

Potential Economic and Business Impacts of a New SFU Medical School in Surrey City Centre



March 1, 2022



Table of Contents

Acknowledgements	ii
Executive Summary	iii
1. Introduction	1
2. Research Methodology.....	3
3. Literature Review/Secondary Research	3
4. Economic Impact of a New Medical School in Surrey.....	11
5. Qualitative Research.....	14
6. Conclusions and Recommendations	16
Annotated Bibliography.....	18
Appendix A: Background Materials Related the Study and Interview Guide	30



Acknowledgements

In addition to the 23 health care, business, education and Indigenous representatives we interviewed to obtain invaluable perspectives (see Appendix A), I would like to acknowledge and thank Simon Fraser University staff for their insights and information they shared, including:

- Kelli Whittle, Medical School Project Lead
- Zareen Naqvi and Wayne Sun, Director and Senior Analyst, respectively, Institutional Analysis
- Darya (Dasha) Berezhnova, Graduate Student, Vice-President, External Office

I want to thank our client, Elizabeth Model, CEO, Downtown Surrey Business Improvement Association (DSBIA), for her input and direction on this project. I would also like to thank Donna Jones and Stephen Wu with the City of Surrey, for their input.

Finally, my appreciation to my capable colleagues, Lee Gan, Economist with RKA, and Kerry Jothen, Principal of Human Capital Strategies, for their high-quality work on this project.

We hope this report contributes to the DSBIA and SFU interests and progress in making an SFU Surrey Medical School a reality.

Sincerely,

Dr. Roslyn Kunin



Executive Summary

The purpose of this study is to project the anticipated positive economic impact of a new medical school offering a distributed learning model in Surrey Centre and to provide data and recommendations that can be used in the advancement of this project.

There are three components of the research described in this report. First is a literature review which looked at previous analyses that have been conducted to support distributed medical education, the models that have been used to evaluate their economic impact and the findings from qualitative research on the benefits of recent experiences with establishment of the Northern Ontario School of Medicine and the Windsor Regional Medical Campus in Ontario. Surrey and Simon Fraser University can benefit from learning the positive outcomes we found here.

The second component was qualitative research. Here we conducted in-depth key informant interviews with community stakeholders from business organizations, health care providers, Indigenous organizations, and civic associations. These community leaders were both consistent and strong in their support for a medical school and indicated that not only would it make a significant positive contribution to Surrey's economy and businesses, but that it would also provide for better health care and support Surrey's diverse communities. For instance, leaders in Indigenous communities looked forward to a local medical school which would provide more, appropriate, and culturally safe opportunities for Indigenous and Metis jobs and education as well as better community and wellness services. We also heard that a medical school would enhance Surrey's reputation.

In the third component, we used an input-output analysis to create quantitative estimates of the economic impact that a new medical school would generate. Direct, indirect and induced impacts on GDP, labour income, jobs and taxes were considered for both the construction and the operation of the medical school. The potential economic impact of resulting visitors to the community was also included.

We estimated direct, indirect and induced impacts for construction/capital, annual operating and visitor spending impacts:

- For capital costs for the Medical School, we estimated \$864,000 in GDP contribution to the provincial economy, 8 jobs supported and \$212,000 government tax revenue for every \$1 million of capital costs – for example, a \$10 million construction project would bring almost \$9 million in GDP contribution towards for the provincial economy, support 80 jobs and generate over \$2 million in tax revenue in a year.
- The annual operating cost associated with the Medical School is estimated to be \$159.9 million of direct, indirect and induced GDP impacts towards the provincial economy; or over \$3 billion over 20 years. Annual operation would also involve an impact of over 1,800 direct, indirect and induced jobs.

- We estimate out-of-province visitor spending impacts to be \$690,000 contribution to the provincial GDP, and \$127,000 tax revenue generated for the government per \$1 million of visitor spending.

Excluding the above qualitative benefits, a Surrey Medical School will produce hundreds of millions of dollars each year and billions of dollars over the life of the facility.

Based on our findings, this report concludes with the following recommendations.

1. That as soon as possible the SFU Medical School planning function clearly define the quantity, scale and scope of students, faculty, staff, facility features, even if in a few scenarios and for both the shorter and longer terms. This will enable the development of a clear and strong value proposition for the funding case and to promote to stakeholders and the Surrey community.
2. That every effort be made to encourage the approval of funding and establishment of an SFU medical school featuring distributed practise in central Surrey.
3. That the Downtown Surrey BIA organize a Committee to that end including business, the medical community, health related organizations, political bodies, ethnic groups and Indigenous people to support this idea and be an ongoing sounding board for SFU.
4. That the Committee prepare and implement an information strategy for the general public about the advantages of such a medical school including:
 - the availability of more doctors;
 - better, faster health care;
 - more local education opportunities;
 - a higher level of economic activity and jobs; and
 - an enhancement of the community of Surrey's status and reputation.



1. Introduction

The Downtown Surrey Business Improvement Association (DSBIA) has retained Roslyn Kunin and Associates, Inc. (RKA) to undertake a study to gain greater understanding and perspective of the potential economic spin-offs of a new Simon Fraser University (SFU) medical school located in Surrey City Centre. RKA completed this project in partnership with Human Capital Strategies (HCS).

This study, with research, analysis and development of an implementation plan, includes how the local business community can best support the success of this public investment through providing relevant services, commercial activity, and attracting related organizations as well as how the DSBIA can position itself to leverage on this to advance the growing and vibrant Surrey City Centre.

In addition to extensive secondary research, RKA has been engaged with local healthcare providers, key business, and other stakeholders in Surrey to obtain their insights on the economic and social benefits of a new medical school in Surrey City Centre. This included semi-structured interviews with a sample of senior representatives of such organizations in January 2022 and a few meetings of a smaller group of DSBIA, SFU and the City of Surrey representatives. RKA's work was also informed by analysis and information from various SFU departments and graduate student research. This final report includes recommendations that will be attracting and increasing economic and business opportunities related to the new medical school in Surrey City Centre.

Purpose of the Study and Desired Outcomes

The DSBIA is sponsoring this study as it sees the new SFU medical school as an important driver to advance the Surrey City Centre to become Metro Vancouver's second downtown. As such, the DSBIA would like to understand the potential economic spin-offs of the medical school more fully and how the local business community can best support the success of this public investment through providing relevant services, commercial activity, and attracting related organizations as well as position itself to leverage this to advance the growing and vibrant Surrey City Centre. In addition to economic benefits, SFU is pursuing this because of the need for more doctors and for a new distributed model tailored to the Fraser Valley region with health care spinoffs for all of BC.

The purpose of this study is to project the anticipated positive economic impact of the new medical school and to provide the DSBIA with data along with a strategy and recommended action steps to encourage related industry collaboration and investment. As a starting point, SFU has recently commissioned a research paper entitled *Measuring the Impacts of Medical Schools in Canada* which provides valuable, relevant information.

Project Background

In October 2020, the BC NDP government announced plans to launch a second provincial medical school at SFU's Surrey Campus. This commitment was included in the 2021 mandate letters of the Minister of Health, Adrian Dix, and Minister of Advanced Education and Skills Training, Anne Kang. At



present, UBC has the only medical school in BC, with campuses in Vancouver and Kelowna and distributed medical programs at UVIC in Victoria and UNBC in Prince George.

The Fraser Health Authority and SFU have been advocating for a new kind of medical school for over a decade, a program focused on primary care physicians and preventative care. Along with a focus on indigenization and the significant Indigenous population in the region (refer to *In Plain Sight* report, <https://www.spph.ubc.ca/in-plain-sight/>), the principles of Equity, Diversity and Inclusion will be embedded in the new medical school's curriculum and policies. It will also reflect the changing demographics of BC, notably the rapidly growing and diverse (including a high proportion of Asian and South Asian residents) population south of the Fraser.

The medical program will build on SFU's existing interdisciplinary programs in the area of Health Sciences and its ongoing commitment to the Surrey community. Its aim is to improve the health of the people of BC by providing transformative education from the inside to deliver health care that is community-embedded, socially accountable and culturally relevant.

The school will operate in partnership with BC's largest health authority, Fraser Health, and the First Nations Health Authority (FNHA). It will augment and build on the Innovation Boulevard initiative between SFU, Fraser Health and the City of Surrey that has successfully created a new health and technology hub adjacent to Surrey Memorial Hospital with significant private-sector investment. The plan for the medical school is to have a central facility in Surrey City Centre with learning centres and placements distributed across the Fraser Health Authority, including Burnaby.

According to the BC government, the new medical school will be located at the Surrey City Centre campus of Simon Fraser University (SFU). SFU is presently in the process of refining its plans for the medical school, including understanding the accreditation process and determining how it will fit into the broader national medical education landscape, notably residency specialization after graduation. SFU, working with Fraser Health and the FNHA, is presently continuing to plan for the medical school and will receive further direction from government. While SFU develops its medical program, it will be important that opportunities for collaboration with industry and other sectors are identified and encouraged.

Organization Background

The DSBI is non-partisan, not-for-profit organization with a focus on advancing the prosperity and economic competitiveness of Downtown Surrey by building partnerships to create a dynamic and sustainable metropolitan center that is the place to invest, work, learn, live and play. It is committed to energizing a dynamic business environment that benefits and enhances all aspects of Surrey's growing Downtown including public safety, transit and transportation, investment, growth, sustainability, livability and education and training. Governed by a volunteer Board consisting of senior leaders from the business and non-profit community located in the downtown core of Surrey, the DSBI's leadership as well as members actively participate in many boards, forums, and opportunities to engage and champion for the downtown core of Surrey.



RKA is known for timely, cost-effective work, with a strong emphasis on the practical and the applicable, presented in an easily understood manner, so non-economists can comprehend complex economic, trade and human resources issues. It is a consortium of professional analysts and consultants coordinated by Dr. Roslyn Kunin for the purpose of addressing the requirements of specific projects. First and foremost, we are economists, and sometimes economists with specific concentrations. We may be econometricians or statisticians. This is supplemented by HCS' extensive knowledge of the Surrey landscape and extensive experience in primary research.

2. Research Methodology

We have adopted a mixed approach of quantitative and qualitative analysis to estimate and evaluate the economic and business impacts of the proposed establishment of a medical school in Surrey. The first element of the research is a literature review, which provides previous analysis that have been conducted to support a distributed medical education, the models that have been used to evaluate economic impact assessment, and findings from qualitative research on the benefits of recent experiences with establishment of the Northern Ontario School of Medicine and the Windsor Regional Medical Campus in Ontario.

The results of our literature review will be presented in the next section of the report. Following that, we present our findings of the quantitative assessment of the economic impact associated with the proposed medical school in Surrey.

