

Centre for Rural and Northern Health Research

The Economic Impact of the Northern Ontario School of Medicine on Northern Ontario in 2017

The Northern Ontario School of Medicine (NOSM) opened in 2005 and graduated its MD charter class in May 2009. Each year, NOSM accepts 36 students at Laurentian University in Sudbury and 28 at Lakehead University in Thunder Bay. NOSM also runs multiple medical postgraduate and health care professional programs.

NOSM was created with the support of northern communities, health care organizations and the two universities, Laurentian and Lakehead, with the expectation that NOSM will bring benefits to these stakeholders, as well as to Northern Ontario as a whole. NOSM's model of distributed community engaged learning has led to the active involvement of

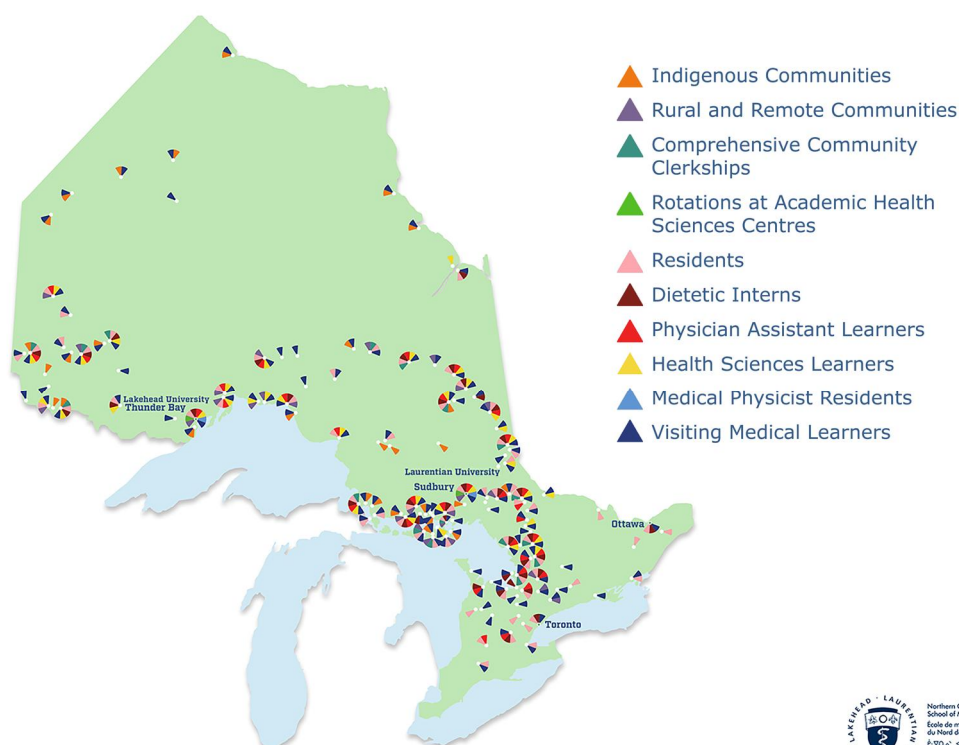


Exhibit 1: NOSM's Campus



This issue of Research in **FOCUS** on Research is written by Margaret G. French and John C. Hogenbirk. Image content by Louise Jones and Jill Sherman. This FOCUS issue is based on research titled "The Economic Impact of the Northern Ontario School of Medicine on Northern Ontario in 2017" conducted by the Centre for Rural and Northern Health Research (CRaNHR). The research was commissioned by the Northern Ontario School of Medicine with support from the Ministry of Health and Long-Term Care.

more than 90 communities across Northern Ontario in NOSM’s educational and research activities (Exhibit 1). This issue of *Research in FOCUS on Research* looks at the present-day economic impact of the school’s programs on the economic zones centered on Greater Sudbury, Thunder Bay, and other selected communities, and collectively on Northern Ontario.

The Centre for Rural and Northern Health Research (CRaNHR) completed an earlier economic impact study of NOSM for fiscal year (FY) 2007/2008. In FY 2007/2008, NOSM had been operating for 3 years, with its charter class one year away from graduation. NOSM has since produced nine cohorts of medical graduates, assumed responsibility for postgraduate training in family medicine and eight additional medical and surgical specialties. NOSM also administers education programs in Northern Ontario for dietitians, rehabilitation therapists, physician assistants and pharmacists. In addition, NOSM has an active research program throughout the region. In 2017, given the new and expanded programs and activities, it seemed timely to reassess the economic impact of NOSM on Northern Ontario.

Methods



Exhibit 2: Methods

We included spending by NOSM on their research, medical and health care education programs (Exhibit 2). Teaching duties of physician clinical teachers are supported through the academic Alternative Funding Plan (AFP) program, which is administered by NOSM on behalf of the Northern Ontario Academic Medicine Association. Our model also estimated the spending of all health and medical professional learners at NOSM, which includes spending in support of medical residents. Clinical services provided by medical residents are reimbursed through the Paymaster Program, which is administered by NOSM on behalf of the Ontario Ministry of Health and Long Term Care. This combined spending was used to estimate the economic impact in NOSM’s service region for FY 2016/2017 (Exhibit 3).

