

# HEALTH HUMAN RESOURCES

Forecasting Needs in Northwestern Ontario 2013-2025



**North Superior**  
Workforce Planning Board



LE RÉSEAU DU MIEUX-ÊTRE  
**FRANCOPHONE**  
DU NORD DE L'ONTARIO



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# EMPLOYMENT ONTARIO



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**NORTH SUPERIOR WORKFORCE PLANNING BOARD (NSWPB)** and the **NORTHWEST TRAINING AND ADJUSTMENT BOARD (NTAB)** are two of the 25 Workforce Planning Zones in Ontario who are sponsored by the Ministry of Training, Colleges and Universities. As non-profit, non-government organizations, they play important roles in facilitating local planning, creating, and leveraging partnerships and providing timely intelligence and leadership to help address both current and emerging local labour market issues.

As project lead for the Health Human Resources Study, NSWPB's organizational goals are outlined below:

### **VISION:**

Our human resource pool will be strategically aligned, competitively positioned and progressively developed to meet future social and economic demands across Northwestern Ontario.

### **MISSION:**

Connecting community partners to improve the quality of life in our communities through workforce development. The North Superior Workforce Planning Board will:

- Build a strategic workforce readiness plan
- Create a dynamic, responsive process to satisfy current needs and prepare people for emerging labour market opportunities within a global economy
- Leverage community alliances to maximize labour market capacity and competitiveness

### **MANDATE:**

Leading in the creation of innovative labour market solutions by:

- Providing authoritative and evidence-based research
- Identifying employment trends
- Targeting workforce opportunities
- Initiating workforce development strategies

The **NORTH WEST LOCAL HEALTH INTEGRATION NETWORK (LHIN)** is a non-profit organization that works with health care providers, communities, and the public to set priorities and plan health services in Northwestern Ontario. The North West LHIN oversees the integration and coordination of local health services to make it easier for clients/patients to access the care they require. In addition, The North West LHIN is responsible for allocating funding for a variety of health services throughout Northwestern Ontario, including:

- Hospitals
- Community Care Access Centres (CCACs)
- Community support service organizations (e.g. homemaking, personal assistance, etc.)
- Long-term care homes
- Community Health Centres
- Community mental health and addictions agencies

Le **Réseau du mieux-être francophone du Nord de l'Ontario**, which is the French Language Planning Entity for the North West LHIN, is an organization that supports better access to quality health care services in French for Francophones living in Northern Ontario.





Healthcare providers in Northwestern Ontario are in continuous recruitment mode. With workers migrating in and out of communities, there is a constant strain on the human resources side of the healthcare sector. Add to that an aging population with escalating healthcare needs, an increase in retirement rates, and a forecasted increase in population by 2025, “a perfect storm” will be brewing unless the forecasted rise in demand for healthcare workers is addressed in due time.

The North Superior Workforce Planning Board (NSWPB) and Northwest Training and Adjustment Board (NTAB) in partnership with the North West Local Health Integration Network (LHIN) and the Réseau du francophone de mieux-être francophone du Nord de l’Ontario have produced the following report as a means of responding proactively to the looming storm, and thereby allowing stakeholders collectively to enact measures to mitigate its effect.

Based on the 2006 Census, the ratio of population to healthcare worker is 35.76 across the Province of Ontario. In comparison, Northwestern Ontario’s ratio is 30.93 (see Figure 1.1). However, it is important to note that the population to worker ratio does not account for the fact that Northwestern Ontario is the province’s most sparsely populated region. In other words, Northwestern Ontario’s population density equals 0.4 persons per square kilometre compared to 14.72 in Ontario. This means that delivery of healthcare services is more complex and requires a different approach for Northwestern Ontario.

