

N O R T H E R N   H E A L T H   R E S E A R C H

# THE SCOPE

**Noojamadaa:** Helping build healthy relationships within Anishnawbek communities

**Improving food systems**  
to meet the needs of Northern Ontarians

**Working better together**



Northern Ontario  
School of Medicine

École de médecine  
du Nord de l'Ontario

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# WELCOME TO *THE SCOPE*

Scope can be defined as: the range of one's perceptions, thoughts, or actions; the geographical or perceived area covered by a given activity; or, a viewing instrument such as a microscope or telescope. In most modern usages of the word scope, there is a unifying theme of examination or investigation. In this case, Scope includes all of these ideas. Research at the Northern Ontario School of Medicine (NOSM) is reflective of the School's mandate to be socially accountable to the diversity of Northern Ontario.

For years, Canadian health research took place primarily in large cities. This meant that there were many health questions that were going unanswered in Northern Ontario, including questions about the incidence of chronic disease, outcomes for patients with mental illness and how work in industries such as mining or forestry affect one's health. Also left unanswered were specific questions about the health of Francophone and Indigenous communities in the North, two groups that have historically not been well-represented in health research.

The subjects being studied are as varied as the geographic area of NOSM's wider campus of Northern Ontario and as diverse as the researchers themselves: faculty members in the School's Human, Medical, and Clinical Sciences Divisions, residents, medical students, a broad range of health-professional learners and collaborators who conduct leading-edge health research not just in the lab, but in communities, hospitals, health clinics and administrative offices across the region. Since 2003, NOSM faculty members have published more than 2,340 scholarly articles which aim to answer questions that will have a positive impact on the health of Northern Ontarians.

Although this publication cannot provide the full scope of exciting research happening across Northern Ontario, we hope it provides a glimpse into some of the work being done with a view of improving the health of people in Northern Ontario and beyond.

## The Scope Research Newsletter of the Northern Ontario School of Medicine

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# WELCOME TO *THE SCOPE*

## A Message from Dr. Penny Moody-Corbett Associate Dean of Research



Dr. Penny Moody-Corbett

The Northern Ontario School of Medicine (NOSM)'s Northern Health Research Conference (NHRC) has been held annually in communities across Northern Ontario since 2006. This year, the NHRC coincides with the School's fifth Indigenous Partnership Gathering.

Indigenous organizations were at the forefront of the widespread community movement advocating for the establishment of NOSM, and the gatherings were created as a way to ensure that Indigenous peoples of Northern Ontario have regular opportunities to provide formative input into the School's administration, education and research.

The School has also held two gatherings specifically focused on research – the Partnership Opportunities in Research Gathering, 2008, and the Indigenous Research Gathering, 2016. These gatherings have brought together Indigenous and non-Indigenous researchers to provide formative input on research. Research is a key part of the School's mandate

to be socially accountable to the diverse cultures of Northern Ontario. In order to be socially accountable, and deliver culturally safe care, we have to ask the right questions. The research gatherings have provided an opportunity for this conversation.

Following the Indigenous Research Gathering in 2016, the School developed guidelines for researchers who wish to connect with Indigenous communities to conduct health research. In this issue of *The Scope*, you will see stories of NOSM students, faculty and graduates who have built trusting, respectful and long-term relationships with community members, and have worked together with those communities to conduct research that addresses the questions that are most important to them.

Since the first NHRC in 2006, we have heard directly from treaty organizations, Elders, physicians, nurses and other health-care professionals with experience in Indigenous health settings about the research by and with Indigenous communities. We will continue to listen, and strive to conduct and assist with research that has a positive impact on the health of all Northern Ontarians.





Randy Trudeau and Marion Maar

## NOOJAMADAA: HELPING BUILD HEALTHY RELATIONSHIPS WITHIN ANISHNAWBEK COMMUNITIES

Marion Maar, Associate Professor of Medical Anthropology at the Northern Ontario School of Medicine (NOSM), together with First Nations communities of Manitoulin Island and Laurentian University Master of Indigenous Relations graduate, Beaudin Bennett, has created Noojamadaa, an educational photo exhibit exploring healthy relationships in First Nations families and communities.

Before coming to NOSM, Maar was a researcher with an Aboriginal Health Access Centre on Manitoulin Island for eight years. Because of her longstanding relationship with the communities, she was approached about working on a community-based research project to address intimate partner violence.

