

The image is a vertical composition. The bottom half shows a perspective view of a road with white lane markings, receding towards a bright horizon where the sun is setting or rising. The sky is a mix of orange, yellow, and blue. The top half of the image is a dark blue gradient with a fine grid pattern. Overlaid on this top section are numerous white, thin, diagonal lines that radiate from the center of the horizon, creating a starburst or speed effect.

FROM INFORMATIVE TO TRANSFORMATIVE
THE NOSM UNIVERSITY OF TOMORROW



FOREWORD

“Without change there is no innovation, creativity, or incentive for improvement. Those who initiate change will have a better opportunity to manage the change that is inevitable.” — William Pollard

As we look forward with hope to the post-pandemic era, NOSM University has a window of extraordinary opportunity in which to fundamentally and strategically transform itself to meet the health research, education and health care demands of tomorrow. The turbulence caused by the global COVID-19 crisis touched—and forever changed—every element of work in which we were engaged during this historic time. The crisis revealed that the prevailing medical education paradigm, a legacy of past centuries, is outmoded, and too brittle to bend and adapt to the realities of the day. It also demonstrated the need for research and scientific discovery to respond quickly to the issues of the day, and for evidence-based clinical practice to inform public policy.

As Canada’s first completely autonomous medical university, NOSM University is now in a singular position to “throw out the old playbook,” and instead, innovate for the future—and undertake what our legislative Act calls our “special mission.” This treatise intends to provide a vision for that future. NOSM University must transform to become an

“ecological university,” one that is deeply and ethically aware of—and networked with—the society around us. Like the fingers of two hands lacing together, we must work to deliver our pan-Northern and internationally-renowned programs to learners across Northern Ontario, each twinned with a broad range of germane and mutually interdependent partnerships that will generate local solutions and be directly linked to societal needs. With vision and planning, this transformative pan-Northern model—supported by remarkable collaborations with the Northwestern Ontario Municipal Association (NOMA) the Federation of Northern Ontario Municipalities (FONOM), Indigenous and Francophone, remote, rural communities and allied health partners, along with scientists and clinicians in practice—will emerge as the eco-system within which our learners will flourish. Universities of the future, including NOSM University, will have to undertake dramatic changes to the standard curricula. Accelerating technology has already made learning and consequent health-care available in real-time, from anywhere. But just as we adopt new platforms for teaching, we must adopt new ways of thinking about what we teach, how we

teach, where we deliver it and over what duration. The NOSM University of the future will rapidly look to move toward a mix of degrees, certificates, pathways and shorter course cycles. To remain competitive in the broader education landscape, and to certify professionals to their fields more efficiently, we will tailor education and customize it for learners, with packages containing exactly what they want to achieve now (“just-in-time” education) rather than offering general, blanket, one-size-fits-all learning (“just-in-case” education).

Further, in an effort to become ever less reliant on government funding and tuition income, we will develop unique micro-credential and skills upgrading programs designed to top-up people’s existing skill sets, or to help them change industries altogether. With continuing education, learning becomes lifelong.

The mutual advantage is that these on-demand, flexible learning experiences will not only become a significant revenue stream, but will again be tailored to the learning preferences of students, whether fully online, in a hybrid context or on a campus. More importantly, this new wave of thinking and our revolution in health education and research will lead NOSM University to become the destination of choice for innovation and social accountability.

To leap to the fore of medical education in Canada, and stay there, we must set a plan in motion, and then stay a course of learning, unlearning and refining iterations of these and other emergent ideas—in perpetuity.

In short, we must anticipate and fully embrace the future.

WHAT’S OUR MANDATE?

Northern Ontario School of Medicine University Act, 2021

OBJECTS

1. The objects of the University are,
 - (a) to provide undergraduate and postgraduate medical health education and other programs and, in doing so, advance the highest quality of learning, teaching, research and professionalism.
 - (b) to shape the medical profession and allied health services in a way that improves their responsiveness to the distinct needs of rural, remote, Indigenous and Francophone communities; And
 - (c) to contribute to the advancement of healthcare in northern Ontario by facilitating student appreciation of the opportunities for quality educational and professional careers in northern Ontario.

SPECIAL MISSION

2. It is the special mission of the University to provide programs that are innovative and responsive to the needs of individual students and to the unique healthcare needs of the people of northern Ontario and other northern regions of Canada, which includes people living in rural, remote, Indigenous and Francophone communities.

HOW DID WE GET HERE?