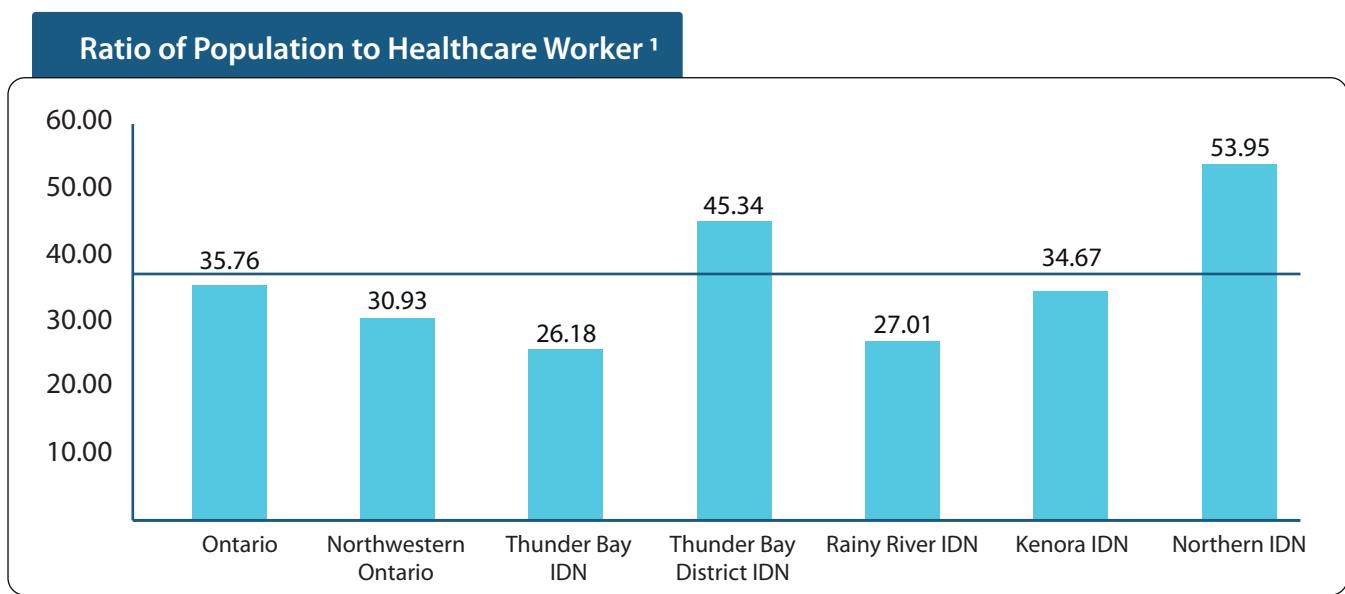


Figure 1.1

This study in Health Human Resources takes an in-depth look into the healthcare labour force of Northwestern Ontario. It provides projections of future demand for healthcare workers resulting from retirement as well as the changing size and age distribution of the population. The study examines human resources needs of both the traditional and non-traditional healthcare sectors<sup>2</sup>.

The results of this study indicate that there will be more demand for healthcare in the future. Not taking into account the current vacancies, there will be a need to recruit between 5,952 and 6,464 new healthcare professionals in the next 12 years. Figure 1.2 shows the projected number of retirements, and the number of healthcare workers that will be required for both a zero net growth economy (Scenario I), or one with some growth (Scenario II). Considering that the healthcare sector employs approximately 11,035 people in Northwestern Ontario, the turnover could become debilitating.

<sup>1</sup>Based on 2006 Census of Canada. <sup>2</sup>Non-traditional healthcare occupations are defined to include social workers, community and social services, family, marriage and other related counsellors, recreation, sports and fitness program supervisors, psychologists and inspectors in public and environmental health and occupational health and safety.