Consistent with previous research providing a comprehensive evaluation of the economic impacts of medical schools, our research team conducted in-depth key informant interviews with community stakeholders – business organizations, health care providers, Indigenous organizations, civic organizations – to gain their insight of their perception of the benefits of a medical school program in Surrey, one of the mid-sized urban communities that has experienced strong population growth, while at the same time experiences underserved medical services. The qualitative analysis is presented in section 5.

The RKA research was supplemented by insights from various SFU departments and the work of a graduate student on medical school case studies and lessons learned.

Quantitative assessment of the economic impacts of a Medical School in Surrey downtown has been provided based on an input-output model. Direct, indirect, and induced impacts on the provincial economy have been calculated using Provincial and Territorial Input-Output Multipliers developed by Statistics Canada.

3. Literature Review/Secondary Research

The section of the report provides insights on the development of the concept of a distributed medical education, how to evaluate its economic impacts, as well as findings from previous research on the benefits for the delivery of distributed medical training on the social well-being of communities being served and improvement of population health.



Development of Distributed Medical Education

In both Canada and the United States, academic health science centers (AHSCs) have long played a significant role in educating the health care workforce, conducting innovative biomedical and clinical research, and delivering high-quality patient care.¹ However, this model of medical training delivery and tertiary care is highly centralized, and has concentrated in large urban centres. In recent years there has been a major diversification of training contexts beyond the AHSCs. These days virtually every medical student and every postgraduate trainee in Canada spends some time outside of their academic centre during their training.² Distributed Medical Education (DME) has evolved as representing a radical diversification of training contexts so that learners are now training in places that reflect the many locations, cultures, and types of communities they serve.

DME is not only diverse in comparison to AHSC training contexts, it is also diverse in how different schools have approached it.³ Ellaway and Bates (2018) described the different models of distribution in medical education across Canada. Some programs have gone for variations on the hub and spoke model, involving one or more regional centres that often have smaller sites associated with them (such as at UBC, McMaster, Western, University of Toronto, Sherbrooke, l'Université de Montreal, and Dalhousie). Other schools have retained the academic centre but with multiple smaller associated sites (such as at Ottawa, Alberta, Calgary, Queens, Laval, and Memorial). (There are differences between the two types. For example, UBC has 3 regional campus in addition to main campus in Vancouver – Victoria, Kelowna, and Prince George, while Queens and Laval, for example, have main campus in Kingston and Quebec City respectively, but have multiple sites in other cities throughout Ontario and Quebec respectively.) Others have set up clinical campuses, where students spend their full clerkship year (such as Manitoba, Saskatchewan, and McGill). Many schools are now offering longitudinal integrated clerkships (LICs) in regional and rural sites as an alternative to AHSC-based block rotations. The Northern Ontario School of Medicine is distributed with its two academic centres (Sudbury and Thunder Bay) and its many larger and smaller sites distributed across Northern Ontario, while both Sherbrooke and Dalhousie have set up regional campuses in neighbouring New Brunswick, one of the two provinces in Canada without its own medical school.

Much research has been conducted in recent years to investigate the benefits and economic impacts of DME in Canada. Some studies have identified that DME activities have local socio-economic impacts and can transform local communities and inhabitants.⁴ Postgraduate trainees rotating through DME sites can bring new skills, knowledge and capacity to communities and their healthcare teams. We know that even undergraduate learners engaged in some DME activities – in particular

¹ Park, B., et al. (2019). Health equity and the tripartite mission: moving from academic health centers to academic-community health systems.

² Cameron, P., & Mann, K. (2006). Results of a Survey of Distributed Medical Education Activities at Canadian Faculties of Medicine.

³ Ellaway, R. & Bates, J. (2018). Distributed medical education in Canada.

⁴ Hogenbirk, JC, Zitickyte, D., Kaymak, D., et al. (2014). The Socio-Economic Contribution of Health Sciences North / Horizon Santé-Nord to Northeastern Ontario.

⁵ Cooper, G., El-Masri, M., Kyle De, M., Tam, N., Sbrocca, N., Awuku, M., & Jacobs, L. (2021). Impact of an urban regional medical campus: perceptions of community stakeholders.



LICs – can make a positive contribution to local healthcare but only after learners have spent many weeks in a particular context.⁶

While it is beyond the scope of analysis of this study, it is noted that more research is yet to be conducted in evaluating many aspects of the DME programs in Canada. The outcome of the learner (exploring the distinctiveness of DME experiences and the ways in which they can more constructively contribute to individual learning paths), the impact of DME programs on health care professional, the health care system, and the communities are some of the areas of research where standardized and comparable results are lacking.⁷

Even in the more objective quantitative assessment of the economic impact of a DME program (or economic impacts of medical faculties in general), there are no standardized framework of evaluation, making the comparisons from different studies difficult.

Quantitative Models to Assess Economic Impact

An economic impact is measured as the net changes in new economic activity associated with an industry, program, or policy in an existing regional economy (“region” being defined as a city, province, or a country). DME brings new revenue into a region and some may even argue that it can keep revenues in a region that might otherwise be lost.

When a person spends money on a product (goods and/or services), that amount creates a direct requirement to produce that product. The economic impact, however, does not end there. The increased production of this product leads to increased production of all the intermediate goods and services that are used to make this product, and the increased production of intermediate goods and services will in turn generate more demand for other goods and services that are needed to produce these intermediate products. As demand rises, workers can earn a higher wage, and they sometimes decide to spend a portion of their extra earnings on more goods and services.

As such, an initial demand for a product creates a chain effect down the production process.

An economic impact analysis is designed to study such interlinkage between industries to evaluate how a change in an initial demand for goods or services contributes to changes in other industries’ levels of production and the overall economic activity level within a region.

Economic impacts are measured as the amount of money generated through direct, indirect, or induced impacts.

- Direct economic impact is the initial spending or dollar value input into the economy by the university.
- Indirect impact occurs when the initial expenditures are spent again by the recipients (university employees) and businesses.

⁶ Ellaway, R.H., O’Gorman, L., Strasser, R., Marsh, D.C., Graves, L., Fink, P., & Cervin, C. (2016). A critical hybrid realist-outcomes systematic review of relationships between medical education programmes and communities.

⁷ Ellaway, R. & Bates, J. (2018). Distributed medical education in Canada.



- Induced impacts occur when those businesses make their own purchases and hire employees who also spend salaries and wages throughout the local economy.

An economic impact model used for conducting this assessment of direct, indirect and induced impacts associated with a DME should be, in theory, fairly straight forward. Often, a researcher can use the techniques and data from Statistics Canada's (Provincial and Territorial) Input-Output Multipliers, to derive the estimate. Statistics Canada's input-output model is based on the input-output structure of the Canadian economy, which is essentially a set of tables describing the flows of goods and services among the various sectors of the economy. Such a model is useful in determining how much additional production is generated by a change in the demand for one or more products or by a change in an industry's output.⁸

Studies using multipliers based on industry standards and averages are comparable within the same sector (e.g., health sectors in other locations) or with other industries. It is customary to assume impacts occur in a one-year time frame as they are based on annual data. These models require data inputs on university spending (both capital and operational), full-time students from outside the region, and visitor spending. It is also important to differentiate local and nonlocal spending. In our opinion, this model requires similarly defined data input, provides results in analytical metrics that are comparable with standard economic review (Gross Domestic Products or GDP, and components within, employment, etc.), is robust, replicable, and scalable, which makes it the most appropriate in evaluating economic impacts of a DME program, or the medical education in general. This is the model we have adopted to provide the quantitative impact assessment in this study.

Other economic impact analysis models that have been used in other studies include:

- IMPLAN Model: The IMPact analysis for PLANning is an I-O model developed by the United States Department of Agriculture for community impact analyses. It is similar to the Canadian Input-Output model, uses industry averages to estimate the inter-industry dependencies, and a static model.
- ACE Method: The ACE Method was developed by the American Council on Education (ACE) for the measurement of college and university economic impact. It provides industry-generic, region-specific multiplier to estimate economic impact of higher-education, its faculty and staff, students, and visitors, on local businesses, governments, and individuals.⁹ However, this model is theoretically sound but data-input intensive, and as such has its limitations. Another critique of the model is the potential over-estimation of the economic impact by including spending from all faculty, student and visitor, without distinguishing whether it is local or non-local in source.
- Simplified ACE Method: instead of the detailed industry-generic and region-specific multipliers, this method uses one set of multipliers to evaluate all sources of spending. One

⁸ For a description of the origin of the input-output tables developed by Statistics Canada in 1961, see Statistics Canada's publication "Evolution of the Canadian Input-Output Tables 1961 to Date", and more evolution since that publication in Supply, Use and Input-Output Tables
<https://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&Id=1290631>.

⁹ Lemky, K., Gagne, P., Konkin, J., Stobbe, K., Fearon, G., Blom, S., & Lapointe, G. M. (2018). A review of methods to assess the economic impact of distributed medical education (DME) in Canada.



- example of a study using this method is the Economic Impact of Canada's Faculties of Medicine and Health Science Partners report prepared by Tripp Umbach in 2014. Based on a review of the role of the healthcare and higher education sectors on the Canadian economy using Statistics Canada multipliers, they determined multipliers for business volume (2.5) and employment (1.8). Tripp Umbach calculated the direct effect of Canadian medical schools by including operating expenditures and spending by all faculty, students and visitors. In our opinion, the direct impact of business activities arising from these sources would represent some level of double counting and therefore was an overestimation.
- Economic base model: a number of recent studies estimating the economic impacts of a DME programs used this method. One example is the study on the economic contribution of the Northern Ontario School of Medicine (NOSM) in its entirety.¹⁰¹¹ The model they developed is built on economic base theory, which requires considerable longitudinal data. However, longitudinal data are not available for newer Canadian DME programs. The study ignored inter-industry economic activity and used a population-sensitive equation developed for Ontario to yield community-specific multipliers. As such, it is difficult to compare results from this type of studies from one geographic area to another in Canada.

In all five types of models examined above, the analysis provides an impact assessment as a “snapshot”, meaning that it only provides a static picture at a point in time. As we know, as a DME program evolves, its economic impacts can also increase or decrease over time. To gain a broader picture of the program, it is necessary to revisit the type of data input, composition of the source of input, and more updated multipliers (which change with structural changes in industries) over a period of time.

Also lacking in the input-output model based economic impact studies on DME program in Canada (or medical faculties in general) is the dynamic impact of the program. Although not available in all the studies, some of the studies provide estimates in such areas as the value of a university education, the economic effect of the innovation that results from a university's research activity. This type of analysis provides extra dimension to the overall quantitative economic impact assessment; however, they can only be conducted when relevant data is available.

