

What Do Health-Care Institutions Bring to the Sudbury Economy?

Think of the hospitals, nursing homes, and other health-care institutions in your area. What do they bring to the area? Health services, of course, you say. But do they do more than that?

From an economic perspective, these institutions are just like other businesses or organizations. They hire people and pay them wages, buy goods and services from local and non-local suppliers, pay municipal taxes, and receive income from their “customers.” In other words, besides making health services available, a health-care institution has an economic impact on the community in which it is located.

An examination of the economic impact of the health-care sector would contribute to a better understanding of its role in the overall economic development of a region. To this end, the Centre for Rural and Northern Health Research (CRaNHR) at Laurentian University has conducted an economic impact study on several health-care institutions in the Sudbury region for the year 1998/1999, with the cooperation of Hôpital Régional de Sudbury Regional Hospital (HRSRH), the physician community (counted as an institution for the purpose of

this study since many of the physicians work in the hospital and other health-care institutions), North-eastern Ontario Regional Cancer Centre (NEORCC), Northeast Mental Health Centre (NEMHC, formerly Network North), Pioneer Manor, Extencicare Falconbridge, Extencicare York, and Garson Manor.

What is Economic Impact?

Economic impact studies tell us about the changes in economic activities in response to economic stimuli. Such studies measure the effects of the economic stimuli in the form of incomes, jobs, and taxes.

The economic stimuli measured in this study are those generated by the aforementioned publicly funded health-care institutions in the Sudbury region. The income impact reported here is the Gross Domestic Product (GDP) at factor cost (the price of a commodity paid by consumers, less any tax or duty included in the price) generated in the Sudbury region by these health-care institutions.

This issue of Research in **FOCUS** on Research is based on a study titled *Local Economic Impact of Sudbury Regional Hospital and Other Health-Care Institutions* by M.C. McCracken, R.W. Pong, J. Hogenbirk, and M. Lasota. The study was conducted by the Centre for Rural and Northern Health Research, Laurentian University, and was completed in 2001.

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The employment impacts are measures of local employment generated by these institutions. Local tax impacts represent revenue received by the local municipality from the property taxes paid by the health-care institutions. This also includes the taxes paid by businesses and their employees in the area who serve the local health-care institutions and taxes paid by the institutions' employees.

How the Study Was Done

This economic impact study used mostly secondary data obtained from a variety of sources. Revenue and expenditure data were provided by each of the participating health-care institutions. The exceptions to this were Extendicare York, Extendicare Falconbridge, and Garson Manor, whose expenditure and revenue data were obtained from the Ontario

Sudbury Regional Hospital and Physicians with Hospital Privilege	Direct and Indirect Effect	Induced Effect	Total Impact
Net income impact (GDP)	\$150,322,356	\$154,832,026	\$305,154,382
Net employment impact (person-years)	3,248	5,201	8,449
Net tax impact	\$5,550,202	\$10,739,594	\$16,289,796

In discussing the economic impact of the health-care sector, it is useful to distinguish between the direct effects, indirect effects, and induced effects.

The **direct effects** of the health-care institutions are those directly attributable to the institutions and their activities, and are represented by the revenues received and the expenditures they make for labour, services, and capital inputs.

Indirect effects include new activities in the local economy as a result of spending on goods and services by the health-care institutions. However, not all purchases are local. Spending outside the region for the production of health services is considered a leakage. Indirect effects are reduced when non-local purchases are made.

Induced effects are new economic activities in the region originating from the spending of the incomes of those employed by the local health-care institutions and by those employed by local businesses that provide goods and services to the health-care institutions. Therefore, the induced effects are the spending and re-spending of income derived directly or indirectly from the health-care institutions.

Together, the direct, indirect, and induced effects make up the **total impact** of the economic stimulus being measured.

Ministry of Health and Long-Term Care. Data on average Ontario Health Insurance Plan (OHIP) billings by Sudbury physicians were obtained from the Institute for Clinical Evaluative Sciences. Among additional sources of data was a survey of expenditures by Sudbury-region physicians conducted by CRaNHR.

An **income multiplier** was used to determine the total spending and re-spending of incomes by the employees of the health-care institutions and the local businesses that provided goods and services to these institutions. The multiplier was calculated through the minimum requirements approach. A Canada-wide cost comparison study was done by Informetrica Limited, an Ottawa-based economic consulting firm, to help determine the value of the income multiplier for use in this study. The income multiplier used for this study, which incorporated consumer spending and population, was 2.03. This means that for every dollar of direct income derived from the health-care institutions, \$2.03 are generated in total income impact.

Economic Impact of the Sudbury Regional Hospital

One of the largest employers in the Sudbury region, HRSRH employed more than 2,700 people in the 1998/1999 fiscal year, or roughly 2,000 full-time-equivalent (FTE) positions. Its total revenue in 1998/1999 was \$170,780,000, with the provincial government contributing roughly 80% of this amount. About 60% of the revenue (or about \$100,000,000) was spent on employee wages. Since 99% of the hospital employees lived in the Sudbury region, most of the wages paid remained in the region.

Economic Impact of Other Health-Care Institutions

The other health-care institutions (NEORCC, NEMHC, and four long-term care facilities) also contributed to the regional economy of Sudbury.

