activities. Since the program's start in 2010, 6,003 students, 2,463 volunteers, and 430 communities have participated in 79 Scrubs Camps across the state. Students who have participated in Scrubs Camps have learned about various healthcare careers and participated in interactive activities, including dissecting pig hearts, typing blood samples, and participating in mock emergency scenarios.

R-COOL-Health Scrubs Academy

Eighty North Dakota junior high students participated in the eighth annual Scrubs Academy, held at the University of North Dakota campus in June. Since the Academy's start in 2011, 437 students have attended (312 from rural communities) from 205 communities. Students participated in a dissection, explored the inside of a 32-foot inflatable colon, and learned more about anatomy, medical laboratory science, emergency medical services, mental health, occupational therapy, physical therapy, public health, nutrition, music therapy, physician assistant studies, radiology, and other health careers. As part of the academy, students received Friends and Family CPR training and became certified in the Health Insurance Portability and Accountability Act (HIPAA). Most health facilities in North Dakota require that students be HIPAA-certified before allowing them to job shadow. Students also were given the opportunity to explore and learn more about the School of Medicine and Health Sciences, the UND campus, and the Grand Forks community.

North Dakota Area Health Education Center

Since 2009, the North Dakota Area Health Education Center has utilized federal, state, and private funding to support learning opportunities for 18,413 participants reaching all 53 North Dakota counties. Of that total, 12,689 students have participated in health career awareness events and activities, and 108 students enrolled in health profession programs have completed rural clinical rotation experiences.

Summer Undergraduate Research

For 10 weeks each summer, more than two-dozen undergraduate students from UND, as well as from rural and tribal colleges in Minnesota, North Dakota, and across the nation, conduct research and participate in a number of related educational activities at the UND School of Medicine and Health Sciences. Students work shoulder-to-shoulder with their mentor scientists from the UND Department of Biology, SMHS scientists and clinicians, Cankdeska Cikana Community College, and the Center for Rural Health. The research experience culminates in a Summer Undergraduate Research Experience poster session in Grand Forks. One of the goals of the summer research program is to provide students with the opportunity to work directly with an established research scientist. An additional goal is to recruit students from rural and tribal colleges for future enrollment in UND undergraduate and graduate programs. The program is designed to bolster the workforce pipeline of biological research scientists and healthcare professionals. Over the course of the summer, students receive specialized laboratory training. In weekly professional development sessions, undergraduates learn about a variety of research areas, how to conduct research responsibly, the particulars of scientific writing, and the basics of the graduate and medical school application processes. Funding for the students comes from a variety of organizations, including the National Science Foundation, the National Institutes of Health, and UND.

Faculty and undergraduate students at the School's Summer Undergraduate Research Experience in August 2018.



For fiscal year 2018 (July 1, 2017–June 30, 2018), total research funding was \$25,366,758. Of the 28 community-based medical schools in the United States, the SMHS is ranked in the top quarter of schools in external funding for sponsored projects. The School's goal is to be in the top four.

Through our research efforts in the realm of **Clinical & Translational Research (CTR)**, the School of Medicine and Health Sciences aims to take research from “lab bench to bedside.” Highlights from 2018 in this regard include:



In January, the National Institutes of Health (NIH) awarded Jyotika Sharma, PhD, associate professor in the Department of Biomedical Sciences, a major grant known as an R21. The two-year grant, worth nearly \$400,000, is the fifth such award Sharma has won from the NIH since 2011. According to Sharma, the long-term goal of her

project, titled “Efferocytosis and neutrophil homeostasis in pneumonic sepsis,” is to understand the molecular processes that regulate inflammation associated with sepsis—a systemic, life-threatening condition where the immune system's response to infection or injury damages a body's own organs. In addition to this grant, Sharma's research is currently supported by an R01, another R21, and a local grant totaling nearly \$2.3 million. She is also a principal investigator (PI) of a multi-PI Center of Biomedical Research Excellence (CoBRE) grant worth more than \$10 million awarded by the NIH in May 2016 to study host-pathogen interaction for finding new strategies to treat infectious diseases.