## Total Demand for Healthcare Professionals, 2010 to 2025

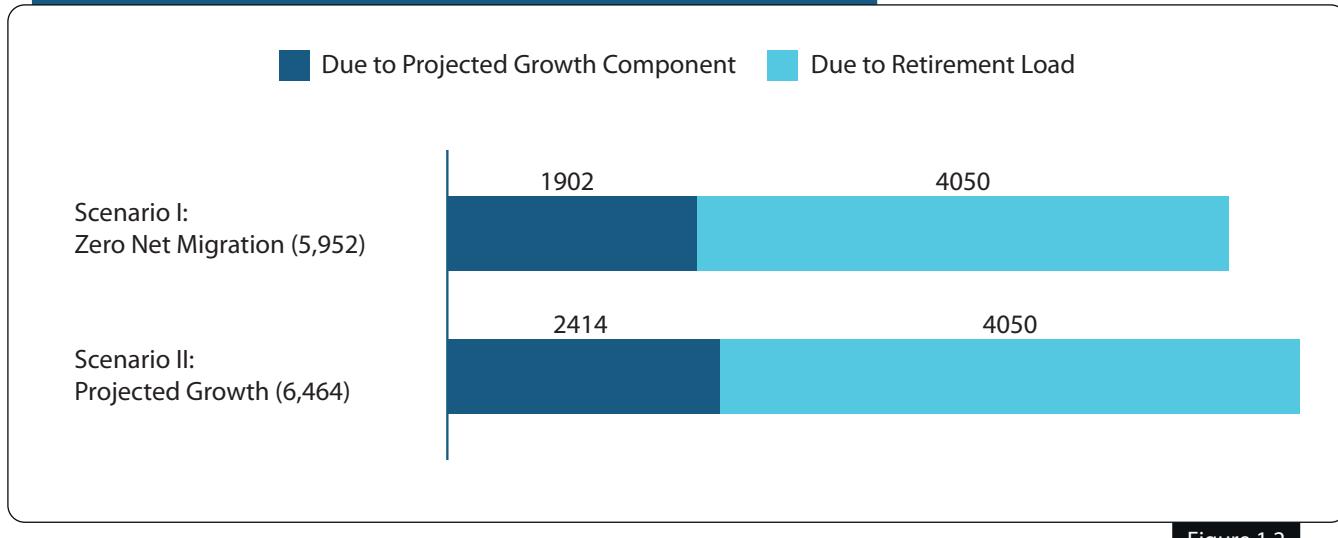


Figure 1.2

In group consultations with LHIN-funded Health Service Providers, many participants agreed that with responsibility for multiple divisions within their own organization and the demand on their time working on current shortfalls, most have not considered their future human resources needs. Participants noted concern of losing large number of experienced staff in supervisory and managerial positions at a time when they very much require strong leadership to assist in addressing current and future challenges to ensure successful delivery of healthcare programs and services. Many of their Senior Administrators are preparing to retire within the next five years, leaving a knowledge and experience gap that will also be hard to fill. Participants in the focus groups suggested that all of these factors are leading to the brewing of "a perfect storm".

When faced with considering their options, remedies that focus groups offered included the following:

- Providing training opportunities in leadership, mental health, and complex care
- Enhancing educational programs with cultural and language training (French and Aboriginal)
- Expanding placement opportunities
- Balancing compensation
- Harmonizing pension plans
- Sharing recruitment resources
- Integrating administrative services
- Promoting healthcare professions to youth, Francophone, and Aboriginal groups
- Finding solutions to timely accreditation when hiring qualified foreign-trained workers

## PURPOSE .....

The main objective of this study has been to analyze and forecast the specific healthcare resource demands in Northwestern Ontario during 2010-2025.

The resulting future demands study will be used by North Superior Workforce Planning Board (NSWPB), Northwest Training and Adjustment Board (NTAB), Réseau du francophone du mieux-être francophone du Nord de l'Ontario, and the North West Local Health Integration Network (LHIN), as well as other stakeholders concerned with developing the workforce within the health sector over the next 10 years. It provides reliable projections to employment service providers for planning and programming service delivery in healthcare. In addition, information may be shared with post-secondary institutions for their consideration in assessing and implementing career courses and curriculum.

## INTEGRATED DISTRICT NETWORKS IDNS

The availability of healthcare professionals directly impacts the well-being of those who live in Northwestern Ontario. A recommendation of the North West LHIN Health Services Blueprint was to develop a ten-year plan in order to properly forecast specific human resources impacting healthcare demands within the five IDNs in Northwestern Ontario. The five IDNs and their Local Health Hubs (LHH) are specified to coincide with the regions shown in the following Table.

The first three IDNs cover the same area as the NSWPB and the last two are closely aligned with NTAB (see Table 1.1). This study reports all estimates and projections for Northwestern Ontario as a whole as well as for each IDN as there are wide-ranging differences in community accessibility and service offerings between and within each IDN.

North West Local Health Integration Network	
INTEGRATED DISTRICT NETWORK (IDN)	LOCAL HEALTH HUB (LHH)
City of Thunder Bay	City of Thunder Bay
District of Thunder Bay	Greenstone Manitouwadge Marathon Nipigon Terrace Bay
District of Rainy River	Atikokan Fort Frances Rainy River Emo
District Kenora	Kenora Red Lake Dryden
Northern	Sioux Lookout

Table 1.1

A detailed breakdown of communities included in each local health hub is provided in Appendix I.

## STUDY SECTIONS AND KEY RESULTS

### PART II: POPULATION TRENDS AND CHARACTERISTICS IN NORTHWESTERN ONTARIO (2010 TO 2025)

This part examines population trends and characteristics in various IDNs in Northwestern Ontario during 2010-2025. Two scenarios are considered:

- Scenario I assumes zero net migration during the forecasting period.
- Scenario II assumes a conservative population growth during the forecasting period resulting from an expected growth in the economy.