Research has shown Indigenous women experience intimate partner violence at a higher rate than non-Indigenous women, with significant health and social consequences, says Maar, but many primary-care practitioners need to learn more about what their role should be in addressing it.

Maar says some of the goals of the research project are to understand the context of intimate partner violence and the role of primary care practitioners in addressing violence their patients experience at home, and what kind of training and resources they need to better fulfill that role.

She says the communities chose to begin the research through a photo exhibit exploring healthy relationships among the Anishnawbek. Participating women explained that in order to reduce intimate partner violence, relationships needed to be healed not only between spouses, but also with their families, communities, the Nation and the environment.

“It’s a difficult topic, and the communities decided that creating awareness was the first step,” says Maar. “The communities didn’t want to take a negative approach to it, or have Indigenous people reduced to a statistic. Communities asked: ‘What’s good about our relationships, and how can we create more of that?’”



**Marion Maar with participants Alison Recollet (left) and Sheila Trudeau at the Noojamada exhibit at MacDonald House in Vaughan.**



**As part of the project, hunter, fisherman, trapper and artist Randy Trudeau allowed a photographer to shadow him, taking photos to demonstrate how he has built a relationship with his environment.**

## COMMUNITIES ASKED: 'WHAT'S GOOD ABOUT OUR RELATIONSHIPS, AND HOW CAN WE CREATE MORE OF THAT?'

Randy Trudeau is one of the facilitators of Noojamadaa. A hunter, fisherman, trapper and artist, Trudeau says he wanted to share the healing power of building a relationship with the land.

After being approached by the research team to participate in the project, Trudeau agreed to allow a photographer to shadow him throughout his day to day life, taking photos to demonstrate how he has built a relationship with his environment.

"I find that throughout all I've gone through in my life, all the traumas, my healer has always been nature," he says. "So I've dedicated my life to living off the land, living peacefully and learning ways to heal myself, and teaching other men to do the same."

The exhibit has expanded to include art that displays healthy relationships, and Trudeau has also contributed paintings to the exhibit.

To date, Noojamadaa has been displayed in diverse venues, including at the Laurentian University School of Architecture, the Debajehmujig Creation Centre in Manitowaning, the Sudbury District Health Unit, McMaster University and Queen's Park. The exhibit is also accredited for continuing education.

The project was initially funded by the Women's Xchange \$15K Challenge, but additional funding from the Canadian Institutes of Health Research (CIHR) was provided to explore a holistic approach to address violence, trauma and opioid addictions.

"The CIHR grant will help us to increase collaboration and relationship building with all relevant service sectors, including mental health, social services, child protection, justice and police so we can better develop and coordinate roles of each sector in addressing intimate partner violence, and underlying issues including addictions, in a culturally safe way," says Maar.





## DR. MARINA ULANOVA REFLECTS ON 13 YEARS OF DISCOVERY

Dr. Marina Ulanova has been studying *Haemophilus influenzae* infection in Northwestern Ontario for the entirety of her 13 years as a faculty member at the Northern Ontario School of Medicine.

Despite its name, *Haemophilus influenzae* has nothing to do with the flu, says Ulanova. While the flu is caused by the influenza virus, *Haemophilus influenzae* is a bacterial infection. There are several types of *Haemophilus influenzae*, which can cause invasive infections, leading to serious illnesses including pneumonia, meningitis, septicemia and epiglottitis, all of which can result in permanent disability or death.

Prior to 1990, *Haemophilus influenzae* type B (HiB) was the most common cause of pediatric meningitis in Canada, according to data from the Public Health Agency of Canada. In the early nineties, a vaccine targeting this specific type of the bacteria became widely available, after which HiB infections became incredibly rare.

However, as the rate of HiB infections in Canada began to decline, infections caused by other types of the *Haemophilus influenzae* bacteria began to increase, specifically type A (HiA).

Throughout her tenure at NOSM, Ulanova and her research team have made numerous significant discoveries about HiA, including its prevalence in Northwestern Ontario and in Indigenous versus non-Indigenous populations in the region, as well as about natural immune defenses against this infection.