In June, Jonathan Geiger, PhD, Chester Fritz Distinguished Professor in the Department of Biomedical Sciences, was informed that he is on a multi-university team that was awarded a four-year R01 grant from the NIH totaling more than \$2.25 million. The grant, titled “Ketogenic Diet and Adenosine:

Epigenetics and Antiepileptogenesis,” marks the first time that a faculty member at UND has been the recipient of three simultaneously held R01 grants from the NIH as a principal investigator. NIH R01 grants are considered one of the most prestigious grants for which individuals

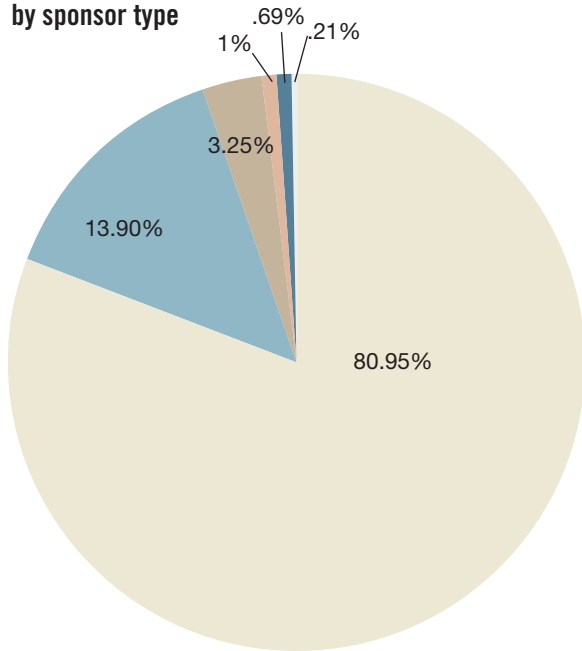
can apply, and funding for these grants is extremely competitive. The team's hypothesis is that epigenetic changes in DNA methylation (a process by which methyl groups—portions of molecules containing one carbon atom bonded to three hydrogen atoms—are added to DNA) mobilized by a high fat, low carbohydrate diet known as a ketogenic diet provide a therapeutic target for disease prevention and treatment. The project's approach is unique in that it initiates disease-modifying treatment after disease onset and their approach stresses the rigor and reproducibility of findings across models of epilepsy and between laboratories. The project also is unique in so far as it includes a strategy that aims to restore homeostasis—and thus offer hope for a cure.



In August, Senior Associate Dean for Medicine and Research Marc D. Basson, MD, PhD, MBA, was awarded a \$20.3-million, five-year grant from the NIH. Because cancer is the leading cause of death for people ages 35-64 in the Dakotas, Basson's grant will be used to work with researchers and medical providers in the Dakotas,

including North Dakota State University, the University of South Dakota, Sanford Health, and other hospital systems throughout the region, to better understand cancer and its causes, and to develop effective treatments for the disease. Led by the UND School of Medicine and Health Sciences, the Dakota Cancer Collaborative on Translational Activity (DaCCoTA) will build bridges and train scientists and clinicians throughout the region to apply our basic science knowledge about cancer to achieve real clinical impact, paving the way to develop unique ways to combat cancer in the Dakotas.