NEORCC had 178 full-time employees and 55 part-time employees in the 1999/2000 fiscal year. The cancer centre's net income impact on the local economy was \$28,095,659 for the 1999/2000 fiscal year, comprising a direct and indirect income impact of \$13,840,226 and an induced income impact of \$14,255,433. Its net employ-

All Local Health-Care Facilities	Direct and Indirect Effect	Induced Effect	Total Impact
Net income impact (GDP)	\$246,669,445	\$246,721,357	\$493,390,802
Net employment impact (person-years)	5,311	8,506	13,817
Net tax impact	\$9,047,469	\$16,897,116	\$25,944,585

The net direct and indirect local income impacts from hospital operations were around \$135,000,000. The induced local income impact originating from hospital expenditures was estimated to be over \$139,000,000.

In terms of employment impact, the hospital had a direct and indirect employment impact of 3,018 person-years in 1998/99. The induced employment effect was estimated to be 4,699 person-years.

Another aspect of a hospital's economic impact is the income generated by physicians, particularly specialists, who work at the hospital. According to the survey of Sudbury-region physicians conducted by CRaNRH, whereas roughly 10% of the earnings by non-specialist physicians were derived from work at HRSRH, about 90% of OHIP billings by specialist physicians were derived from hospital-based services. The analysis showed that the local income impact of physicians attributable to their medical practice at HRSRH was \$30,150,000 in 1997/1998 and the total local employment impact was 731 person-years of employment.

The economic impacts of HRSRH and physicians with hospital privilege can be combined, as shown in the table on page 2. Together, they provided a net local income impact of about \$305,154,000 in 1998/99. They also contributed about 8,450 person-years of employment to the Sudbury region.

ment impact was about 804 person-years of employment, comprising a direct and indirect employment impact of 324 person-years and an induced employment impact of 480 person-years.

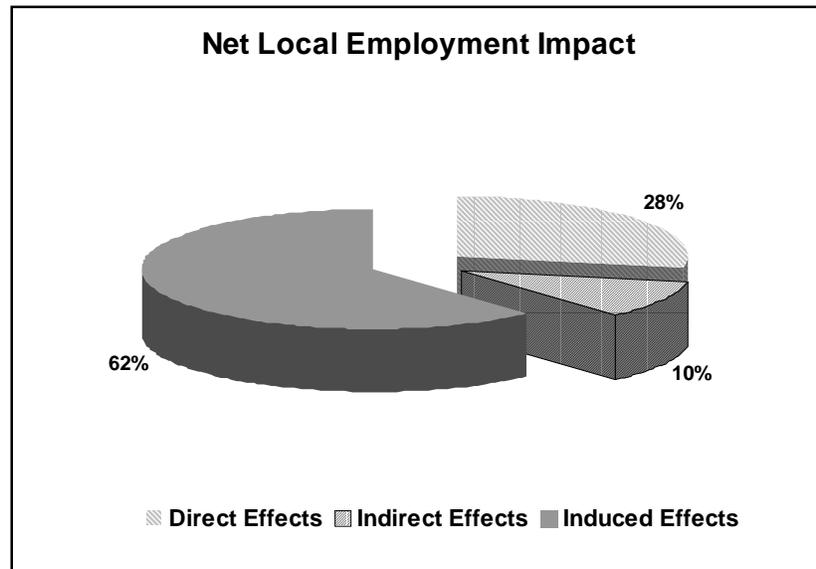
In 2000, Network North was restructured to become NEMHC by merging with other mental health agencies in northeastern Ontario. However, since most of the data used in this study were for the 1998/99 fiscal year, the following analysis and results are applicable only to the former Network North. This institution employed 215 full-time and 98 part-time employees, or 274 FTE positions, in the 1998/99 fiscal year. It had a total net income impact of \$31,347,479, comprising a direct and indirect income impact of \$15,442,108 and an induced income impact of \$15,905,371. Its local employment impact was 880 person-years, comprising a direct and indirect employment impact of 344 person-years and an induced employment effect of 536 person-years.

Combined, the four long-term care facilities (Pioneer Manor, Extencicare York, Extencicare Falconbridge, and Garson Manor) had 944 beds in 1998. The net income impact of these four facilities on the local economy was \$47,860,883 and the net employment impact was 1,581 person-years.

The Overall Picture

Altogether, HRSRH, Sudbury-region physicians, NEMHC, NEORCC, Pioneer Manor, Extencicare Falconbridge, Extencicare York, and Garson Manor generated about \$493,391,000 and 13,817 FTE jobs

science education and research at Laurentian University, and various health-related businesses such as medical laboratories, physiotherapy clinics, and pharmacies were excluded from the analysis.



to the economy of the Sudbury region. The results are summarized in the table on page 3. The chart on page 4 illustrates the direct, indirect, and induced employment effects as a percentage of the total employment impact of the health-care institutions in the Sudbury region. Induced employment, at about 62%, is a major part of the employment impact generated by these health-care institutions.

This study has demonstrated the substantial impact of several health-care institutions and physicians on the economy of the Sudbury region. However, the study did not examine the economic impact of the entire health-care sector since some health services such as home care, public health services, health-

The economic impact would have been considerably greater if all components of the health-care sector had been included. Also excluded from the analysis was the economic impact of the construction of the amalgamated regional hospital in Sudbury, since at the time of data collection, the construction work had just begun.

The findings of this study show that in addition to making medical and health services available to local residents and residents of northeastern Ontario, the health-care institutions in Sudbury have made an important contribution to the economic well-being of the Sudbury region.

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