A study led by Ulanova found that 50 per cent of invasive *Haemophilus influenzae* disease in Northwestern Ontario since 2002 have been caused by HiA, compared with 5 per cent in the rest of the province. Moreover, it appears that Northwestern Ontario has one of the highest incidence rates of invasive HiA disease in any region in the country, second only to Nunavut.



**Dr. Marina Ulanova leads a team of NOSM researchers studying *Haemophilus influenzae* type A in Northern Ontario.**

THROUGHOUT HER 13-YEAR  
TENURE AT NOSM, DR. ULANOVA  
HAS SUPERVISED MORE THAN  
TEN NOSM STUDENT RESEARCH  
PROJECTS, A NUMBER OF WHOM  
SHE CONTINUES TO WORK WITH.

Her research team also discovered that the rate of HiA invasive disease was much higher in Indigenous populations in the region when compared to non-Indigenous populations.

Data from her team's research has contributed significantly to the development of a new HiA vaccine currently being tested by the National Research Council.

Ulanova says she is proud that her research has been able to both identify a problem and contribute to the solution.

"When I first started this research, Canada's Immunization Monitoring Program ACTive (IMPACT) was only reporting cases of invasive HiA disease from 12 Canadian pediatric hospitals, and the closest ones were in Winnipeg and Ottawa," she says. "Our region was just not represented in their data. So we really were out in front of this, and we

were able to identify how significant a problem was for the people of Northwestern Ontario as we found serious cases of this infection affecting young children in First Nations communities."

The opportunities to collaborate with physicians, students and Indigenous communities, including the Nishnawbe Aski Nation, in the province have allowed her to research clinical questions relevant to the population that NOSM serves, and helped her to contribute to improving the quality of care that population receives.

"Before I came to NOSM, I did basic science research, which allowed me to address a lot of interesting questions, but it never really went beyond the lab," says Ulanova. "Now, to see the real impact my research has had, that's an incredible feeling, and it's NOSM that made it possible."



## IMPROVING FOOD SYSTEMS TO MEET THE NEEDS OF NORTHERN ONTARIANS

**How can we improve our food and agricultural systems to better meet the needs of all people?**

Michaela Bohunicky, a graduate of the Northern Ontario Dietetic Internship Program (NODIP) at NOSM, will be exploring this question when she starts a Master of Health Sciences at Lakehead University this fall. Bohunicky will be working with Dr. Charles Levkoe, a Canada Research Chair in Sustainable Food Systems.

Before coming to NOSM, Bohunicky attended the University of Manitoba, where she was part of a team of researchers exploring food sovereignty—the idea that all people have the right to healthy and culturally appropriate food produced using ecologically sound and sustainable methods, and the right to define their own food and agricultural systems.


“Studying food sovereignty and becoming involved in research really opened my eyes to the ways in which social, political and environmental determinants affect nutrition and

health, and answered so many of my questions about why people are food insecure and why health inequities exist,” she says.

After completing NODIP in 2017, she took a job as a Food System Planner with Nishnawbe Aski Nation (NAN), supporting existing projects that work towards achieving food self-determination. This experience, combined with her NODIP placements with the First Nations and Inuit Health Branch in Ottawa and Roots to Harvest in Thunder Bay, played a key role in her motivation to continue learning about Indigenous food system issues through her Masters research.

Bohunicky says she wants to specifically explore how improving Indigenous and settler relationships can produce better food policy at a local, regional, national or even international level.





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**Michaela Bohunicky, a graduate of the Northern Ontario Dietetic Internship Program (NODIP), will begin a Master of Health Sciences at Lakehead University in the Social-Ecological Systems, Sustainability and Health stream.**

"I've been really, really lucky to get to see little bits and pieces of how food can be used as a tool for reclamation and resurgence," she says. "I'd really like to explore through my research how I and other settlers can best make space for, and support that."

She also recently became involved in Critical Dietetics, a movement of registered dietitians exploring issues of gender, race, class, ability, size, and creative expression, all in relation to food and dietetics.

"I see Critical Dietetics as a way to broaden our practice by exploring areas that we may have missed in our training, yet are so relevant to our work," she says. "Dietitians have

a unique area of expertise, and bring an important piece of the puzzle, but we can learn so much and really stretch our boundaries by engaging in interdisciplinary, community-based research."

Her broadening understanding of the social, political and environmental context she practices in has been and will continue to be at the forefront of her research, she says.