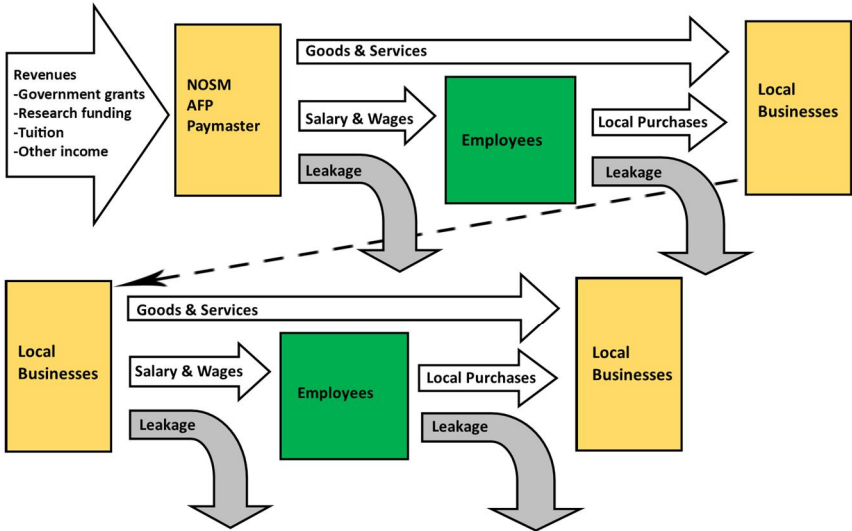


Exhibit 3: Cash Flows

Spending was determined for eight economic areas, which comprise the Census Metropolitan Areas (CMAs) and Census Agglomerations (CAs) centered around the larger towns and cities in Northern Ontario. Once we determined total spending for each CMA or CA, then we multiplied total spending by a CMA or CA specific coefficient called an ‘economic multiplier’. This multiplier was based on population size and derived from

economic base theory. The result is the estimated economic impact in dollars for that CMA or CA. We used published formula to estimate a low and a high economic impact. We used the same economic multipliers to estimate the impact on full time employment.

What we learned:

Dollars & Cents

In FY 2014/2015, a total of \$57.6 million was spent in NOSM’s service region. Spending on NOSM’s education and research programs, and support for physician clinical teachers spent \$46.4M and the learners totaled \$11.2M. More than three quarters (77%) of spending occurs in Northern Ontario’s two largest economic areas: the CMAs of Greater Sudbury and Thunder Bay.

All of this spending translates into an economic impact in NOSM’s service region of \$122M - \$134M in FY 2016/2017. In the CMAs of Sudbury and Thunder Bay, this impact ranges from \$39M to \$48M. The smaller Northern Ontario economic areas also saw an impact ranging from \$0.7M to \$5.4M (Exhibits 4 and 5).

People & Jobs

An economic impact can also be described by the impact on employment. That is to say, one job funded by NOSM’s educational or research programs can create other jobs. The number of

fulltime equivalent (FTE) positions in NOSM’s service region was estimated to be 362 in July 2016. The economic activity derived from these FTE positions is estimated to create or support a total of 729 - 802 FTEs in the region. Physician clinical teacher FTE data was not readily available at the time of report and were not included in the estimate of employment impact. However, we are confident that there are additional jobs supported by physician clinical teachers.

Limitations

We excluded visitor spending, construction costs, changes in recruitment incentives paid by the community attract physicians, and local economic activity of health care practitioners who relocated to the area because of NOSM. As well,

our model did not include spending by graduate research students beyond that captured in NOSM financial records as scholarships or paid research assistantships.

There may be some accounting errors in determining cash flows, but the effect on the economic impact is believed to be minor.

The net result is that the actual economic impact is probably closer to the higher estimate.

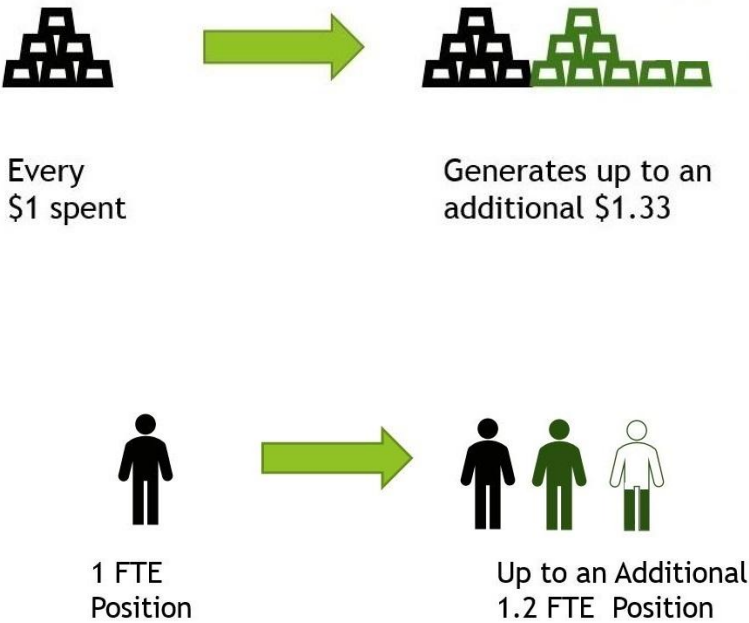


Exhibit 4: Economic Impact

"Bottom Line"