In Scenario II, Northwestern Ontario's population is expected to increase from its level of 231,475 in 2010 to 243,498 in 2025 as shown in Figure 1.3. This represents an increase of a 5.19 percent during the forecasting period. Scenario I predicts an increase to 233,098 or a 0.7 percent.

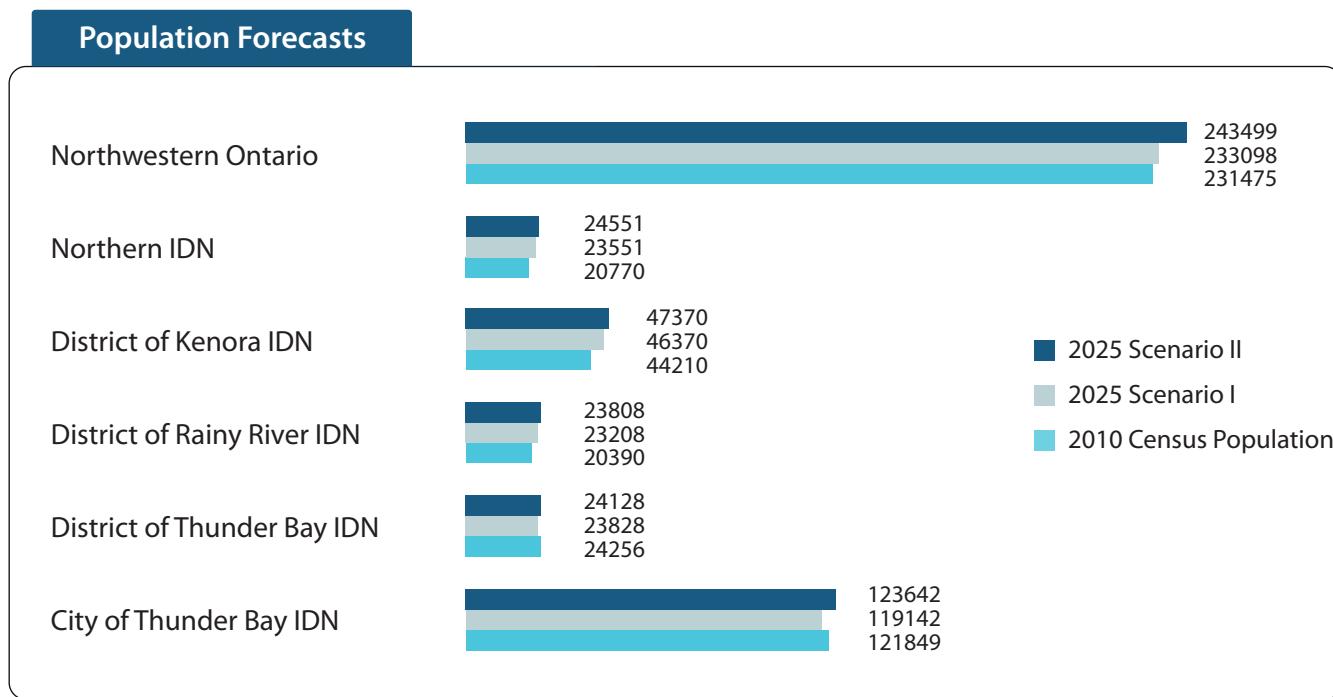


Figure 1.3

In Scenario II, the population changes that take into account economic growth from 2010 to 2025 are:

- The City of Thunder Bay IDN population is expected to increase from 121,849 in 2010 to 123,642, an increase of 1.47 percent
- The District of Thunder Bay IDN is expected to stay relatively constant 24,128.
- The District of Rainy River IDN population will increase from 20,390 in 2010 to 23,808, a 16.76 percent increase.
- The District of Kenora IDN population will rise from 44,210 in 2010 to 47,370, a 7.14 percent increase.
- The Northern IDN population will increase from 20,770 in 2010 to 24,551, the largest increase at 17.2 percent.

Under both scenarios, the age composition of population will change significantly during 2010-2025. Northwestern Ontario's population is aging. Under Scenario II, the percentage share of population aged 60 and over will increase from 22.3 percent in 2010 to 30.8 percent in 2025. In other words, one-third of Northwestern Ontario's population will be 60 years and over in 2025. Figure 1.4 demonstrates the shift in each of the IDNs.