"My experiences over the last few years have made me realize how important it is for Canadian registered dietitians to understand the colonial context of the food systems we're working in, and that we're working to change."



## WORKING BETTER TOGETHER

**A group of researchers at the Northern Ontario School of Medicine is studying the dynamics of concussion management in interprofessional team settings.**

The team is lead by co-investigators Dr. Tara Baldisera, a family physician and associate professor of clinical sciences at NOSM; Dr. Jairus Quesnele, a clinical chiropractic specialist and associate professor at NOSM; and, Shannon Kenrick-Rochon, a nurse practitioner, professor of nursing at Cambrian College and Laurentian University and a lecturer at NOSM. It also includes Dr. Sylvain Grenier, Professor of Human Kinetics and Michelle Laurence, Laboratory Technologist and Registered Kinesiologist, both faculty in the School of Human Kinetics at Laurentian University, and Matthew Baker, a research assistant and student at Laurentian University.

Concussions affect many systems of the body. For that reason, an interprofessional approach is widely considered best practice, and is the recommended standard of care of the Ontario Neurotrauma Foundation and Concussion Ontario.

The team is exploring how factors like communication and collective competencies of an interprofessional health-care team can affect a patient's recovery.

Over the past two years, the team has been following both male and female athletes from multiple varsity teams at Laurentian University, tracking and treating their concussions. They are looking specifically at the effectiveness of interprofessional concussion management teams in diagnosing and treating injuries from both return-to-play and return-to-learn perspectives by measuring recovery rates and progression to post-concussion syndrome, according to Baldisera.

Though their research is still ongoing, they have already seen some promising preliminary results, says Quesnele.

"We're seeing the athletes return-to-play sooner overall, and seeing fewer protracted or long-lasting cases in our second year of follow-up versus our first-year of follow up," he says. "We're currently trying to figure out why that is, but our initial thoughts are that as we become more proficient and more collaborative in our approach, it's translating into better recovery rates for some of our athletes."



The research team is exploring how factors like communication and collective competencies of an interprofessional health-care team can affect a concussion patient's recovery.

Quesnele also credits expanding the team in the second year of tracking, as well as more formalized communication with the university's accessibility office and the athletes themselves for the positive results.

"We were able to add key members to the team, which allowed us to develop tailored treatment strategies, giving us a better approach for targeting these concussion deficits more effectively," he says.

The cohesiveness of the team itself and the rapport they have developed may also have an effect on the progress the athletes make, according to the researchers.

They have added patient satisfaction as an evaluation tool in their research to better understand the effect of an interprofessional concussion management team in this context, says Baldiserà.

"We're looking at both the internal team dynamics and how we operate within our community setting," she says. "What both makes us a better team and helps enhance patient-centred care?"

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With the help of two Dean's Summer Medical Student award recipients, Eve Boissoneault and Emily Aleska, the team has also been able to explore how sex differences can factor into recovery rates, as well as other elements of the recovery process.

Whichever elements of the team dynamic are found to affect the results of an interprofessional concussion management strategy, the ultimate goal is to be able to provide patients with the best care possible, says Baldiserà.

"Not every patient needs every health-care provider that can treat concussion to be involved in their care," she says. "We want our team to operate in a way that allows patients to get the specific care they need."





## CRANHR CELEBRATES 25 YEARS OF NORTHERN HEALTH RESEARCH

**The Centre for Rural and Northern Health Research (CRaNHR) at Laurentian University celebrated its 25th anniversary earlier this year.**

Originally known as the Northern Health Human Resources Research Unit (NHHRU), CRaNHR is an academic and applied research centre that conducts interdisciplinary research on rural health, with a focus on improving health services, access to health care in rural and Northern communities, as well as enhancing stakeholders' knowledge of the health-care system.

Though it predates the founding of the Northern Ontario School of Medicine, CRaNHR and NOSM have developed a strong partnership because of their shared mission, says Dr. Alain Gauthier, Director of CRaNHR.

"The research questions that we seek to answer are directly derived from the needs of the communities that we work with, and not necessarily our general curiosity, so our objectives and NOSM's social accountability mandate align very well," he says.

CRaNHR was originally established to study questions related to health human resources in Northern Ontario. However, as the needs of the population have evolved, so has CRaNHR's scope.