Although it is important to quantitatively assess the impact of DME, this approach only addresses part of our understanding of the overall impact of DME, the qualitative impacts such as the perceptions of the community and business leaders as well as the general public may have an equal if not greater impact on the expansion or future of a DME program in a community.¹² These qualitative data are especially important to decision makers as there are limited dollars available for medical education. Given that the role of DME programs is to also address the maldistribution of physicians, decision making needs to include a broader perspective.

¹⁰ Hogenbirk, J.C., Robinson, D.R., Hill, M.E., Pong, R.W., Minore, B, Adams K, et al. (2015). The economic contribution of the Northern Ontario School of Medicine to communities participating in distributed medical education.

¹¹ Hogenbirk, J.C., Robinson, D.R. & Strasser, R.P. (2021). Distributed education enables distributed economic impact: the economic contribution of the Northern Ontario School of Medicine to communities in Canada.

¹² Lemky, K., Gagne, P., Konkin, J., Stobbe, K., Fearon, G., Blom, S., & Lapointe, G. M. (2018). A review of methods to assess the economic impact of distributed medical education (DME) in Canada.



Qualitative Research on Distributed Medical Education

Our literature review has found a large quantity of descriptive assessment of the benefits and contributions of a DME to learners, the health care system itself, and the communities they serve. In this section, we specifically cite a number of studies that evaluated the social and economic impacts of DME programs in Canada, from the perspectives of community stakeholders.

In 2004, the University of British Columbia established a four-year medical education program at the University of Northern British Columbia (UNBC), in Prince George (population of 96,600 in 2021, less than 2% of BC's population). This program, the Northern Medical Program (NMP), is one of three distributed campuses – all part of UBC's undergraduate medical education program – that were created to address physician shortages. During the first year of the program's operation, a group of researchers conducted a qualitative pilot study based on interviews of eight community leaders to evaluate the perceived effects in the health sector as well as important community-level benefits, including enhanced community pride and development.¹³ Three years later, a second group of researchers conducted a follow-up qualitative study, based on interviews with 23 community leaders (including some from the first study). The research paper groups their findings of the impacts in five categories: education, health services, economy, business, and community development, politics, and media.¹⁴

In 2008, in response to the chronic physician shortage, Western University's Schulich School of Medicine & Dentistry established a Windsor Regional Medical Campus (WRMC) with the University of Windsor, in a mid-sized urban community of Windsor (2016 Census population of 217,188). Ten years into WRMC's operation, researchers explored community stakeholders' perceptions of the socio-economic and related impacts of an urban RMC. Their study adopted a methodology like the one used to evaluate the NMP, and therefore would allow the researchers to compare their findings with the one studying NMP. Five themes were revealed during analysis of the interviews: improved healthcare, enhanced community reputation, stimulated economic/community development, expanded training opportunities (such as interprofessional education - IPE), and community engagement regarding the WRMC.¹⁵

The Northern Ontario School of Medicine (NOSM) represents a unique model of medical education for the north and was created with the support of northern communities, health care organizations and universities.¹⁶ NOSM began operations in 2002, with the first in-coming class of students in 2005. It has two main campuses in Sudbury and Thunder Bay, and multiple teaching and research sites distributed in large and small communities across Northern Ontario. The Centre for Rural and Northern Health Research (CRaNHR) from Laurentian University and Lakehead University conducted

¹³ Lovato, C., Bates, J., Hanlon, N., & Snadden, D. (2009). Evaluating distributed medical education: what are the community's expectations?

¹⁴ Toomey, P., Lovato, C., Hanlon, N., Poole, G., Bates, J. (2013). Impact of a regional distributed medical education program on an underserved community: perceptions of community leaders.

¹⁵ Cooper, G., El-Masri, M., Kyle De, M., Tam, N., Sbrocca, N., Awuku, M., & Jacobs, L. (2021). Impact of an urban regional medical campus: perceptions of community stakeholders.

¹⁶ Centre for Rural and Northern Health Research, Laurentian University and Lakehead University. (2009). Exploring the Socio-Economic Impact of the Northern Ontario School of Medicine: Final Report.



interviews with 59 participants in 2008 and 2009 and their report provided the perceived socio-economic benefits of NOSM. Although the report itself identified 14 themes in qualitative research, they can be further grouped into five categories: education, health workforce development, economic and community development, communication.

We describe the most common themes in more detail below.

Education

Participants in the NMP study believed that the NMP “increased awareness of, access to, and opportunity for local Aboriginal and non-Aboriginal secondary students to pursue medical and allied health education”. Participants discussed the NMP’s impact not only on potential applicants but also on the MD admission process itself. They described how the NMP, as a program on a distributed campus, helped to broaden, but not lower, admission criteria.¹⁷ Some participants also perceived that over time, there would be increases in faculty and student research capacity and productivity.¹⁸

Participants in the WRMC study discussed the important impact the WRMC is having on interdisciplinary training and the increasing collaboration amongst learners from various faculties/disciplines (specifically, having nursing and medicine learners in close proximity).¹⁹

Participants in the CRaNHR study on the impact of NOSM believed that the presence of a medical school has enhanced the reputation of Lakehead and Laurentian — the two universities that partnered in its creation. With NOSM on campus and the acquisition of several successful research team grants in partnership with NOSM faculty, the universities have reinforced their reputation as comprehensive, research-intensive universities.²⁰ The perceived boost in academic reputations also has translated into increased numbers of students interested in studying at Lakehead or Laurentian. Both universities have seen increased applications to health-related graduate programs, though not all the increase can be attributed to NOSM.²¹

Health Services

Participants in the NMP study reported that physicians were more easily recruited to the region at least in part because of the presence of the program. The participants believed the increase in the region’s pool of generalists and specialists would allow patients to remain in Prince George to receive and recover from health care services. The participants also believed that newly recruited physicians would likely remain in Prince George because of “increased interprofessional stimulation and a

¹⁷ Toomey, P., Lovato, C., Hanlon, N., Poole, G., Bates, J. (2013). Impact of a regional distributed medical education program on an underserved community: perceptions of community leaders.

¹⁸ Ibid.

¹⁹ Cooper, G., El-Masri, M., Kyle De, M., Tam, N., Sbrocca, N., Awuku, M., & Jacobs, L. (2021). Impact of an urban regional medical campus: perceptions of community stakeholders.

²⁰ Centre for Rural and Northern Health Research, Laurentian University and Lakehead University. (2009). Exploring the Socio-Economic Impact of the Northern Ontario School of Medicine: Final Report.

²¹ Ibid.



positive work environment”. This, in turn, should improve the retention of NMP graduates, especially family physicians.²²

Participants in the WRMC study indicated that the standard of healthcare has been elevated because of having an RMC within Windsor/Essex County – the introduction of the WRMC has “mitigated the physician shortage that previously plagued Windsor/Essex County”.²³ Participants also felt this was connected to the WRMC’s ability to attract/retain physicians including those interested in medical education and/or research. Participants discussed the beneficial impact of the WRMC in providing opportunities for local high school and university students who aspire to be medical learners (residents and students) to train in the community, with the hope that they will help to improve healthcare delivery in the future.²⁴

Interviewees in the CRaNHR study perceived that the full economic and social impact of NOSM would be realized when NOSM graduates relieve the chronic physician shortage experienced across Northern Ontario.²⁵ The third-year clerkship, according to the study participants, was seen as a key opportunity for communities to attract future physicians. Also, it was recognized that the medical school had succeeded in attracting Francophone and Aboriginal students. It was expected that this trend would continue and, combined with the school’s commitment to cultural competency training, would ultimately alleviate, to some extent, the shortage of physicians serving these two population groups. NOSM has also contributed to the recruitment of specialists. Interviewees thought that the chance to engage in teaching and research, as well as clinical practice, has made institutions affiliated with the medical school more attractive to some medical specialists.²⁶

Economic, Business and Community Development

Participants in the NMP study believed that the program was “indirectly attracting new businesses and workers to the region”. There was anecdotal evidence that “migration from elsewhere in Canada was partially due to a sense of security in the quality of and access to health services associated with the presence of the NMP”. Participants expressed the pride and credibility of their community because of the existence of the NMP, and how the community worked hard to retain these professionals by developing more arts and cultural programs.²⁷

Participants in the WRMC study frequently shared compelling stories of the local community’s general lack of self-confidence prior to the arrival of the WRMC and how this turned to a new optimism, strong sense of pride and community spirit. Participants felt that the WRMC’s presence

²² Toomey, P., Lovato, C., Hanlon, N., Poole, G., Bates, J. (2013). Impact of a regional distributed medical education program on an underserved community: perceptions of community leaders.

²³ Cooper, G., El-Masri, M., Kyle De, M., Tam, N., Sbrocca, N., Awuku, M., & Jacobs, L. (2021). Impact of an urban regional medical campus: perceptions of community stakeholders.

²⁴ Ibid.

²⁵ Centre for Rural and Northern Health Research, Laurentian University and Lakehead University. (2009). Exploring the Socio-Economic Impact of the Northern Ontario School of Medicine: Final Report.

²⁶ Ibid.

²⁷ Toomey, P., Lovato, C., Hanlon, N., Poole, G., Bates, J. (2013). Impact of a regional distributed medical education program on an underserved community: perceptions of community leaders.



was also a catalyst for this improved community image to be projected to other regions and prospective business partners as well.²⁸ Finally, participants anticipated that over time, perhaps combined with the introduction of the new hospital system, the WRMC would help generate an increased priority for medical and scientific research and innovation.²⁹

Participants in CRaNHRR study on the impact of NOSM noted that both short and longer-term job creation was seen as a direct economic spin-off of NOSM, primarily in the cities of Thunder Bay and Sudbury. Short-term effects were associated mainly with the construction of new buildings on Lakehead and Laurentian campuses. Full-time faculty and administrative appointments were considered to have substantial economic effects, because of the salaries associated with these new positions. (Such were quantifiable benefits in the report itself.) Other benefits derive from the skills of newly arrived spouses, who find employment in health, education, or other sectors.³⁰

In addition to the perceived community benefits shown from these three distributed medical education programs in Canada, other recent studies have similarly demonstrated positive community based and socially responsible impacts of medical schools in the U.S. and Australia.³¹

There were also negative impacts on the health care system as perceived by some study participants. The main one appears to be the presence of medical students in the regional hospital could reduce physical workspace for hospital staff as well as could decrease income of teaching physicians, assuming that teaching students reduces time available to see patients.³²

4. Economic Impact of a New Medical School in Surrey

As described in the Methodology section, the quantitative assessment of the economic impact of the proposed new medical school in Surrey is measured as the amount of money generated through direct, indirect, or induced impacts.

- Direct economic impact is the initial spending or dollar value input into the economy by the university.
- Indirect impact occurs when the initial expenditures are spent again by the recipients (university employees) and businesses.
- Induced impacts occur when those businesses make their own purchases and hire employees who also spend salaries and wages throughout the local economy.

