

## Tracking Study of NOSM Medical Learners: Study Methods, Participant Demographics and Choice of Medical Discipline

The Centre for Rural and Northern Health Research (CRaNHR) and the Northern Ontario School of Medicine (NOSM) are collaborating on a study that tracks NOSM's medical learners as they progress through the stages of their medical education and into the medical workforce. Our study uses information collected from surveys and interviews as well as administrative data to answer questions such as:

- Do learners plan to practice in family medicine, generalist specialties such as pediatrics, general surgery, and internal medicine or other medical/surgical specialties or subspecialties?
- Will they practice in medically underserved regions such as those in rural and Northern Ontario?
- Will NOSM medical learners practice in the smaller communities?

- What types of medical services will learners offer their patients? What will be their scope of practice?
- Will learners provide services to special populations such as Indigenous and Francophone peoples? The Elderly?
- How will learners organize their practices? Will they join Family Health Teams or other interprofessional teams? Set up solo practice? Provide hospital-based services?
- What are some of the factors that influence the key decisions listed above?

To get the answers to these and other questions, we have been tracking learners since NOSM's charter class started in 2005.

In this issue of *Research in FOCUS on Research*, we describe our methods and share results on learners' choice of medical discipline. Future issues of FOCUS will cover other research questions.

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## Methods

NOSM learners are invited to participate in the study upon entering the undergraduate (UG) or postgraduate (PG) medical education program at NOSM. Participation is voluntary and the study methods as well as the questions that we ask have been approved by the Research Ethics Boards at Laurentian University and Lakehead University.

Learners are surveyed upon entry into and exit from the undergraduate and postgraduate medical education programs as well as when the learners begin fully licensed medical practice (**Exhibit 1**). We survey learners midway through their studies for programs that run four or more years.

**Exhibit 1:** Study Cohorts and Survey Timing

Study Cohort (Year of Entry into UG Program)	Medical Education/Practice Year					
	UG Y1	UG Y2	UG Y4	PG Y1	PG Y2	Full Practice
2005	✓	✓	✓		✓	✓*
2006	✓	✓	✓		✓	✓*
2007	✓	✓	✓	✓	✓	✓*
2008	✓	✓	✓	✓		
2009	✓	✓	✓	✓		
2010	✓	✓				
2011	✓	✓				
2012	✓					
2013	✓					
Number in Study	538	410	282	268	166	131

Legend: UG=Undergraduate, PG=Postgraduate, Y=Year

\* For those who graduated as Family Physicians certified by the College of Family Physicians of Canada (CFPC)

We also conduct interviews with medical learners to get an in-depth look at issues around key decisions in their medical career. These decisions are the learners' answers to questions such as: Which medical discipline should I choose? What training shall I seek? Where will I practice? As well, we ask about the factors that influence their decisions, for example: What is the role of medical education? What is the influence of medical colleagues or family and friends?

## Response Rates & Representativeness

Response rates for our surveys of undergraduate medical students (2005 – 2013) average 93% for nine cohorts at entry (**UGY1**), 77% for seven cohorts at midway (**UGY2**) and 82% for five cohorts at exit (**UGY4**). Average response rates for three cohorts of postgraduate learners are 63% at entry (**PGY1**) and 38% at exit (**PGY2**) from the Family Medicine program accredited by College of Family Physicians of Canada (CFPC). NOSM's learners who chose specialties accredited by the Royal College of Physicians and Surgeons of Canada (RCPSC) are still in training and will be featured in future FOCUS issues.

Survey respondents are similar in age and gender mix to all undergraduates entering NOSM (**Exhibit 2**). Language, culture and rural and northern background or respondents are also similar to that of all NOSM undergraduates. This is reassuring because, in combination with high responses rates, the similarities between respondents and non-respondents suggest that the survey results obtained by our tracking study are representative of NOSM learners for the 2005 – 2013 undergraduate cohorts. The demographic profile of those survey respondents who participate in interviews is also similar to all NOSM undergraduate medical students.