“Never let a serious crisis go to waste... it’s an opportunity to do things you thought you could not do before.” — Rahm Emanuel

The Northern Ontario School of Medicine (NOSM) was founded in 2005, and is an award-winning, socially accountable medical university renowned for its innovative model of distributed, community-engaged education and research. With a focus on diversity, inclusion, and advocacy for health equity, NOSM University relies on the commitment and expertise of the peoples and communities of Northern Ontario to educate health-care professionals to practise in Indigenous, Francophone, rural, remote and underserved communities.

NOSM was originally established as a government strategy to address the health needs of the region, improve access to quality care, and contribute to the economic development of Northern Ontario. It was born of a grassroots movement, from communities across Northern Ontario advocating for a solution to regional health inequalities. Becoming a university converts that vision into a future reality. NOSM University will always be a critical tool and a fundamental strategy of the government, the public and other stakeholders in addressing our needs for health care, in the North and for the North.

After some-20 years in existence, the destiny of NOSM University unveiled itself as part of a remarkable series of unanticipated and astounding events. The path to becoming a free-standing degree granting university arose out of the insolvency of Laurentian University, which caused major instability to the accreditation of the MD degree. The NOSM University Act was proclaimed into force on April 1, 2022, and with that, the trajectory from NOSM to NOSM University was realized. The unprecedented opportunity for growth (with a massive expansion of the medical programs also announced in 2022) and a new Board of Governors, plus an inaugural Chancellor, has given momentum to the novel, values-driven and socially responsible upstart now in the higher-education landscape. NOSM University offers an unparalleled future for the education and research community in Northern Ontario, and indeed Canada and the world. There is no other institution like it, and it is now the place to be, the place to learn and the place for scientific discovery for people hungry for transformation in health care.

MEDICAL EDUCATION TODAY: THE INFORMATIVE MODEL

“The great aim of education is not knowledge but action.”

— Herbert Spencer

Canada’s very first medical school opened its doors in 1824 at the Montreal Medical Institution (later the McGill Faculty of Medicine), before Canada was even a self-governing Dominion. Nearly two hundred years later, much has been added to the country’s mainly standard medical school curricula, but far less has been thoughtfully edited or omitted.

“By the late 1950s and early 1960s, Canadian medical faculties were staggering under the stresses of a rapidly expanding body of knowledge that could not be adequately conveyed in the curriculum then in use. Medical students became increasingly frustrated and vocal about the volume of information they had to learn, the relevance of which was not always apparent.”¹

Today, medical education in Canada remains in large part “informative.” Students still attend lectures in which they are expected to absorb vast quantities of accumulated knowledge across a broad spectrum of topics. This is the outmoded “just-in-case” model of teaching that ignores the tools and technological advantages of the day. “Teaching mostly through pedagogy-based lectures... should be put on the backburner,”

write Naithani and Vasudevan from another Commonwealth perspective: India. “Medical technology has far outgrown its potential and medical education needs catching up... Skills that need to be developed include communication, empathy, history taking with reasoning, accurate examination, good procedural expertise, management based on evidence-based medicine, emergency care, data keeping, documentation, teamwork, multidisciplinary approach[es], professionalism, and above all, ethics.”²

Further, given the doctor shortages Canada’s rural and Northern communities face, it also stands to reason that the roughly seven years spent in the medical education “pipeline” is often too long. By the time these graduates go into practice, what they have learned may have been overtaken by new technology and inventions. Society, after all, moves at a much quicker pace than education. We cannot afford to slow the process of graduating skilled health professionals to their fields by unnecessarily overloading students with years’ worth of granular, textbook information that might be better learned on an as-need basis (“just-in-time” learning), or perhaps not at all.

¹The Canadian Encyclopedia, s.v. “Medical Education,” by Douglas Waugh, and Patricia G. Bailey, [Medical Education | The Canadian Encyclopedia](#)

²Naithani, N., & Vasudevan, B. (2021). Paradigm shift in medical education: The future beckons. *Medical journal, Armed Forces India*, 77(Suppl 1), S1–S3 <https://doi.org/10.1016/j.mjafi.2021.01.021>

REJUVENATING HEALTH PROFESSIONS EDUCATION: THE TRANSFORMATIVE MODEL

“Education is not the filling of a pail, but the lighting of a fire.”

— William Butler Yeats

Otherwise stated, “Transformational education,” writes Julia Phillipi, “like other types of education, seeks to transmit new knowledge, skills, and ways of thinking, but beyond transmission of instrumental knowledge, it serves to awaken the learner to a new manner of viewing and examining the world.”³

The practical advantages of a transformative style of education are enormous in the field of medical education. When facilitated correctly among learners, it can yield:

- Deeper self-awareness (reflection);
- More open perspectives (empathy);
- A deep shift in worldview (ethics).