At the time this report is prepared, preliminary estimated annual operating cost associated with the new medical school based on other medical school comparators is \$60 million, based on full

²⁸ Cooper, G., El-Masri, M., Kyle De, M., Tam, N., Sbrocca, N., Awuku, M., & Jacobs, L. (2021). Impact of an urban regional medical campus: perceptions of community stakeholders.

²⁹ Ibid.

³⁰ Centre for Rural and Northern Health Research, Laurentian University and Lakehead University. (2009). Exploring the Socio-Economic Impact of the Northern Ontario School of Medicine: Final Report.

³¹ Berezhnova, D. (2022). Models for Community Impact: Case Studies of Five Medical Schools.

³² Toomey, P., Lovato, C., Hanlon, N., Poole, G., Bates, J. (2013). Impact of a regional distributed medical education program on an underserved community: perceptions of community leaders.



enrollment of 480 undergraduate students (\$45 million) and 108 post-graduate students (\$15 million). Additionally, preliminary estimate of clinical cost is \$85 million per annum. There is no specific information available with respect to capital cost required, or the number of international visitors projected for medical conferences. As such, we have provided our estimates of the economic impact based on every \$1 million of construction or visitor expenditure put directly into the provincial economy that creates a demand for goods and services produced in BC.

Table 1 identifies the type of expenditure that we consider should be included to generate direct economic impact.

Table 1 Types of Expenditure that Generates Direct Economic Impact

Type of Expenditure	Comments
Construction of medical school	Should include annual capital cost of material and labour. Need to identify the portion of material that’s produced in BC and exclude out-of-province labour, if data is available. Otherwise make assumption on such.
Annual operating cost	This is best approximation of the cost of delivering the medical education services.
Visitor spending	This applies to expenditure incurred by out-of-province visitors coming to campus for conference and seminar, etc.

Source: RKA

In Tables 2 through Table 4 we provide illustrative estimates of direct, indirect, and induced economic impacts associated with construction activities (if any), the on-going operation of the medical school, and visitor spending in a year.

Table 2 Estimated Economic Impact on the Province Attributed to every \$ one million of Construction Activity associated with SFU’s Medical School in Surrey (in millions of dollars except jobs)

	GDP at basic price	Labour Income	Jobs	Taxes
Direct	\$0.44	\$0.31	4	\$0.13
Direct and Indirect	\$0.70	\$0.46	6	\$0.16
Direct, Indirect and Induced	\$0.87	\$0.53	8	\$0.21

Source: RKA’s calculation based on Statistics Canada’s Provincial/Territorial Input-Output Multipliers



Table 3 Estimated Economic Impact on the Province based on Annual Operating Cost associated with SFU’s Medical School in Surrey
(in millions of dollars except jobs)

	GDP at basic price	Labour Income	Jobs	Taxes
Direct	\$93.2	\$70.3	1,150	\$13.5
Direct and Indirect	\$122.1	\$91.2	1,520	\$17.9
Direct, Indirect and Induced	\$159.9	\$106.6	1,830	\$27.9

Source: RKA’s calculation based on Statistics Canada’s Provincial/Territorial Input-Output Multipliers

Table 4 Estimated Economic Impact on the Province Attributed to every \$ one million of Visitor Spending associated with SFU’s Medical School in Surrey
(in millions of dollars except jobs)

	GDP at basic price	Labour Income	Jobs	Taxes
Direct	\$0.39	\$0.24	7	\$0.06
Direct and Indirect	\$0.54	\$0.33	8	\$0.09
Direct, Indirect and Induced	\$0.69	\$0.39	10	\$0.13

Source: RKA’s calculation based on Statistics Canada’s Provincial/Territorial Input-Output Multipliers

The economic impacts attributed to the activities related to the medical school in Surrey on the provincial economy is presented by using the provincial and territorial input-output multipliers published by Statistics Canada for 2018.³³

Although we present all three types of economic impact values, we note that it is generally acknowledged that direct impacts alone are incomplete and the total impact (i.e., the total of direct, indirect and induced impacts) may sometimes overestimate the impacts of initial spending.

We note that although visitor spending in BC contribute to an increase in demand for various products and services, not all of it is equal to the increase in production of products or provision of services of provincial industries as some of the expenditure was consumption taxes and some of the expenditure was used to pay for imports (either as raw material or final product). For simplicity, we have assumed that these visitors will only purchase “made-in-BC” products and services. Visitor spending is further allocated to six categories – accommodation, clothing and gifts, food and beverage, recreation and entertainment, transportation, and others (souvenirs, shopping, etc.). The distribution of spending to each of these categories has been derived based on Destination Canada reports.³⁴

³³ Statistics Canada. Table 36-10-0595-01 Input-output multipliers, provincial and territorial, detail level.

³⁴ Destination Canada, Tourism Spend in Canada. <https://www.destinationcanada.com/en/tourism-spend>



It is further noted that each international tourist in Canada spent, on average, \$680 per trip while visiting Canada in 2019.³⁵

In general, government revenues come from personal income taxes, indirect taxes less subsidies, corporate income taxes and natural resource royalties. In this report, we can estimate personal income taxes and indirect taxes.

Statistics Canada's provincial input-output multipliers table does not automatically estimate personal income taxes. We derive the personal income tax estimates by applying the average personal income tax rate in BC³⁶ (using 2020 rate) to total labour income, which is generated from Statistics Canada's input-output multipliers table.

Indirect taxes incurred in the process of producing outputs and services include both indirect taxes on production (such as property taxes) and indirect taxes on products (such as federal and provincial sales taxes). It should be noted that indirect taxes shown here are *net* of subsidies.

5. Qualitative Research

As part of our qualitative research, we interviewed 23 people from health care, post-secondary education, business and chamber organizations, technology organizations and Indigenous community representatives. We found a consistent, strong and very positive response to the prospect of a SFU Surrey medical school. There is no doubt that the need exists and that the people and bodies in the community strongly support it. Below are the key benefits that were brought to our attention.

Health care

We need more doctors to provide the level of health that Canadians expect and to shorten the currently growing wait lists for medical services. Existing shortages must be reduced. Also, new younger physicians want more work-life balance; therefore, we need more doctors to replace retirees who worked very long hours.

This problem is most acute greatest in under-served non-metropolitan areas and among certain cultural communities including Indigenous people.

There is also need in under-served medical areas like prevention. If more primary and preventive were to be provided by a greater supply of locally trained physicians, the benefits to the local population and the savings to the medical system would be large.

³⁵ Derived from Destination Canada's reports on U.S. and international arrivals (Destination Canada, Total International Arrivals to Canada. <https://www.destinationcanada.com/en/research#tourismincanada>) and expenditure by type (Destination Canada, Tourism Spend in Canada. <https://www.destinationcanada.com/en/tourism-spend>).

³⁶ Derived based on Statistics Canada. Table 36-10-0224-01 Household sector, current accounts, provincial and territorial, annual.



Medical students do tend to stay close to where they are trained. About two thirds of the graduates from the UBC/UNBC medical school in Prince George remain in that area.

Education

The distributed model being discussed for the new school will result in more students going through, an increase in BC's medical workforce and in the medical capacity in BC and nationally.

It will ensure more stability in the workforce with many more young people and graduating doctors remaining in the community. Graduating students are more likely to stay in the community and improve community health. This will support the new hospital coming to Cloverdale.

The people we spoke to including Indigenous and Metis leaders find the idea of more training spaces closer to home very attractive.

Indigenous community

Leaders in these communities looked forward to a local medical school which would provide more, appropriate and culturally safe opportunities for Indigenous and Metis like jobs and training as well as better community and wellness services.

The school would also support Surrey's significant Indigenous and Metis community and other underserved groups through better health care and through learning opportunities for those young people.

Innovation

One major innovation is the distributed model for delivering medical education that is being discussed for the new school. This will result in more students going through, an increase in BC's medical workforce and in the medical capacity in not only locally but also throughout BC and nationally.

It will ensure more stability in the workforce with many more young people and graduating doctors remaining in the community. Graduating students are more likely to stay in the community and improve community health, opening clinics and providing various health care services. They will also support the new hospital coming to Cloverdale.

Many people in the health care sector and the larger community anticipated that Surrey could become a hub for medical technology as Waterloo, Ontario is for information technology. Such a hub would develop and support tele-med and other R&D developments with large economic spin-offs. Work has already been started in this area by Telus, a company that strongly supports the creation of this medical school.

Overall Community benefits



The overall benefits to the community have been described in the section on economic impact elsewhere in this report. However, community and health leaders did mention many specific areas where they saw advantages from the new medical school. They are listed below:

- attracting new businesses
- higher incomes and more spending
- university, medical and construction jobs that pay well
- more tourism (including medical conferences) especially after pandemic drop off
- visits to/from students, families, professionals, etc.
- generating the need for more infrastructure including housing
- services (food, financial, personal etc.) for students and staff. learning and working opportunities for other health professionals
- improving the general perception of Surrey
- adding vibrancy and youth, to the downtown core.

6. Conclusions and Recommendations

In conclusion, we heard that the idea behind an additional and different medical school is behind its time and was needed yesterday. BC in general and Surrey in particular is significantly lacking in all health care occupations including doctors. We are now too reliant on emergency rooms. That is not an effective way to deliver health care.

A new and different medical school will help Surrey deliver health differently and be more efficient, effective and technological. Health stems from primary care delivered by physicians and others. The school will provide more and better educational opportunities for all including the Indigenous population and provide widespread benefits not only in Surrey, but to the province as a whole.

Our secondary and primary quantitative and qualitative research demonstrates a strong case or value proposition and widespread support from health care, business, education and Indigenous sectors for a SFU medical school in Surrey, particularly in the Surrey City Centre.

Based on our findings, we recommend the following:

1. That as soon as possible the SFU Medical School planning function clearly define the quantity, scale and scope of students, faculty, staff, facility features, even if in a few scenarios and for both the shorter and longer terms. This will enable the development of a clear and strong value proposition for the funding case and to promote to stakeholders and the Surrey community.
2. That every effort be made to encourage the approval funding and establishment of an SFU medical school featuring distributed practise in central Surrey.
3. That the Downtown Surrey BIA organize a Committee to that end including business, the medical community health related organizations, political bodies, ethnic groups and Indigenous people to support this idea and be an ongoing sounding board for SFU.



4. That the Committee prepare and implement an information strategy for the general public about the advantages of such a medical school including:
 - the availability of more doctors;
 - better, faster health care;
 - more local education opportunities;
 - a higher level of economic activity and jobs; and
 - an enhancement of the community of Surrey's status and reputation.