Relative to the general population of Northern Ontario, medical learners are younger and more are female. Other demographic characteristics are within five to ten percentage points of the general population.

**Exhibit 2: Demographic Information**

2005-2013 Cohorts	Survey Respondents at Entry into the Undergraduate Program	All NOSM Undergraduates at Entry	Population of Northern Ontario
Age	26 years	26 years	41 years
Female	69%	67%	51%
Franco-phone	25%	22%	17%
Indigenous	7%	7%	12%
Rural Background <sup>1</sup>	39%	39%	31%
Northern Ontario	91%	91%	100%
Source:	CRaNHR surveys	NOSM class profiles	Statistics Canada, Office of Franco-phone Affairs, Office of Aboriginal Affairs

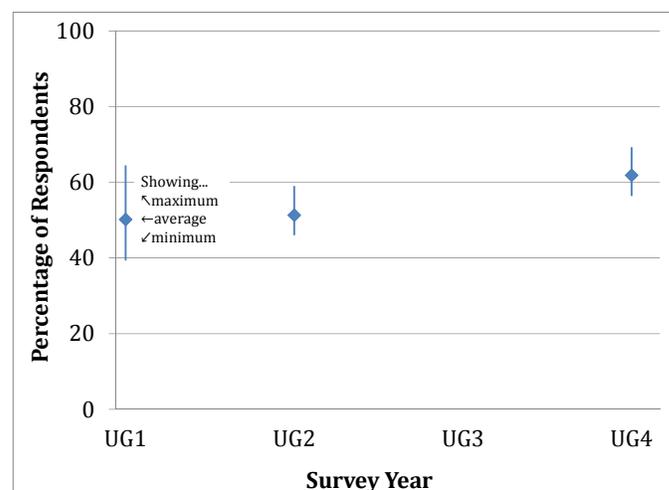
<sup>1</sup> Rural areas are those that are located outside of Census Metropolitan Areas or Census Agglomerations (Statistics Canada)

### Choice of Medical Discipline

On average, 50% of survey respondents start their NOSM undergraduate medical education wanting to become family physicians (**Exhibit 3**). The percentage increases slightly as

learners progress through their undergraduate medical education and by the end, 62% of all undergraduate medical students have chosen Family Medicine. The remaining respondents chose Royal College specialties.

**Exhibit 3: Percentage of NOSM UG learners who chose Family Medicine**



The top six Royal College specialties that are most frequently chosen by NOSM undergraduates are listed in **Exhibit 4**. These generalist-type specialties have the potential to provide a broad range of services and medical care to people across Northern Ontario.

**Exhibit 4: Top six Royal College Specialties chosen by NOSM undergraduates**

Royal College of Physicians and Surgeons of Canada - Specialty	Percentage of 275 Respondents
Internal Medicine	5%
Pediatrics	5%
Psychiatry	5%
Anesthesiology	4%
Obstetrics/Gynecology	4%
Orthopedic surgery	4%

## Meeting the Needs of Northern Ontario

NOSM's medical students come from rural and northern regions of Ontario and elsewhere in Canada and so will be familiar with the challenges and opportunities in these medically underserved regions. As well, the percentages of students with Indigenous and Francophone backgrounds are close to what is found in Northern Ontario.

In addition, the majority of NOSM's medical learners have an interest in and train to become family physicians. In 2013, according to the Canadian Residency Matching Service (CaRMS), approximately 63% of all graduating medical students at NOSM chose training in family medicine compared to 36% of all undergraduate medical students across Canada. NOSM undergraduate learners are

choosing family medicine at nearly double (1.8 times) the national rate. Almost all of the remainder of NOSM's undergraduates chose generalist specialties such as internal medicine and psychiatry.

Evidence from the tracking study shows that in selecting and training medical learners NOSM is becoming responsive to the needs and the diversity of the people of Northern Ontario. In addition, NOSM's medical graduates are choosing family medicine and other generalist specialties that will provide them with the knowledge and skills needed to serve Indigenous, Francophone and other populations throughout Northern Ontario, including those who live in medically underserved communities.

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