## Forecast of Percentage of the Population 60 years of age and over, (2025) based on Scenario II

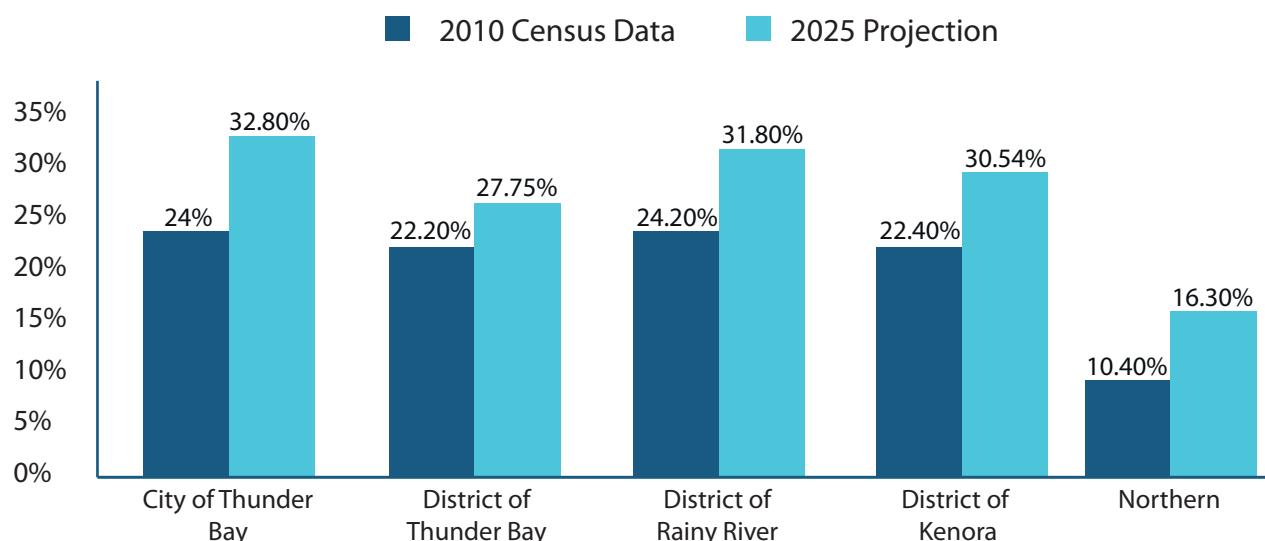


Figure 1.4

In general, as population ages, the demand for healthcare services increases. For example, per capita health expenditures rise from \$2,895 per person aged 45 to 49 to \$6,556 for individuals between the ages of 65 to 69<sup>3</sup>. Figure 1.5 demonstrates the relationship between age and health expenditures in Ontario in 2010.

## Per Capita Health Expenditures by Age in Ontario

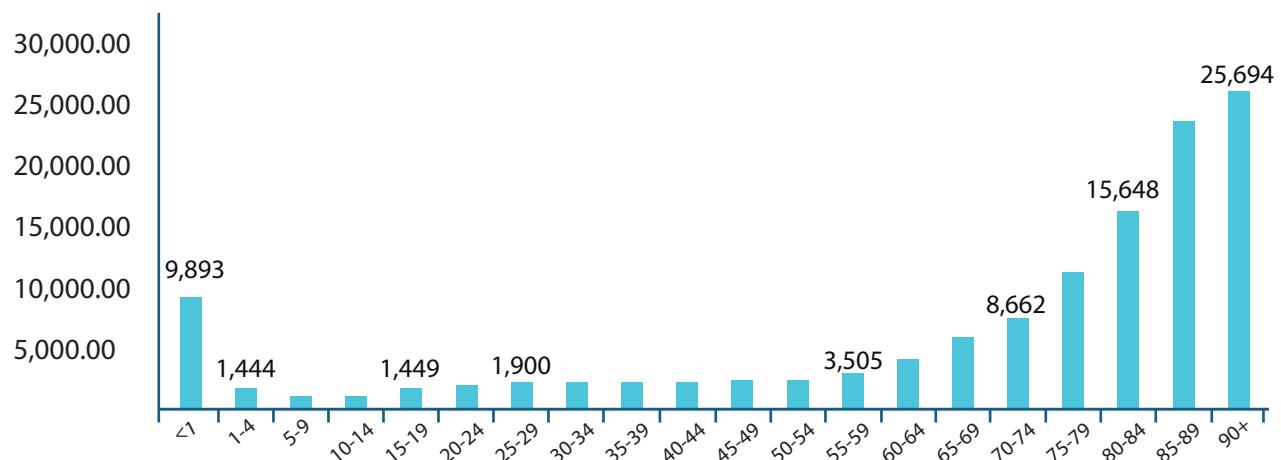


Figure 1.5

<sup>3</sup>Canadian Institute for Health Information, National Health Expenditure Trends, 1975 to 2012, p. 155.