Annotated Bibliography

Andermann, A. (2016). Taking action on the social determinants of health in clinical practice: a framework for health professionals. Prepared for the CLEAR collaboration. *Canadian Medical Association Journal*. 188(17–18): E474–83.
<https://doi.org/10.1503/cmaj.160177>.

This article identifies evidence that supports the argument that to improve population health, health equity needs to become a priority in the health sector, and measures to reduce disparities must be integrated into health programs and services. The author further identifies the concrete actions that clinicians can use to help address the social determinants of health as part of their routine clinical practice.

Association of Faculties of Medicine of Canada. (2014). The Economic Impact of Canada's Faculties of Medicine and Health Science Partners. Ottawa: Prepared by Tripp Umbach for The Association of Faculties of Medicine of Canada.
https://www.afmc.ca/sites/default/files/pdf/Economic_Impact_Study_Report_EN.pdf

The author of this study employed a methodology that was originally derived from a set of research tools and techniques developed by the American Council on Education (ACE), also referred to as the ACE model. The model was modified to accommodate the difference in the Canadian context. The economic impact estimated included direct and indirect impacts, derived from direct economic activities associated with operation and capital expenditure of the medical faculties, in-province spending of faculty, staff, residents, fellows, and students, and visitor (including staff/faculty visitors, student visitors, and patient visitors) spending. The model used one set of multiplier to estimate the indirect impact associated with direct business activities, and another set of employment multiplier to estimate its indirect impact.

Berezhnova, D. (2022). Models for Community Impact: Case Studies of Five Medical Schools. Simon Fraser University.

As Simon Fraser University prepares to apply to the provincial government to establish a medical school in the City of Surrey, it identifies its training model as a distributed medical education model. In this study, the author studies the community impacts, based on qualitative analysis previously conducted, associated with five medical schools in Canada, the United States and Australia. These medical schools have been chosen for study for being community-engaged and socially responsible.

Burrows, A.M. & Laupland, K.B. (2021). Comprehensiveness of distributed medical education systems: a regional population-based perspective. *BMC medical education* 42
<https://doi.org/10.1186/s12909-020-02466-x>

Background

The core business of medical schools includes clinical (education and service) and academic (research) activities. Our objective was to assess the degree to which these activities exist in a distributed medical education system in Canada.

Methods

A population-based design was utilized. Programs were contacted and public records were searched for medical trainees and faculty positions within a province in Canada during the 2017/2018



academic year. Data were expressed as positions per 100,000 residents within the Lower Mainland, Island, and Northern and Southern interior geographical regions.

Results

Substantial differences in the distribution of medical students by region was observed with the highest observed in the Northern region at 45.5 per 100,000 as compared to Lower Mainland, Island, and Southern regions of 25.4, 16.8, 16.0 per 100,000, respectively. The distribution of family medicine residents was less variable with 14.9, 10.7, 8.9, and 5.8 per 100,000 in the Northern, Island, Southern, and Lower Mainland regions, respectively. In contrast, there was a marked disparity in distribution of specialty residents with 40.8 per 100,000 in the Lower Mainland as compared to 7.5, 3.2, and 1.3 per 100,000 in the Island, Northern, and Southern regions, respectively. Clinical faculty were distributed with the highest observed in the Northern region at 180.4 per 100,000 as compared to Southern, Island, and Lower Mainland regions of 166.9, 138.5, and 128.4, respectively. In contrast, academic faculty were disproportionately represented in the Lower Mainland and Island regions (92.8 and 50.7 per 100,000) as compared to the Northern and Southern (1.4 and 1.2 per 100,000) regions, respectively.

Conclusions

While there has been successful redistribution of medical students, family medicine residents, and clinical faculty, this has not been the case for specialty residents and academic faculty.

Centre for Rural and Northern Health Research, Laurentian University and Lakehead University. (2009).

Exploring the Socio-Economic Impact of the Northern Ontario School of Medicine: Final Report. The study used a mixed-methods approach, combining quantitative and qualitative data collection techniques. The quantitative component focussed on the short-term economic contributions that have occurred since the school's founding and those likely to extend into the next two to three years. The assessment was done using a Local Economic Base model. The qualitative portion documented the experiences and views of a broad range of stakeholders, and resulted in descriptive parameters in civic images, academic reputation, university enrolment, job creation, physician recruitment, communication, administrative, infrastructure and technology issues, impact of learners on the care delivery process, medical school admission, cultural competency training, health workforce development, community placement, and connections with partners. The quantitative assessment measures direct, indirect, and induced economic impacts. The study looks at the socio-economic impact of NOSM as a whole and identifies impacts for some of the larger communities and assessed the collective impact on other communities in Northern Ontario.

Cameron, P., & Mann, K. (2006). Results of a Survey of Distributed Medical Education Activities at Canadian Faculties of Medicine. Ottawa; ON: Association of Faculties of Medicine of Canada. <http://cfmc.ca>

A survey and subsequent workshop (May 2006) attempted to establish a definition of DME and to describe the DME related activities undertaken at various levels of Medical Education in Canada (i.e., UGME, PGME, CME).

Definition: "Distributed medical education (DME)" is an umbrella word that covers a wide range of activities outside the academic health centres offered to medical students completing their M.D program, residents at the postgraduate level and participants to continuing medical education. DME activities are frequently identified as a way to bring medical students or residents closer to populations/communities with the hope that the first will be better prepared to serve the second.



DME is a social response to the need to increase the number physicians who will deliver health care in regions where there is a shortage of physicians and where the population is underserved. All DME approaches represent complimentary and additive efforts of faculties of medicine to creatively respond to the medical workforce needs of the health.

Clancy GP. (2012). Linking health equity with economic development: insights from my year as chairman of the Board of the Chamber of commerce. *Academic Medicine*, 87(12):1665–7. <https://doi.org/10.1097/ACM.0b013e318272113f>.

Many urban areas struggle with significant health disparities. In Tulsa, Oklahoma, there is a 14-year difference in life expectancy between the predominantly African American population in north Tulsa and the predominantly Caucasian population in south Tulsa. The roots of Tulsa's health disparities can be linked, in part, to a long history of racial mistrust stemming from the 1921 Tulsa Race Riot, arguably one of the worst race riots in U.S. history. In 2011, the author served as both a university campus president and chairman of the board of the Tulsa region's chamber of commerce. Through his work with the chamber, he discovered the business community's substantial resources and advocacy abilities. He also found that regional business leaders strongly supported health equity, diversity, and inclusion initiatives, both as moral obligations and regional economic development imperatives. After sharing the lessons he learned from working closely with business leaders, the author encourages other academic health centers (AHCs) to reach out to their business communities, which are likely willing and able to help them undertake similar initiatives. In doing so, AHCs and businesses can work together to improve the economic vitality of their regions.

Cooper, G., El-Masri, M., Kyle De, M., Tam, N., Sbrocca, N., Awuku, M., & Jacobs, L. (2021). Impact of an urban regional medical campus: perceptions of community stakeholders. *Canadian medical education journal*, 12(1), e46–e59. <https://doi.org/10.36834/cmej.69951>

Background

Regional medical campuses (RMC) have shown promise in addressing physician shortages. RMCs have been positively evaluated in rural/remote communities, however, it is unclear whether this model will be as beneficial in underserved urban areas. This study evaluated the impact of an RMC on a mid-sized urban city (Windsor, Ontario). We compare our results with a similar study conducted in a remote community in British Columbia (BC).

Methods

A broad array of community stakeholders representing different sectors were consulted using a semi-structured interview format replicated from the BC Northern Medical Program (NMP) study. Thematic analysis based on the resulting rich data was conducted within a grounded theory context.

Results

Twenty-three participants (52% male) representing healthcare, education, business, community and government/politico sectors were consulted. Their views regarding the Windsor Regional Medical Campus (WRMC) aligned around several themes: improved healthcare, enhanced community reputation, stimulated economic/community development, expanded training opportunities and an engaged community regarding the WRMC. These results were compared to the main findings of the NMP study with both similarities (e.g., increased community pride) and differences (e.g., resource concerns) discussed.

Conclusion



Community stakeholders provided strong support for the WRMC through their perceptions of its positive impact on this urban region. These findings are consistent with similar RMC studies in rural/remote areas. Those interested in developing an RMC might benefit from considering these findings.

Ellaway, R. & Bates, J. (2018). Distributed medical education in Canada. *Canadian Medical Education Journal*, 9(1): e1–e5.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6104335/#>

This article reviews the history of distributed medical education in Canada, and how it has evolved over the past. It looks at the context in which the model became necessary.

Ellaway, R.H., O'Gorman, L., Strasser, R., Marsh, D.C., Graves, L., Fink, P., & Cervin, C. (2016). A critical hybrid realist-outcomes systematic review of relationships between medical education programmes and communities: BEME Guide No. 35. *Med Teach*, 38(3):229-45.

doi: 10.3109/0142159X.2015.1112894.

Background:

The relationships between medical schools and communities have long inspired and troubled medical education programmes. Successive models of community-oriented, community-based and community-engaged medical education have promised much and delivered to varying degrees. A two-armed realist systematic review was undertaken to explore and synthesize the evidence on medical school-community relationships.

Method:

One arm used standard outcomes criteria (Kirkpatrick levels), the other a realist approach seeking out the underlying contexts, mechanisms and outcomes. 38 reviewers completed 489 realist reviews and 271 outcomes reviews; 334 articles were reviewed in the realist arm and 181 in the outcomes arm. Analyses were based on: descriptive statistics on both articles and reviews; the outcomes involved; the quality of the evidence presented; realist contexts, mechanisms, and outcomes; and an analysis of underlying discursive themes.

Findings:

The literature on medical school-community relationships is heterogeneous and largely idiographic, with no common standards for what a community is, who represents communities, what a relationship is based on, or whose needs are or should be being addressed or considered.

Conclusions:

Community relationships can benefit medical education, even if it is not always clear why or how. There is much opportunity to improve the quality and precision of scholarship in this area.

Farmer, J., Prior, M., & Taylor, J. (2012). A theory of how rural health services contribute to community sustainability. *Social science & medicine*, 75(10):1903–11.

<https://doi.org/10.1016/j.socscimed.2012.06.035>

Study and opinion suggest that health services play a significant role in supporting the social fabric of fragile rural communities. We draw on empirical evidence about the added-value contributions of health services to communities and unite it with theory of capitals to propose a theoretical model depicting how rural health services contribute to community sustainability. While providing an analytical framework, the paper also points to construction of a measurement tool for enabling



planners to measure the contributions of diverse sectors to community sustainability and predict or measure the impact of changes to models of service delivery on the future of rural communities.