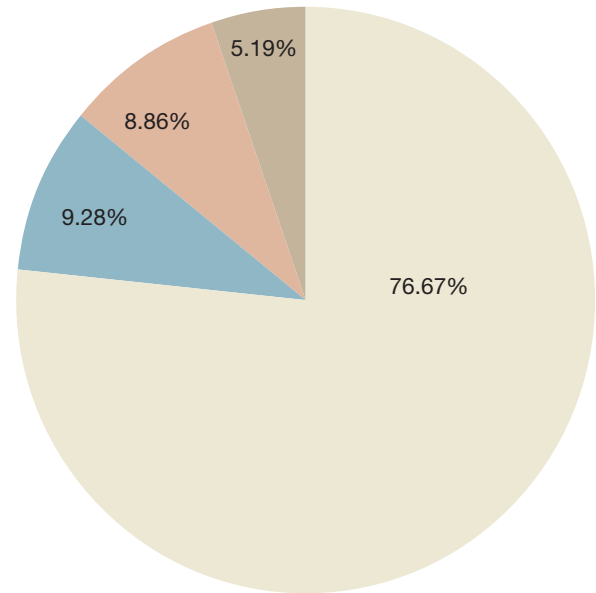
FY 2018 Sponsored project awards by sponsor type



Total number of proposals 147
 Total number of awards 102

Total funding \$25,366,758

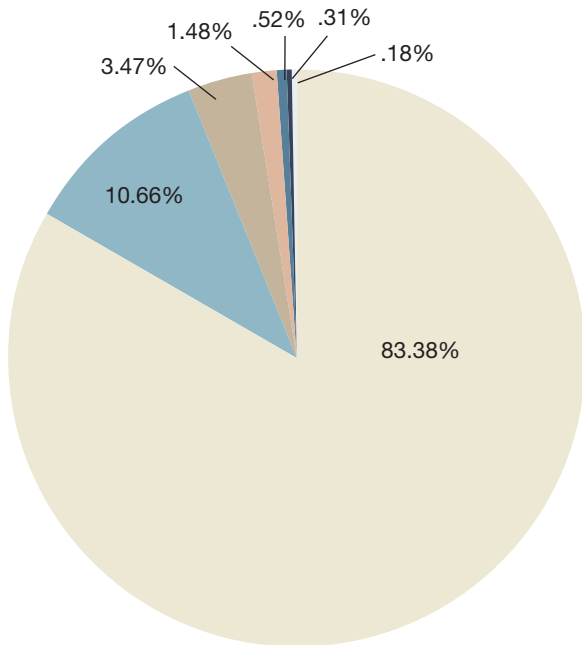
FY 2017 Sponsored project awards by sponsor type



Total number of proposals 127
 Total number of awards 93

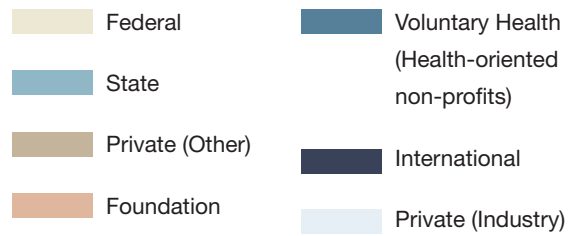
Total funding \$20,412,330

FY 2016 Sponsored project awards by sponsor type



Total number of proposals 183
 Total number of awards 123

Total funding \$27,759,188



The Center for Rural Health (CRH) at the School of Medicine and Health Sciences serves North Dakota, the region, and the nation. It focuses the majority of its resources on the state's 53 counties and generally works with 100 or more communities each year. The CRH provides technical assistance to all 38 rural North Dakota hospitals, 36 of which are critical access hospitals. CRH works closely with other groups too, such as public health, emergency medical services (EMS), and tribal health. Assistance is directed at improving access to quality health care services, the viability of rural health systems, and community engagement. CRH administers a variety of funding sources used to support and assist rural communities in North Dakota totaling:

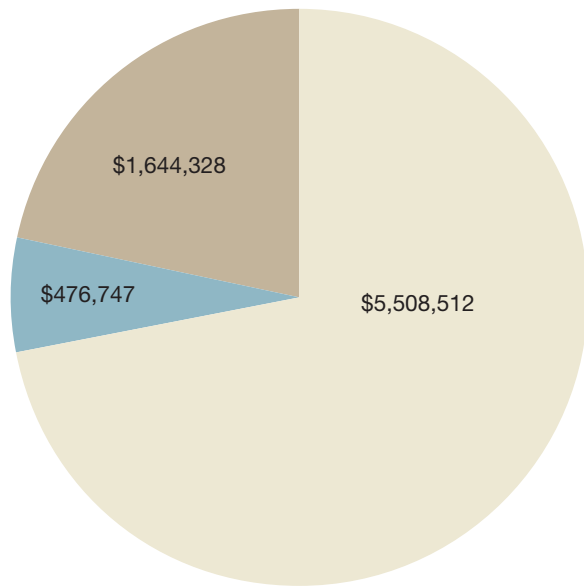
- \$7,701,999 for FY 2017
- \$7,629,587 for FY 2018

FY 2018

- **Federal Grants:** \$5,508,512 The CRH supports and serves three national programs that focus on indigenous populations: the National Indigenous Elder Justice Initiative (NIEJI), NIEJI Innovation, and the National Resource Center on Native American Aging (NRCNAA). These programs focus on improving health outcomes and wellbeing of American Indian, Alaska Native, and Native Hawaiian elders. CRH Native programs have a predominantly indigenous staff with expertise in geriatrics, elder abuse, mental health, suicide prevention, health disparities, community-based participatory research, tribal participatory research, resiliency, and wellness. The CRH works with nearly half of the 560 federally recognized tribes.
- Two other nationally sponsored projects, the Rural Health Information Hub (RHlhub) and the Rural Health Research Gateway provide resources, information, and dissemination of information regarding the latest rural health research and programs.
- The CRH receives federal funding for other programs that support healthcare, such as the Rural Hospital Flexibility (FLEX) Program, Small Hospital Improvement Program (SHIP), and the State Office of Rural Health (SORH). This funding helps rural hospitals improve quality, finance, and operation, integrate Emergency Medical Service and innovative healthcare models, and engage communities.
- **State Grants:** \$476,747 The CRH has sponsored contracts with the state of North Dakota for the

Traumatic Brain Injury (TBI) Network and behavioral health and opioid work, including the Justice Reinvestment Initiative.

- **Other Grants:** \$1,644,328 The CRH administers and supports other sponsored contracts that serve and enhance rural health in the state and regionally. Initiatives include Truserve, the Dakota Conference on Rural and Public Health, the Blue Cross Blue Shield Caring Foundation grant, the Oral Health program, the Native Aging in Place Program (NAPP), the North Dakota Palliative Care Task Force, and the Evaluation of Cardiac System of Care, which involves seven states.