When talking dollars and cents, for every \$1.00 of spending by NOSM, learners and physician teachers in NOSM's service region, an additional \$1.11-\$1.33 is generated in economic activity in FY 2016/2017.

When talking jobs, for every 1 full time employment position, 1.0-1.2 additional positions are created in the region (See Exhibit 4).

In fulfilling its main mission to educate and train doctors, physician assistants, and other health care professionals, NOSM, with the Academic Alternative Funding Plan and the residents Paymaster Program, generates considerable economic activity and supports additional jobs throughout Northern Ontario.

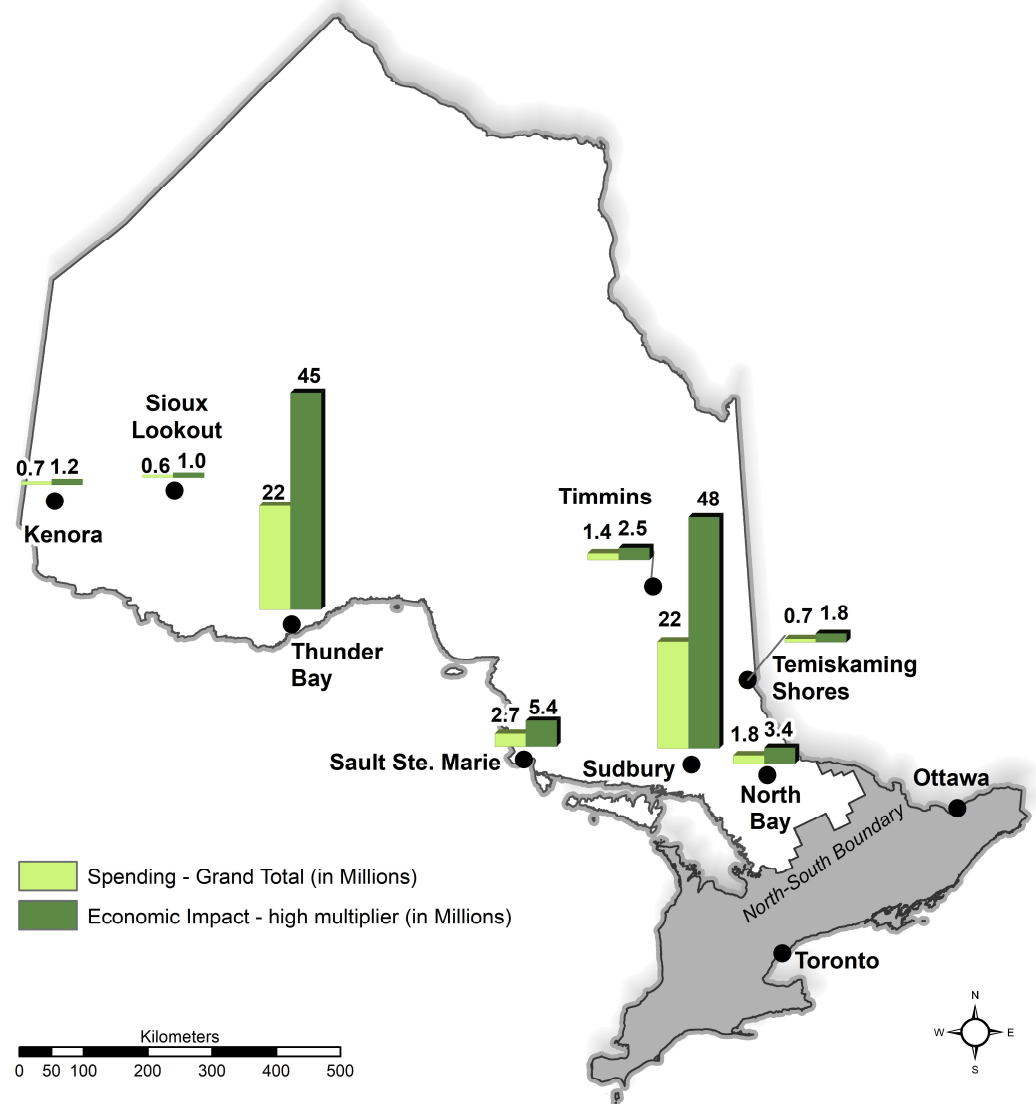


Exhibit 5 Spending & Economic Impact in NOSM's Service Region

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