Hogenbirk, J.C., Robinson, D.R. & Strasser, R.P. (2021). Distributed education enables distributed economic impact: the economic contribution of the Northern Ontario School of Medicine to communities in Canada. *Health Economics Review* 11, 20.
<https://doi.org/10.1186/s13561-021-00317-z>

Methods

Economic impact was estimated by a cash-flow local economic model. Detailed data on program and learner spending were obtained for Northern Ontario communities. Included is spending on NOSM's distributed education and research programs, medical residents' salary program, the clinical teachers' reimbursement program, and spending by learners. Economic impact was estimated from total spending in the community adjusted by an economic multiplier based on community population size, industry diversity, and propensity to spend locally. Community employment impact was also estimated.

Results

In 2019, direct program and learner spending in Northern Ontario totalled \$64.6M (million) Canadian Dollars. Approximately 76% (\$49.1M) was spent in the two largest population centres of 122,000 and 165,000 people, with 1–5% (\$0.7M – \$3.1M) spent in communities of 5000–78,000 people. In 2019, total economic impact in Northern Ontario was estimated to be \$107M, with an impact of \$38M and \$36M in the two largest population centres. The remaining \$34M (32%) of the economic impact occurred in smaller communities or within the region. Expressed alternatively as employment impact, the 404 full time equivalent (FTE) positions supported an additional 298 FTE positions in Northern Ontario. NOSM-trained physicians practising in the region added an economic impact of \$88M.

Conclusions

By establishing programs and bringing people to Northern Ontario communities, NOSM added local spending and knowledge-based economic activity to a predominantly resource-based economy. In an economically deprived region, distributed medical education enabled distributed economic impact.

Hogenbirk, J., Robinson, D., Hill, M., Pong, R., Minore, B., Adams, K., et al. (2015). The economic contribution of the Northern Ontario School of Medicine to communities participating in distributed medical education. *Canadian journal of rural medicine*. 20(1):25–32.
<https://pubmed.ncbi.nlm.nih.gov/25611911/>

The authors developed a local economic model and used actual expenditures from 2007/08 to assess the economic contribution of NOSM to communities in northern Ontario. The report also estimated the economic contribution of medical students or residents participating in different programs in communities away from the university campuses. To explore broader economic effects, semi-structured interviews were conducted with leaders in education, health care and politics in northern Ontario. The study found that total economic contribution to northern Ontario was \$67.1 million based on \$36.3 million in spending by NOSM and \$1.0 million spent by students. Economic contributions were greatest in the university campus cities of Thunder Bay (\$26.7 million) and Sudbury (\$30.4 million), and \$0.8-\$1.2 million accrued to the next 3 largest population centres. Communities might realize an economic contribution of \$7300-\$103 900 per pair of medical learners per placement. Several of the 59 interviewees remarked that the dollar amount could be small to moderate but had broader economic implications.



Hogenbirk, J., Zitkyte, D., Kaymak, D., et al. (2014). The Socio-Economic Contribution of Health Sciences North / Horizon Santé-Nord to Northeastern Ontario. Sudbury, Ontario: Centre for Rural and Northern Health Research.
http://documents.cranhr.ca/pdf/Report_HSN_Socio_Economic_Impact_Study_2014_03_31_FINAL.pdf.

This study was conducted by Centre for Rural and Northern Health Research (CRaNHR) in partnership with Informetrica Limited. Informetrica's Local Impact Model used numbers derived from administrative databases for fiscal year 2010/2011 (FY10/11) to estimate economic contribution, including the direct, indirect and induced economic contribution of HSN on Greater Sudbury or on satellite communities. Interviews with key informants conducted in 2012-2013 provided the narratives to expand on the economic contribution as well as to explore the social contribution. The Informetrica's Local Impact Model also separately estimated the contribution of physicians with hospital privileges at HSN as these physicians, while not employed by HSN, could attribute part of their earnings to their affiliation with HSN. In all calculations, only those monies spent in the community were used to estimate local economic contribution.

Broader socio-economic contributions were qualitatively assessed through the topics of

- medical and surgical specialist services
- travel avoidance
- leveraging resources
- education and training
- recruitment and retention
- partnership and influence
- research and evaluation
- policies and guidelines
- local purchases
- special population
- reciprocal contribution
- community awareness of HSN's contribution

Institutional Research and Planning, Simon Fraser University. (2014). The Economic Impact of Simon Fraser University (Updated to 2012/13).

This report provides updated values of economic impact of Simon Fraser University based on student number, expenditure, and other values in fiscal year 2012/13. It follows the methodology and measures used in an earlier study, also produced by SFU's Institutional Research and Planning, of the economic impacts in 2009/10 fiscal year. The economic impacts measured are based on five types of expenditure categories: SFU spending, student spending, visitor spending, alumni education premium, and impact of SFU research. The total economic impacts include both direct and indirect impacts.

Kornelsen, J. & McCartney, K. (April 2015). System Enablers of Distributed Maternity Care for Aboriginal Communities in British Columbia: Findings from a Realist Review. Applied Policy Research Unit, University of British Columbia. Prepared for the First Nations Health Authority.



KPMG LLP. (December 2020). University of Windsor Economic Impact Assessment.

<https://www.uwindsor.ca/president/sites/uwindsor.ca.president/files/economicimpactassessment.pdf>

This report provides values of economic impact of Windsor University in the context of the Canadian, Ontario and regional economy, based on student number, expenditure, and other values in fiscal year 2018/19. The economic impacts measured are based on four types of expenditure categories: the UWindsor's operating expenditure, capital expenditure, non-local student spending, and visitor spending to the UWindsor. Qualitative impacts have also been assessed, which included two more elements of quantitative measures – alumni education premium, and impact of UWindsor's research, development, innovative activities. The total economic impacts include direct, indirect impacts and induced impacts.

Lemky, K., Gagne, P., Konkin, J., Stobbe, K., Fearon, G., Blom, S., & Lapointe, G. M. (2018). A review of methods to assess the economic impact of distributed medical education (DME) in Canada.

Canadian medical education journal, 9(1), e87–e99.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6104329/>

Background

Canadian distributed medical education (DME) increased substantially in the last decade, resulting in positive economic impacts to local communities. A reliable and simple method to estimate economic contributions is essential to provide managers with information on the extent of these impacts. This review paper fills a gap in the literature by answering the question: What are the most applicable quantitative methods to assess the economic impact of Canadian DME programs?

Methods

The literature is reviewed to identify economic assessment methods. These are evaluated and compared based on the benefits, challenges, data needs, outputs and potential for use in the DME context.

Results

The authors identified five economic impact methods used in similar contexts. Two of these methods have the potential for Canadian DME programs: the Canadian Input-Output (I-O) model and the Simplified American Council on Education (ACE) method.

Conclusion

Choice of a method is contingent on the ability to measure the salient economic impacts, and provide an output that facilitates sustainable decision making. This paper thus fills a gap by identifying methods applicable to DME. These methods will assist stakeholders to calculate economic impacts, resulting in both the advancement and sustainability of these programs over short-and long-term time frames.

Lovato, C., Bates, J., Hanlon, N., & Snadden, D. (2009). Evaluating distributed medical education: what are the community's expectations? *Medical education*, 43(5):457–461

<https://doi.org/10.1111/j.1365-2923.2009.03357.x>

Objectives

This study aimed to explore community members' perceptions of present and future impacts of the implementation of an undergraduate medical education programme in an underserved community.

Methods



We conducted semi-structured interviews with eight key informants representing the health, education, business, economy, media and political sectors. A two-stage approach was used. In the first stage, the interviews were analysed to identify sector-specific impacts informants perceived as already occurring or which they hoped to see in the future. The transcripts were then re-analysed to determine any underlying themes that crossed sectors.

Results

Community leaders described impacts that were already occurring in all sectors and also described changes in the community itself. Four underlying themes emerged: an increase in pride and status; partnership development; community self-efficacy, and community development. These underlying themes appear to characterise the development of social capital in the community.

Conclusions

The implementation of distributed undergraduate medical education programmes in rural and underserved communities may impact their host communities in ways other than the production of a rural doctor workforce. Further studies to quantify impacts in diverse sectors and to explore possible links with social capital are needed.

Marmot, M.S., Friel, S., Bell, R., Houweling, T.A., & Taylor, S. (2008). Closing the gap in a generation: health equity through action on the social determinants of health. *Lancet*, 372(9650):1661–9. [https://doi.org/10.1016/S0140-6736\(08\)61690-6](https://doi.org/10.1016/S0140-6736(08)61690-6).

The Commission on Social Determinants of Health, created to marshal the evidence on what can be done to promote health equity and to foster a global movement to achieve it, is a global collaboration of policy makers, researchers, and civil society, led by commissioners with a unique blend of political, academic, and advocacy experience. The focus of attention is on countries at all levels of income and development. The commission launched its final report on August 28, 2008.

Mitchell, R. J., & Bates, P. (2011). Measuring health-related productivity loss. *Population health management*, 14(2), 93–98. <https://doi.org/10.1089/pop.2010.0014>

The objective of this study was to determine the relationship between health status and productivity loss and to provide estimates of the business implications of lost work performance. Health risk appraisal responses from over 1 million participants were analyzed to determine productivity loss associated with several common health conditions and health risks. Propensity scores and a matching technique were used to create analysis groups that differed only by presence of a particular health condition or risk. Results were monetized and multiplied by the average number of employees with conditions or risks to illustrate the potential impact of productivity loss to employers. Costs of productivity loss were compared to medical costs for the same conditions and health risks. Practical benchmarks of lost work performance may help employers assess the financial impact of suboptimal health in their own companies. Estimates of lost work time can help employers realize the value of maintaining a healthy population.

Park, B., Frank, B., Likumahuwa-Ackman, S., Brodt, E., Gibbs, B.K., Hofkamp, H., et al. (2019). Health equity and the tripartite mission: moving from academic health centers to academic-community health systems. *Academic Medicine*, 94(9):1276–82. <https://doi.org/10.1097/ACM.0000000000002833>.



Academic health centers (AHCs) play a significant role in educating the health care workforce, conducting innovative biomedical and clinical research, and delivering high-quality patient care. Much work remains, however, to adequately address the social determinants of health and equity that affect communities where patients live, work, and play. Doing so will help achieve the Quadruple Aim while addressing the unjust social structures that disproportionately impact communities of color and vulnerable populations. AHCs have a timely opportunity to focus their leading roles in education, research, and clinical care on social determinants, moving outside their walls to create academic–community health systems: a collection of academic–community partnerships advancing health equity through collaboration, power sharing, and cocreation.

This article proposes four strategies to start developing academic–community health systems. First, embark on all efforts through cocreation with communities. Second, address how future health care professionals are recruited. Third, build the right skills and opportunities for health care professionals to address health inequities. Finally, develop research agendas to evaluate programs addressing inequities. A fully realized vision of an academic–community health system will demonstrate interdependence between AHCs and the community. While considerable AHC resources are invested in building community capacity to improve health and health equity, health systems will also benefit in a multitude of ways, including increasing the diversity of ideas and experiences integrated into health systems. These strategies will support AHCs to embed across each arm of the tripartite mission a focus on partnering with communities to advance health equity together.