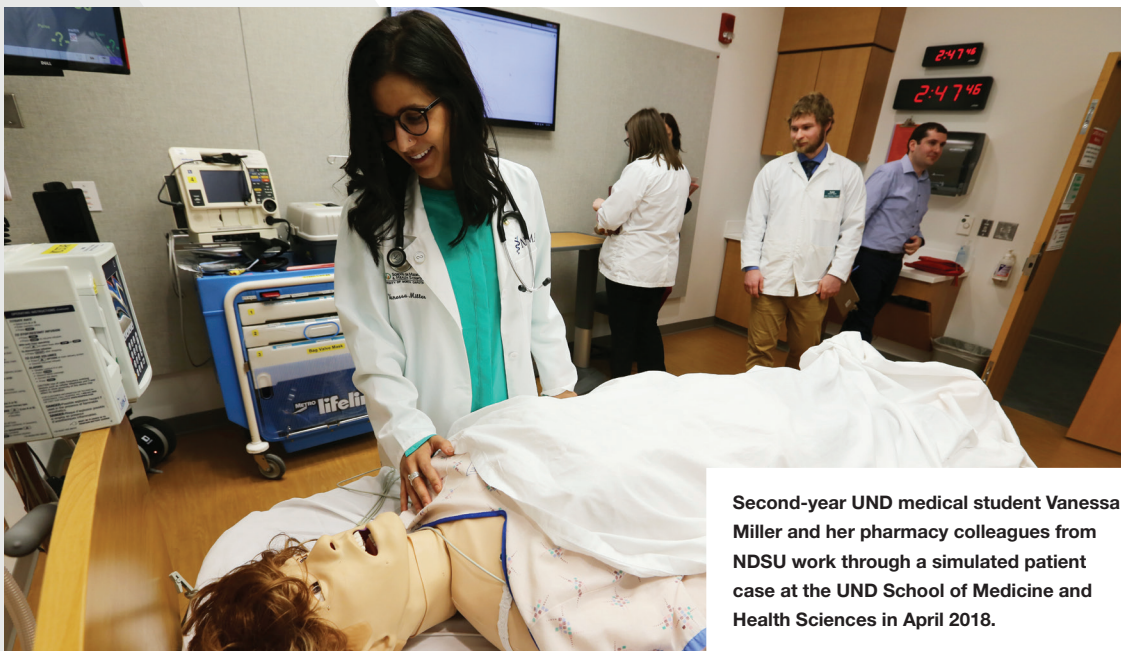


Federal Grants	\$5,508,512
State Grants	476,747
Other Grants	1,644,328
Total:	\$7,629,587

Federal State Other

FY 2017

Federal Grants	\$6,266,599
State Grants	299,747
Other Grants	1,135,653
Total:	\$7,701,999



Second-year UND medical student Vanessa Miller and her pharmacy colleagues from NDSU work through a simulated patient case at the UND School of Medicine and Health Sciences in April 2018.

In April, more than 70 UND medical students and more than 60 NDSU doctor of pharmacy students trained together at the Simulation Center in the UND School of Medicine and Health Sciences.

As part of the State Legislature's Healthcare Workforce Initiative (HWI), both universities' health programs have been asked not only to expand the number of health professions graduates working in the state, but to cultivate these professionals' collaborative and interdisciplinary skills. The event was the first time the universities have conducted this type of simulation training jointly, with medical students and doctor of pharmacy students side-by-side.

The SMHS Simulation Center—the largest and most active facility of its kind in North Dakota—is a hands-on, state-of-the-art simulation training facility for interprofessional health care providers that uses interactive simulation in teaching, education, and research. The space offers a clinical setting where health professionals can actively apply their knowledge in simulation, observation, and debriefing of real-life patient scenarios, with the goal of improving patient safety and care. In high-fidelity patient simulations, computerized manikins are used to simulate situations such as cardiac arrest, stroke, or drug overdose, among other scenarios.

“The significance of interprofessional education, for both medical and pharmacy curricula, to prepare future health

care professionals cannot be overstated,” said Marketa Marvanova, PharmD, PhD, chair of Pharmacy Practice in the NDSU School of Pharmacy.

Marvanova and Simulation Center Director Jon Allen, MD, FACP, served as coordinators of the joint training. Both agreed on the importance of getting medical students and PharmD students to collaborate on patient care.

“Since working on opioid abuse together last year, Dr. Marvanova and I have had a great working relationship and looked forward to this collaboration between our schools,” Dr. Allen added. “It's vital to the education of health care professionals, not only regarding opioids, but also regarding the teamwork experience that will be part of these students' entire careers.”

The simulation environment allowed second-year medical students and third-year pharmacy students to gain experience in seeing how each profession plays a role in providing patient care as part of a highly effective, integrated health care team.

A member of the American Medical Association's Accelerating Change in Medical Education Consortium, the center conducted three interprofessional scenarios using telemedicine with 274 students from five different disciplines in 2018. AMA awarded the SMHS a grant to teach other schools to how to design similar scenarios. The next joint UND/NDSU telemedicine simulations are being scheduled.

Faculty & Staff Turnover

The faculty turnover rate (faculty who left their jobs) at the UND SMHS for FY 2018 was 13.4 percent. The turnover rate for all North Dakota University System (NDUS) faculty for that same year was 13.3 percent.