Picking up on the 2010 work of the Lancet Commission—a thoughtful work on health professionals for the 21st century—the opportunities now presented in the post-pandemic world underscore all the more what the Commission finds:

that the future is collaborative, transdisciplinary and defined by disruptive learning and evaluation that does not rely on the “bums in seats” model and high-stakes single examinations.

“The professionals’ most important contribution is often finely-tuned judgment and decision-making skills rather than knowledge gradients. Thus, advanced information technology is important not only for more efficient education of health professionals; its existence also demands a change in expected competencies. Put simply, the education of health professionals in the 21st century must focus less on memorizing and transmitting facts and more on promotion of the reasoning and communication skills that will enable the professional to be an effective partner, facilitator, adviser, and advocate.”⁴

The transformative model asks learners to adjust their thinking—and even themselves—based on new and changing information. This in turn makes way for

³ Phillipi, Julia. “Transformational Learning in Health Care.” PAAACE Journal of Lifelong Learning, Vol. 19, 2010, 39-54. Transformational Learning in Healthcare

⁴ Frenk J, Chen L, Bhutta ZA, Cohen J, Crisp N, Evans T, Fineberg H, Garcia P, Ke Y, Kelley P, Kistnasamy B, Meleis A, Naylor D, Pablos-Mendez A, Reddy S, Scrimshaw S, Sepulveda J, Serwadda D, Zurayk H. Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. Lancet. 2010 Dec 4;376(9756):1923-58. doi: 10.1016/S0140-6736(10)61854-5. Epub 2010 Nov 26. PMID: 21112623. https://chinamedicalboard.org/sites/default/files/the_lancet_commissions.pdf



many desirable outcomes, particularly in a university like ours, dedicated to social accountability and health justice. Those include leadership development, “critical reflexivity, a more discriminating mindset... competencies which empower individuals and increase their capacities as agents of change in society.”⁵

NOSM University’s transformative model is already being implemented. More than half of our MD graduates choose family medicine as their career.

That is compared to less than 30 per cent across Canada. And what do we need most right now? Family doctors—and NOSM University is providing that solution. Evolution requires, indeed demands, that instead of being a “factory” of health professionals, a transformational medical University will meet the societal need. That is a key facet of NOSM University’s dedication to social accountability.

“Put simply, the education of health professionals in the 21st century must focus less on memorizing and transmitting facts and more on promotion of the reasoning and communication skills that will enable the professional to be an effective partner, facilitator, adviser, and advocate.”

— Lancet Commission, 2010

⁵ Boelen, Charles, Heck, Jeffery E & World Health Organization. Division of Development of Human Resources for Health. (1995). Defining and measuring the social accountability of medical schools / Charles Boelen and Jeffery E. Heck. World Health Organization. <https://apps.who.int/iris/handle/10665/59441>

WHAT IS AN “ECOLOGICAL UNIVERSITY?”

No credible, worthwhile university is an island. In order to flourish and make the contributions to society that are promised by their very existence, universities of today must adopt the culture and practices of an “ecological university.”

Ronald Barnett discusses: “The ecological situation in which the university finds itself is precisely one of structures—in the form of ecosystems—in which and with which the university is entangled. Certainly, the ecosystems in question here—of social institutions, persons, culture, learning, knowledge, the economy, the natural environment and the polity—are each hazy and are yet dynamic formations.”

He continues: “This would be a concept that turns around the relationship between the university and the world. Instead of understanding the university as an institution exerting force and control over the world, the university would be seen as an institution that listens to and has concerns for the total world, in all its ecological [psychological, and social] diversity [and set against an “ethical horizon”].”⁶

In essence, NOSM University recognizes and embraces its role within the wider “ecosystem” of Northern Ontario (and beyond), is listening intently and is taking its cues from that ecosystem as identified by Barnett.

1. We are leading in relevant health knowledge creation and dissemination to directly better peoples’ lives;
2. We are learning, growing and connecting through partnerships with health and educational institutions;
3. We are living and learning in cultural communities;
4. We are informed by the people we serve, and our actions are framed by their determinants of health;
5. We are contributing to the economy;
6. We are structurally determined by our massive geography;
7. We are dependent upon the climate and environment.

Robert Stratford puts it this way: “The ecological university is a direct challenge to educational policy that sees predominantly narrow forms of economic value in higher education and a significant challenge to education practice that is satisfied with liberal and rational knowledge silos, decontextualized from caring about the wellbeing of others.”⁷ NOSM University aspires to become an ecological University, practising our values through our commitment to the planet, and to the people and cultures of Northern Ontario.