"Over the past 25 years, we've evolved from a health human resources research centre to a rural and northern health equity research centre," says Gauthier. "The Centre was primarily focused on resource issues, such as shortages of physicians, whereas we're now focusing on much more diverse topics including Indigenous health issues, French language health services, access to services for marginalized individuals, and similar topics."

CRaNHR has five "pillars" of research: Health Human Resources, Francophone Health, Indigenous Health, Virtual Care Research and NOSM Integrated Impact Investigations.

As part of their research on the impact of NOSM in the North, researchers at CRaNHR are conducting a multi-year tracking study of the students and graduates, evaluating the experiences of NOSM graduates practising in Northern Ontario, as well as the contribution of the School to physician recruitment and retention practising in Northern Ontario and its economic impact in the region.



**Dr. Alain Gauthier, current Director of the Centre for Rural and Northern Health Research (CRaNHR), with Dr. Ray Pong, inaugural Director of CRaNHR.**

In its early stages, CRaNHR also conducted a number of studies that, while not directly linked to the establishment of NOSM, demonstrated the need for a long-term solution to health inequity in the North, and provided evidence that a medical school could be a viable option. Studies included an evaluation of existing rural medical education programs, and an exploration of the link between rural medical education and rural practice location.

The reciprocal relationship between the two institutions extends to faculty and students too, says Gauthier. CRaNHR has been a partner for NOSM's faculty investigators, providing them with a place to conduct their research, and has housed many researchers who have become NOSM students.

"It's great to see our researchers become learners, because that background provides them with the necessary skills and tools to be physician researchers, as well as a better understanding of rural and Northern Ontario as they prepare for medical training," he says.

Overall, Gauthier says the 25th anniversary signifies that the founding vision of CRaNHR has stood the test of time.

"In research, you're often forced to reinvent yourself based on the opportunities that exist, and that we are still here 25 years later, with a vision for improving health care in the North, is quite something," he says. "We've created a sustainable venue for knowledge production in the North, and my hope is that will continue to do so for the next 25 years and beyond."

**DID YOU KNOW? CRANHR WAS  
ESTABLISHED IN 1993, PREDATING  
THE ESTABLISHMENT OF NOSM BY  
12 YEARS.**

# TURNING OVER A NEW LEAF

Research at the Northern Ontario School of Medicine plays an integral role in the School's mandate to be socially accountable to the population we serve. In 2013, the School created the role of Assistant Dean, Research, with the goal

of supporting Dr. Penny Moody Corbett, Associate Dean of Research, and the School's senior leadership in their efforts to address strategic plan priorities, as well as promote research in the North.

This summer, Dr. TC Tai took over the role of Assistant Dean, Research from Dr. David MacLean. We'd like to thank Dr. MacLean for his contributions to research at NOSM, and welcome Dr. Tai to his new leadership role.



**Dr. David MacLean**

Dr. David MacLean, a Professor of Physiology at NOSM, was the School's inaugural Assistant Dean, Research. Throughout his five-year tenure he implemented a number of initiatives to raise the profile of research at NOSM, including the Physicians' Services Incorporated (PSI) Visiting Clinical Scholar program, which brings experienced clinician researchers to NOSM to offer educational opportunities to physicians interested in research, and help them develop their research skills or projects.

He also oversaw the creation and each edition of The Scope, helping to provide our communities with a better understanding of research being done at NOSM. In addition, he spearheaded the development of NOSM's first graduate program, a Master of Medical Studies.

"It was a pleasure to be able to support the faculty and students in their research efforts, and to see the contributions they have made to improving the health of people in Northern Ontario," he says.



**Dr. TC Tai**

Dr. TC Tai, a Professor of Physiology and Pharmacology at NOSM, took over as Assistant Dean, Research in July of this year.

He says he hopes he can continue to promote NOSM as a world-class research institute with a unique and valuable perspective.

"I want people in communities across Northern Ontario, as well as people across the country and around the world, to realize what researchers at NOSM are doing, what they have the potential to do, and what that means for the health of people in our region and beyond," he says.



By focusing on the unique health challenges in Northern Ontario, NOSM's research is changing health research in our region.

To support health research in the North,  
contact [advancement@nosm.ca](mailto:advancement@nosm.ca) | call 807-766-7424 or 705-662-7154.

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