Likewise, the staff turnover rate at the UND SMHS for FY 2018 was 14.3 percent while the rate for all NDUS staff was 12.2 percent.

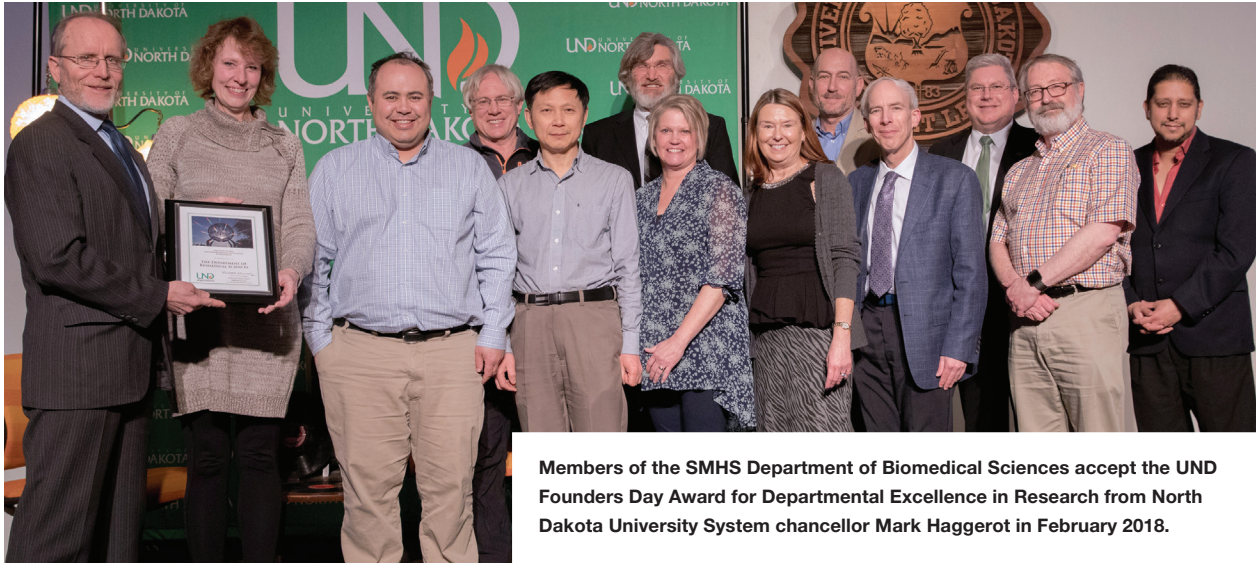
Benefited* Faculty and Staff for Fiscal Year 2018

Total Benefited	Total Benefited
Faculty – 179	Staff – 252
Full-time – 168	Full-time – 236
Part-time – 11	Part-time – 16

Benefited* Faculty and Staff for Fiscal Year 2017

Total Benefited	Total Benefited
Faculty – 183	Staff – 265
Full-time – 169	Full-time – 248
Part-time – 14	Part-time – 17

* Benefited appointment is 20 hours/week or more.



Members of the SMHS Department of Biomedical Sciences accept the UND Founders Day Award for Departmental Excellence in Research from North Dakota University System chancellor Mark Haggerot in February 2018.

THANK YOU TO THE FOLLOWING UND SMHS STAFF FOR YOUR SERVICE AND DEDICATION:

The University of North Dakota’s annual Staff Recognition Ceremony was held on Tuesday, May 8, 2018, in the UND Memorial Union Ballroom. As usual, the SMHS is home to many of the honorees recognized at the luncheon for their service to the University, including the following staffers:

Forty Year-Honorees

- Catherine Perry, Medical Laboratory Science*
- Sandra Krom, Pediatrics*

Thirty-Five Year-Honorees

- Kathleen Kraft, Pediatrics*
- Jean Altepeter, Admin. & Finance*

Thirty Year-Honorees

- Tonya Murphy, Surgery*
- Julie Arnold, Center for Rural Health*
- Susan Carlson, Admin. & Finance*
- Allison Ranisate, Library Health Sciences*