⁶ Barnett, R. (2020). Realizing the World-Class University: An Ecological Approach. In: Rider, S., Peters, M.A., Hyvönen, M., Besley, T. (eds) World Class Universities. Evaluating Education: Normative Systems and Institutional Practices. Springer, Singapore. [Realizing the World-Class University: An Ecological Approach | SpringerLink](#)

⁷ Stratford, Robert. “What is the ecological university and why is it a significant challenge for higher education policy and practice?” Educational Philosophy and Theory. 2015.

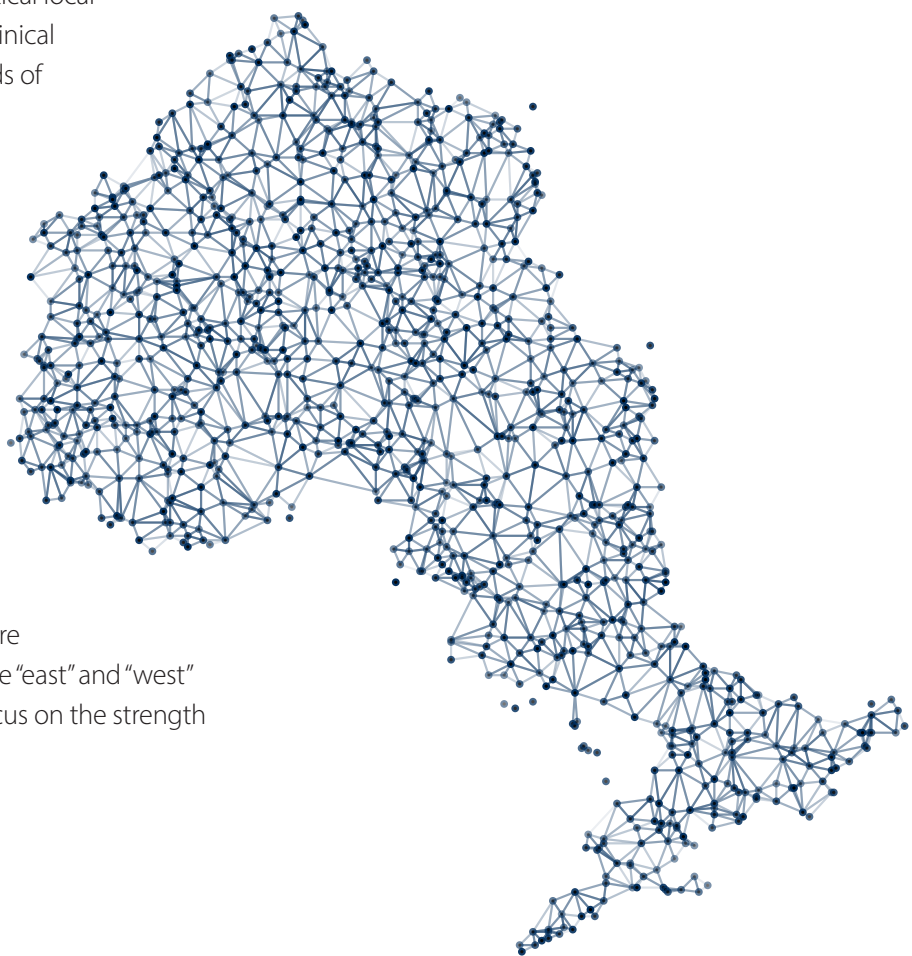
BECOMING TRULY PAN-NORTHERN

From its inception, NOSM has relied upon its internationally renowned distributed model of learning across Northern Ontario. However, we've yet to truly undertake regionalization. Looking into the future, that evolved concept will be fundamental to several priority areas for NOSM University.

Foremost, establishing a dedicated university presence in strategic communities outside of Sudbury and Thunder Bay will allow us to truly partner locally and foster the kind of community engagement needed to continue building trust and credibility. Second, these proposed flexible, interconnected and regionally distributed "campuses" (not necessarily new builds and certainly leveraging partner resources) would be integral to gathering critical local research data while establishing clinical services directly linked to the needs of the immediate community. The regional focus also will lead to improved recruitment and retention of health-care professionals into areas of greatest need: rural, remote and small communities, and First Nations and Francophone communities where the shortages are acute. Finally, and perhaps most importantly, the true regionalization of this university will usher in a much-needed culture shift in which there will be no more "east" and "west" thinking, and instead, exclusive focus on the strength

of the entire network. The relationships with clinical faculty, collective agreements, the Northern Ontario Academic Medical Association (NOAMA), hospitals, sister Universities and Colleges, donors, government and community leaders are all pivotal to this success.