Strasser, R., Hogenbirk, J.C., Minore, B., Marsh, D.C., Berry, S., Mccready, W.G., et al. (2013).

Transforming health professional education through social accountability: Canada's Northern Ontario School of Medicine. *Med Teach*, 35(6):490–6.

<https://doi.org/10.3109/0142159X.2013.774334>.

Strasser, R., Lanphear, J., McCready, W., Topps, M., Hunt, D., Matte, M. (2009). Canada's New Medical School: The Northern Ontario School of Medicine: Social Accountability Through Distributed Community Engaged Learning. *Academic Medicine*: Volume 84 - Issue 10 - p 1459-1464

<https://doi.org/10.1097/ACM.0b013e3181b6c5d7>

This paper examines why NOSM was established the way it is. Recognizing that medical graduates who have grown up in a rural area are more likely to practice in the rural setting, the Government of Ontario, Canada, decided in 2001 to establish a new medical school in the region with a social accountability mandate to contribute to improving the health of the people and communities of Northern Ontario. The Northern Ontario School of Medicine (NOSM) is a joint initiative of Laurentian University and Lakehead University, which are located 700 miles apart. This paper outlines the development and implementation of NOSM, Canada's first new medical school in more than 30 years. NOSM is a rural distributed community-based medical school which actively seeks to recruit students into its MD program who come from Northern Ontario or from similar northern, rural, remote, Aboriginal, Francophone backgrounds. The holistic, cohesive curriculum for the MD program relies heavily on electronic communications to support distributed community engaged learning. In the classroom and in clinical settings, students explore cases from the perspective of physicians in Northern Ontario. Clinical education takes place in a wide range of community and health service settings, so that the students experience the diversity of communities and cultures in Northern Ontario.



Sudmant, W. (2009). The Economic Impact of the University of British Columbia. Planning and Institutional Research, University of British Columbia.

https://president.ubc.ca/files/2013/02/economic_impact_2009.pdf

This report estimates the economic impact of the University of British Columbia using a combination of a standard approach to regional impact and concepts adapted from the literature on education, knowledge and economic growth. Economic impact is estimated for four distinct dimensions:

1. Direct impacts of spending in the local economy;
2. Induced impacts; that is, spending which is non-university, but would not occur without the university;
3. The impact of a university educated workforce;
4. The impact of new knowledge created by, or facilitated by the university.

Toomey, P., Lovato, C., Hanlon, N., Poole, G., Bates, J. (2013). Impact of a regional distributed medical education program on an underserved community: perceptions of community leaders.

Academic medicine, 88:1–8.

<https://doi.org/10.1097/ACM.0b013e318290f9c7>.

Purpose

To describe community leaders' perceptions regarding the impact of a fully distributed undergraduate medical education program on a small, medically underserved host community.

Method

The authors conducted semi-structured interviews in 2007 with 23 community leaders representing, collectively, the education, health, economic, media, and political sectors. They reinterviewed six participants from a pilot study (2005) and recruited new participants using purposeful and snowball sampling. The authors employed analytic induction to organize content thematically, using the sectors as a framework, and they used open coding to identify new themes. The authors reanalyzed transcripts to identify program outcomes (e.g., increased research capacity) and construct a list of quantifiable indicators (e.g., number of grants and publications).

Results

Participants reported their perspectives on the current and anticipated impact of the program on education, health services, the economy, media, and politics. Perceptions of impact were overwhelmingly positive (e.g., increased physician recruitment), though some were negative (e.g., strains on health resources). The authors identified new outcomes and confirmed outcomes described in 2005. They identified 16 quantifiable indicators of impact, which they judged to be plausible and measurable.

Conclusions

Participants perceive that the regional undergraduate medical education program in their community has broad, local impacts. Findings suggest that early observed outcomes have been maintained and may be expanding. Results may be applicable to medical education programs with distributed or regional sites in similar rural, remote, and/or underserved regions. The areas of impact, outcomes, and quantifiable indicators identified will be of interest to future researchers and evaluators.

Tripp Umbach. (2013). University of Alberta Faculty of Medicine & Dentistry 2013 Annual Economic Impact Report.



Using a standard input-output model, this report assesses the economic impact of the Faculty of Medicine & Dentistry (FoMD) through its annual operating expenditure, research, or provision of clinical care. Both direct and indirect impacts have been calculated. The overall economic impact of the FoMD and its primary affiliated teaching hospitals' operations on Alberta in FY12/13 was \$2.3 billion (\$1.1 billion in direct impact and \$1.2 billion in indirect impact). The FoMD and primary affiliated teaching hospitals supported 14,069 jobs in Alberta (7,816 direct jobs). Provincial and local government revenues attributable to the presence of the FoMD and primary affiliated teaching hospitals totaled more than \$492.3 million in FY12/13.

Woolley, T., Hogenbirk, J.C., Strasser, R. (2020). Retaining graduates of non-metropolitan medical schools for practice in the local area: The importance of locally based postgraduate training pathways in Australia and Canada. *Rural and Remote Health*, 20:5835. <https://doi.org/10.22605/RRH5835>.

Introduction

The objective of this study was to identify commonalities between one regionally based medical school in Australia and one in Canada regarding the association between postgraduate training location and a doctor's practice location once fully qualified in a medical specialty.

Methods

Data were obtained using a cross-sectional survey of graduates of the James Cook University (JCU) medical school, Queensland, Australia, who had completed advanced training to become a specialist (a 'Fellow') in that field (response rate = 60%, 197 of 326). Medical education, postgraduate training and practice data were obtained for 400 of 409 (98%) fully licensed doctors who completed undergraduate medical education or postgraduate training or both at the Northern Ontario School of Medicine (NOSM), Ontario, Canada. Binary logistic regression used postgraduate training location to predict practice in the school's service region (northern Australia or northern Ontario). Separate analyses were conducted for medical discipline groupings of general/family practitioner, general specialist and subspecialist (JCU only).

Results

For JCU graduates, significant associations were found between training in a northern Australian hospital at least once during postgraduate training and current (2018) northern Australian practice for all three discipline subgroups: family practitioner, general specialist and subspecialist. Overall, 38% (56/149) of JCU graduates who had completed a Fellowship were currently practising in northern Australia. For NOSM-trained doctors, a significant positive effect of training location on practice location was detected for family practice doctors but not for general specialist doctors. Family practitioners who completed their undergraduate medical education at NOSM and their postgraduate training in northern Ontario had a statistically significant incidence of practising in northern Ontario (115/125) versus other regions, whereas those who completed only their postgraduate training in northern Ontario (46/85) had a statistically significant incidence relative to doctors who only completed their undergraduate medical education at NOSM (28/117). Overall, 30% (22/73) of NOSM's general speciality graduates currently practise in northern Ontario.

Conclusion

The findings support increasing medical graduate training numbers in rural underserved regions, specifically locating full specialty training programs in regional and rural centres in a 'flipped training' model, whereby specialty trainees are based in rural or regional clinical settings with some rotations to the cities. In these circumstances, the doctors would see their regional or rural centre as 'home



base' with the city rotations as necessary to complete their training requirements while preparing to practise near where they train.



Appendix A: Background Materials Related the Study and Interview Guide

MEDICAL SCHOOL PROPOSAL

BACKGROUND

- SFU has engaged with the B.C. government for more than a decade about developing a medical school at SFU.
- In its election platform in fall 2020, the NDP party announced it would establish a medical school at SFU, with a central facility at the SFU Surrey Campus and learning centres distributed across the Fraser Health Authority.
- The re-elected NDP government upheld this commitment in the 2021 mandate letters of both the Minister of Health and the Minister of Advanced Education and Skills Training.
- The school includes a partnership with Fraser Health Authority (FHA), and the First Nations Health Authority (FNHA) to develop graduates who are well equipped to improve our health care system by meeting the needs of Indigenous communities across the province and understanding the primary care, public health and population health needs of the diverse underserved populations in FHA.
- The medical school planning project is in its first phase, which includes planning and development of a vision and program model that builds on the work over the past decade while incorporating a focus on Indigenous health, primary care, public health and population health.

KEY MESSAGES

1. At SFU, we want to be a catalyst for change in BC.
2. We are proposing a medical program that from the start includes a three-way partnership with SFU, the First Nations Health Authority and the Fraser Health Authority to guide the vision and leverage expertise.
3. We have an unprecedented opportunity to train physicians differently—to focus on community-embedded, socially accountable and culturally relevant health care.
4. We will focus on training physicians in primary care, public health and population health.
5. We will ensure we meet the needs of Indigenous communities across the province, as well as diverse, underserved and historically marginalized populations in the Fraser Health Authority.
6. Our programming will embed Indigenous ways of knowing and being, while teaching cultural safety and humility.
7. This is key to addressing racism, tackling inequities, and transforming health care.
8. SFU is qualified to take this on because we already have a wide array of health programs, including a Faculty of Health Sciences that takes an interdisciplinary approach and aims to build capacity in Canada for population and public health.
9. These areas are supported by extraordinary instructional and research capacity across SFU faculties, including departments such Biomedical Physiology and Kinesiology, Psychology, and Gerontology.
10. SFU is also a nimble university accustomed to providing a wide range of choices to students, and a range of pathways to get here.
11. We hope to have approval from the provincial government to develop a new medical school in 2022. In the meantime, we're getting ready by engaging with our SFU community and external partners about the kind of medical school we want to see.
12. It's early days still, and we'll have more information about next steps once we have approval and funding to continue this work.

Q&A

Q: What are the next steps after the information session for students, faculty and staff on Oct. 18 and the targeted webinars we're holding in November? What are we hoping to get from this?



- We hope to have approval from the provincial government to develop a new medical school in 2022.
- In the meantime, we're getting ready by engaging with our SFU community and external partners about the kind of medical school we want to see.
- It's early days still. We won't proceed further until we have approval and funding to continue this work.

Q: When would a new medical school be launched?

- We are in the early phases of this work, and there are still many phases of planning and approvals ahead.
- If approved, the start of the school will still be several years away.

Q: Is this the same as UBC's medical school?

- We have a chance to do something different. SFU's medical school will focus on training medical students to provide and support primary care, public health and population health, including meeting the needs of First Nations, Inuit and Metis people across BC and as well as the needs of diverse underserved populations within the Fraser Health Authority.

Q: Has UBC been consulted/is a partner?

- Yes, we have spoken with our colleagues at UBC, and we want to keep those lines of communication open. We envision this program will complement rather than compete with UBC's medical program.