Twenty-Five Year-Honorees

- Edith Green, Biomedical Sciences*
- Sharlene Rakoczy, Biomedical Sciences*
- Geralyn Lunski, Surgery*
- Kathleen Hiller, Minot CFM*
- Stephen Reller, Admin. & Finance*

Twenty Year-Honorees

- Gregory Krause, Cyclotron & Positron Operation*
- Melissa Gardner, Family & Community Medicine*
- Nicole Klemisch, Bismarck CFM*
- Donita Roland, Bismarck CFM*
- Christine Wiese, Bismarck CFM*
- Kim Dickman, Center for Rural Health*



Originally conceived by SMHS Dean Joshua Wynne and his spouse Dr. Susan Farkas eight years ago, “Joggin’ With Josh” has been working to raise awareness among faculty, staff, and students, as well as the Grand Forks community, about healthful lifestyle choices, focusing on how exercise can reduce one’s likelihood of developing disease. On September 6, 2018, the 5K or 10K run, walk, or jog was completed on a course around the neighborhood of the School.

Fifteen Year-Honorees

- Bonnie Kee*, Biomedical Sciences
- Jennifer Wahl*, Minot CFM
- Yvette LaPierre*, Student Affairs & Admissions
- Lynette Dickson*, Center for Rural Health
- Jennifer Lang*, Center for Rural Health
- Wendy Warner*, Center for Rural Health
- Renee Sluke*, Internal Medicine
- Jodee Nielsen*, NW Campus - Minot
- John Lee*, Information Resources
- Dannette Stramer*, Information Resources

Ten Year-Honorees

- Betty Jo Tostenson*, Psychiatry and Behavioral Science
- Marlys Peterson*, Surgery
- Tiffany Jensen*, Minot CFM
- Marla Sasse*, Minot CFM
- Rebecca Quinn*, Center for Rural Health
- Jody Ward*, Center for Rural Health
- Carla Mosser*, Internal Medicine

- Laura Cory*, Information Resources
- Bonnie Hillerud*, Library Health Sciences

Five Year-Honorees

- Bernadette Meberg*, Biomedical Sciences
- Danielle Perley*, Biomedical Sciences
- David Rzucidlo*, Occupational Therapy
- Kayla Langer*, Bismarck CFM
- Greta Loritz*, Bismarck CFM
- Michelle Senger*, Minot CFM
- Naomi Bender*, Center for Rural Health
- Julie Reiten*, Center for Rural Health
- Whitney Borreson*, Admin. & Finance
- Debra West*, SW Campus – Bismarck
- Kelly Ann Thormodson*, Library Health Sciences
- James Hamilton*, Simulation Center
- Timothy Shea*, Simulation Center

EDUCATE. DISCOVER. SERVE.

Keep your finger on the pulse of the latest news and events from the UND School of Medicine and Health Sciences

FOR YOUR HEALTH

Read Dean Joshua Wynne's weekly column in For Your Health, the School's digital newsletter delivered to your inbox.



Subscribe to North Dakota Medicine, the School's quarterly magazine available on the SMHS website: med.und.edu/ or through a print subscription.

To subscribe to For Your Health or North Dakota Medicine, please contact Kristen Peterson, kristen.peterson@med.und.edu. UND.edu or 701.777.4305.



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If you would like further details about the information in this Community Report or the programs, departments, or research at the School, please contact Brian Schill, assistant director, Office of Alumni and Community Relations, UND School of Medicine and Health Sciences, 701.777.4305, brian.schill@med.und.edu

Vital Signs 2018 represents the good-faith effort of the UND School of Medicine and Health Sciences to provide current and accurate information about the School. Numerous sources were used in gathering the information found in this community report. We welcome corrections, which we will incorporate in subsequent issues of *Vital Signs*.