This proposed pan-Northern approach wisely taps into the already available resources of interdependent partners, including health service providers, colleges and universities in the health services supply chain, as well as research and clinical services. After all, if they've already built what we need to learn and grow, why shouldn't we share the wealth in the common service of Northern Ontario?



THE 'F-WORD:' FUNDING

"Carpe per diem: seize the check." — Robin Williams

A heavy reliance on government funding and tuition revenue has proven to be financially disastrous for the universities of today. Some larger more influential universities have succeeded in attracting large endowments, international student enrolment and private donations to sustain their financial future.

NOSM University has a choice to make: either generate revenue through new business models or continue to suffer deficits, uncertainty and a suppression of innovation or growth.

Traditional fundraising is not the whole answer, though it has a place in developing an aspirational Student Endowment Fund. NOSM University has launched a plan to raise \$50 million for student aid, (including recouping the endowments held for NOSM University students at Laurentian and Lakehead Universities). In addition, we must focus on becoming a precinct for innovation and a place for investment, where NOSM University and industry collaborate on projects that solve real-world problems. We will be a crucible for important conversations across all boundaries and jurisdictions in rural, remote, Indigenous, Métis, and Francophone communities, and pressing for the best business case to support them regardless of federal, provincial, municipal or other funding mechanisms.

Other revenue streams must include of-the-moment value propositions: pay-to-play, distance-ready micro-credentials and skills upgrading programs that can top-up people's existing skill sets, or help them to change industries altogether. This concept is not new. However, NOSM University has an opportunity

to develop a suite of scalable modules that put our university's unique specializations and brand at the fore. Design-thinking and new programming will be our forte.

The beauty of this is that with continuing education, learning never stops. The mutual advantage is that these on-demand, flexible learning experiences will not only become a significant revenue stream, but will again be tailored to the learning preferences of students, whether fully online, in a hybrid context or on a campus. Research opportunities and new partnerships across Canada are already being nurtured. International opportunities are under exploration. These roots will all bear fruit in due course.

There are some risks to diversifying our revenue streams, but none that cannot be thoughtfully mitigated, or that outweigh the existential threat of insolvency. The lessons learned from the Laurentian University experience in the CCAA protection proceedings, and emerging evidence that many other universities are in similar peril, make it clear that NOSM University must adjust to a new paradigm: from an expensive model entirely reliant upon government funding to one that is fiscally responsible, financially efficient and guided by continuous quality improvement. NOSM University is leading a movement defined by the ecological university that relies heavily on outputs and measuring the impact on the community it serves. Ultimately, publicly funded institutions such as NOSM University must be accountable for taxpayers' dollars, and our graduates must have degrees that are useful and lead to employment in areas of need.

THE FUTURE OF NOSM UNIVERSITY: FOUR BIG IDEAS

"If one does not know to which port one is sailing, no wind is favorable."

— Lucius Annaeus Seneca

Radical change is needed for NOSM University to become truly extraordinary. We can—and should—make massive reforms to health education, research and systems design, but only those reforms that will also keep intact the best of what we do, which is producing physicians for Northern Ontario.

Based upon deliberations of our Transition Board of Governors, we propose four big ideas to become an ecological university:

1. NOSM University will no longer be just a medical school; we will embrace new degrees, certificates and educational and research opportunities that will make us a true university, and in doing so, we will meet the expectations of the Council of Ontario Universities.
2. NOSM University will stay focussed in our large AHSC-linked campuses in Thunder Bay and Sudbury, but we will work to eventually extend our reach across all of Northern Ontario, becoming truly regionalized and pan-Northern.
3. NOSM University will explore and deliver new opportunities in research and education with innovation in flexible learning experiences tailored to exactly what students want to achieve. A bespoke, "just-in-time" approach to each learner will allow them to study what they want in multiple modes, from in-person, to online to anything in-between using state-of-the-art technology. One of our most unique value propositions, our unique academic initiatives, will continue to allow students to study Rural Medicine, Indigenous Health and Francophone Health, with the added advantage of flexible pathways to success.
4. NOSM University will develop models of funding that reduce our reliance on traditional sources of revenue and will find efficiencies to become more fiscally accountable to the people of Northern Ontario.

NOSM University will not just survive—it will thrive.

NOSM University will become truly extraordinary.