Q: How many students will you take in for the program and what are the requirements for enrollment?

- It is too early to answer that question. Part of the planning work will include an analysis of accreditation to determine and develop requirements for admissions, as well as determining costing and curriculum.

Q: Where will this school be and will it be connected to an existing hospital?

- The program would prepare future physicians to work in primary care team-based facilities through a collaborative relationship with institutions in the Fraser Health Authority and the First Nations Health Authority.

Q: What makes SFU qualified to have a medical school?

- SFU already has a wide array of health programs, including a Faculty of Health Sciences that embodies an interdisciplinary approach to research and teaching, and aims to build capacity in Canada in population and public health.
 - Formed in 2004, it now offers some of Canada's most comprehensive and integrated programs and has grown to support nearly 60 faculty members, more than 1,400 undergraduate students and more than 150 graduate students. Areas of excellence include infectious diseases, children's health, mental health and addictions, and Indigenous health and wellness.
- These areas are supported by extraordinary instructional and research capacity across SFU faculties, including the following departments:
 - Biomedical Physiology and Kinesiology, which includes cardiovascular physiology, chronic diseases, neuromechanics, environmental physiology and neuroscience.
 - Psychology, which has an extensive set of clinical labs and a clinical psychology centre with more than 70 clinical associates.
 - Gerontology, which has internationally known researchers in the areas of population aging, health care and health promotion, dementia care, families and community, technology, and the study of ethno-cultural and vulnerable group topics.
- SFU also has deep roots in the city of Surrey. SFU's Surrey campus was established in 2002, a partnership between SFU, the City of Surrey, and the FHA that is collaborating to rapidly commercialize intelligent health technology solutions.
- And SFU has a history of collaboration with the FHA through the SFU Neurotech and eBrain Lab and the SFU ImageTech Lab, two world-class research facilities embedded in the Surrey Memorial Hospital.



Evaluation of Potential Economic and Social Impacts of a SFU Surrey Medical School

Project Backgrounder – Roslyn Kunin and Associates, Inc.

The Downtown Surrey Business Improvement Association (DSBIA) has retained Roslyn Kunin and Associates, Inc. (RKA) to undertake a study to gain greater understanding and perspective of the potential economic spin-offs of a new Simon Fraser University (SFU) medical school located in Surrey City Centre.

This study, with research, analysis and development of an implementation plan, should include how the local business community can best support the success of this public investment through providing relevant services, commercial activity, and attracting related organizations as well as how the DSBIA can position itself to leverage on this to advance the growing and vibrant Surrey City Centre.

In addition to extensive secondary research, RKA will be engaging with local healthcare providers, key business and other stakeholders in Surrey to obtain their insights on the economic and social benefits of a new medical school in Surrey City Centre. This will include semi-structured interviews and a focus group with a sample of senior representatives of such organizations in January 2022. A final report will be completed by March 2022 and will include recommendations and a plan for attracting and increasing economic and business opportunities related to the new medical school in Surrey City Centre.

Purpose of the Study and Desired Outcomes

The DSBIA is sponsoring this study as it sees the new SFU medical school as an important driver to advance the Surrey City Centre to become Metro Vancouver's second downtown. As such, the DSBIA would like to more fully understand the potential economic spin-offs of the medical school and how the local business community can best support the success of this public investment through providing relevant services, commercial activity, and attracting related organizations as well as position itself to leverage this to advance the growing and vibrant Surrey City Centre.

The purpose of this study will be to project the anticipated positive economic impact of the new medical school and to provide the DSBIA with data along with a strategy and recommended action steps to encourage related industry collaboration and investment. As a starting point, SFU has recently commissioned a research paper entitled *Measuring the Impacts of Medical Schools in Canada* which provides valuable, relevant information.

Project Background

In October 2020, the BC NDP government announced plans to launch a second provincial medical school at SFU's Surrey Campus. This commitment was included in the 2021 mandate letters of the Minister of Health, Adrian Dix, and Minister of Advanced Education and Skills Training, Anne Kang. At present, UBC has the only medical school in BC, with campuses in Vancouver and Kelowna and distributed medical programs at UVIC in Victoria and UNBC in Prince George.



The Fraser Health Authority and SFU have been advocating for a new kind of medical school for over a decade, a program focused on primary care physicians and preventative care. Along with a focus on indigenization (refer to *In Plain Sight* report, <https://www.spph.ubc.ca/in-plain-sight/>), the principles of Equity, Diversity and Inclusion will be embedded in the new medical school's curriculum and policies. It will also reflect the changing demographics of BC, notably the rapidly growing population south of the Fraser.

The medical program will build on SFU's existing interdisciplinary programs in the area of Health Sciences and its ongoing commitment to the Surrey community. Its aim is to improve the health of the people of BC by providing transformative training from the inside to deliver health care that is community-embedded, socially accountable and culturally relevant.

The school will operate in partnership with BC's largest health authority, Fraser Health, and the First Nations Health Authority (FNHA). It will augment and build on the Innovation Boulevard initiative between SFU, Fraser Health and the City of Surrey that has successfully created a new health and technology hub adjacent to Surrey Memorial Hospital with significant private-sector investment. The plan for the medical school is to have a central facility in Surrey City Centre with learning centres and placements distributed across the Fraser Health Authority, including Burnaby.

According to the BC government, the new medical school will be located at the Surrey City Centre campus of Simon Fraser University (SFU). SFU is presently in the process of refining its plans for the medical school, including embarking on the certification process and determining how it will fit into the broader national medical training landscape, notably residency specialization after graduation. SFU, working with Fraser Health and the FNHA, is presently continuing to plan for the medical school and will receive further direction from government. While SFU develops its medical program, it will be important that opportunities for collaboration with industry and other sectors are identified and encouraged.

Organization Background

The DSBIA is non-partisan, not-for-profit organization with a focus on advancing the prosperity and economic competitiveness of Downtown Surrey by building partnerships to create a dynamic and sustainable metropolitan center that is the place to invest, work, learn, live and play. It is committed to energizing a dynamic business environment that benefits and enhances all aspects of Surrey's growing Downtown including public safety, transit and transportation, investment, growth, sustainability, livability and education and training. Governed by a volunteer Board consisting of senior leaders from the business and non-profit community located in the downtown core of Surrey, the DSBIA's leadership as well as members actively participate in many boards, forums, and opportunities to engage and champion for the downtown core of Surrey.

RKA is known for timely, cost-effective work, with a strong emphasis on the practical and the applicable, presented in an easily understood manner, so non-economists can comprehend complex economic, trade and human resources issues. It is a consortia of professional analysts and consultants coordinated by Dr. Roslyn Kunin for the purpose of addressing the requirements of specific projects. First and foremost, we are economists, and sometimes economists with specific concentrations. We may be econometricians or statisticians.



1 December 2021

To: Selected Surrey Business & Community Groups

From: Downtown Surrey Business Improvement Association

Re: Introduction

On behalf of the Downtown Surrey Business Improvement Association (DSBIA), we are pleased to introduce you to Roslyn Kunin & Associates (RKA). RKA have been commissioned by the DSBIA with input and guidance from Simon Fraser University, for a study. The purpose will be to project the anticipated positive economic impacts of a new medical school in Surrey.

As your organization has been identified as one of the leading community groups in Surrey, we would kindly request you give full support and attention to this important study to deliver a project and report that will benefit the businesses and citizens of Surrey.

Thank you in advance and if you have any questions in regard to the above, please do not hesitate to contact the undersigned.

Best regards,
Downtown Surrey Business Improvement Association

A handwritten signature in black ink, appearing to read "Elizabeth Model". The signature is fluid and cursive, with a large loop at the end.

Elizabeth Model
CEO



business improvement association

Key Informant Organizations/Contacts

Name, Organization, Title			
SFU, Joanne Curry, VP External Relations	Fraser Health Authority – Dr. Ralph Belle and Brenda Liggett	Cloverdale BIA – Paul Oraziatti	BC Ministry of Health Victoria Schuckel
VP External Office, Darya (Dasha) Berezhnova, Graduate Student	First Nations Health Authority – Michelle DeGroot, VP, Regional Operations, Fraser Salish	Fleetwood BIA – Dean Barbour	UNBC (distributed model) – Dr. Geoff Payne, President & Vice Chancellor
SFU Burnaby Campus, Institutional Analysis and Medical School Project Zareen Navqi, Director Wayne Sun, Senior Analyst	Health & Technology District – Rowena Rizzotti	Newton BIA – Philip Aguirre	Metis Nation BC, Daniel Fontaine
SFU Medical School Project Lead – Kelli Whittle	Telus Health, Cloud MD	Cloverdale Chamber of Commerce – Scott Wheatley	
City of Surrey Donna Jones Stephen Wu		South Surrey/White Rock Chamber – Ritu Khanna	
DSBIA – Elizabeth Model		Surrey Board of Trade – Anita Huberman	
		Discover Surrey (tourism) – Ange Chew	

Evaluation of Potential Economic and Social Impacts of a SFU Surrey Medical School

Interview Topics/Questions

1. What does your organization do? What is your role?
2. What is your connection or interest in a possible SFU Surrey Centre medical school?
3. What is your overall reaction/thought about such a proposal?
4. Do you have any experiences with benefits of medical schools or of new post-secondary education facilities?
5. What do you see as the major economic and other (i.e., social, community, cultural) benefits of a local medical school?
 - Economic benefits?
 - Other benefits (e.g., Indigenization, training investment spin-offs?)
6. What kinds of construction activities and goods and services do you think a medical school would/could increase the demand for from local businesses?
7. What types of new and/or expanded existing businesses and economic activities that will be needed in Surrey Centre / near the SFU Surrey campus and medical school?
8. Can you think of new organizations / activities that may be established or relocate in Surrey City Centre (near the medical school) given the new medical program will reflect BC's changing demographics, including Indigenization and reconciliation?
9. Can you think of new organizations / activities that may be established or relocate in Surrey City Centre (near the medical school) given the new medical program will focus on primary and preventative care?
10. Do you have any thoughts about the benefits of having medical school graduates staying and practicing (and living) in Surrey and other impacts of students?
11. What do you think will be the impacts of visitors to Surrey due to the medical school?
12. Can you estimate, and/or do you know where how we could calculate savings from treatment/cure, prevention, lives saved and other impacts of improved health of the local population from having a medical school in Surrey?
13. What new avenues of innovation, start-ups and similar new ventures may emerge because of the potential for mutual benefit from proximity to the new medical school?



14. Do you think the new medical school will have implications for residential accommodation and related residential and lifestyle services to the extent there will be a need for additional, expanded or different/new accommodation and services?
15. Can you suggest any other stakeholder organizations (and individuals) with useful insights and experience on this topic whom which we should try to talk?
16. Are there any other comments you would like to share with us?