## KEY RESULTS: POPULATION TRENDS AND CHARACTERISTICS

- The **City of Thunder Bay IDN's** share of population aged 60 and over will increase from 24.0 percent in 2010 to 32.5 percent in 2025. Similarly, the share of those aged 65 and over will increase from 17.2 percent in 2010 to 24.8 percent in 2025, an increase of approximately 44.2 percent.
- The share of population aged 60 and over in the **District of Thunder Bay IDN** will increase from 22.2 percent in 2010 to 36.29 percent in 2025. The percentage share of those 65 and older will rise from 14.4 percent in 2010 to 27.7 percent in 2025, an increase of approximately 92.3 percent.
- The population share of those 60 years and over in the **District of Rainy River IDN** will increase from 24.2 percent in 2010 to 31.8 percent in 2025. Similarly, the share of those over 65 years of age will increase from 17.4 percent in 2010 to 24.3 percent in 2025, a rise of approximately 40.0 percent.
- The **District of Kenora IDN's** share of population aged 60 and over will increase from 22.4 percent in 2010 to 30.54 percent in 2025. Similarly, the share of those aged 65 and over will increase from 15.37 percent in 2010 to 23.15 percent in 2025. This represents an increase of approximately 50.6 percent.
- The **Northern IDN** has the youngest population among all regions in Northwestern Ontario. The share of those aged 60 and over equaled 10.4 percent in 2010. This is expected to increase to 16.3 percent in 2025. The share of those 65 years of age and older will increase from 6.9 percent in 2010 to 10.9 percent in 2025.

Figures 1.6 and 1.7 show the combined impact of changing size and age distribution of population on demand for healthcare services in Northwestern Ontario.

Demographic Change & Demand for Healthcare Services in NWO: Total Population

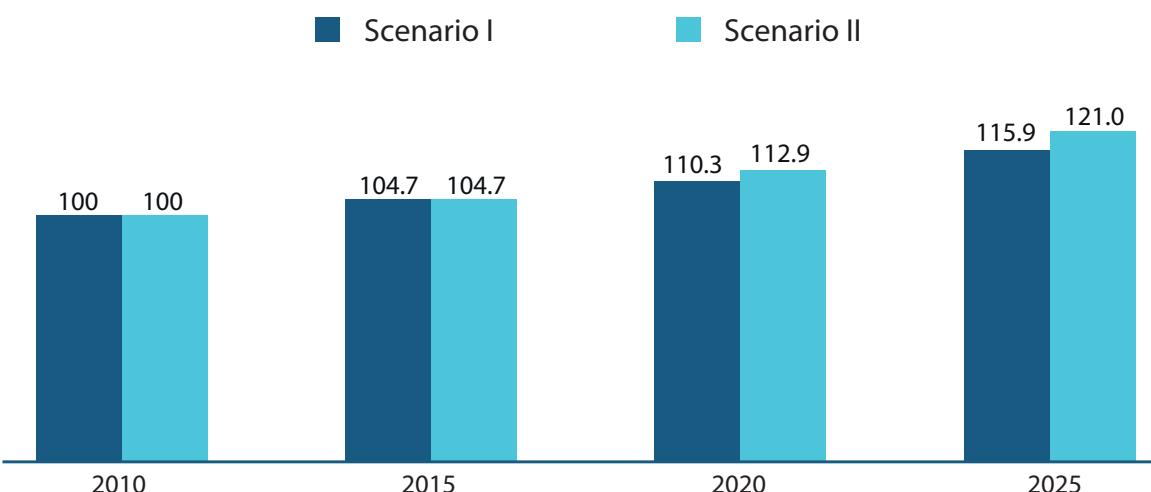


Figure 1.6

## Demographic Change & Demand for Healthcare Services in NWO: Population 60+

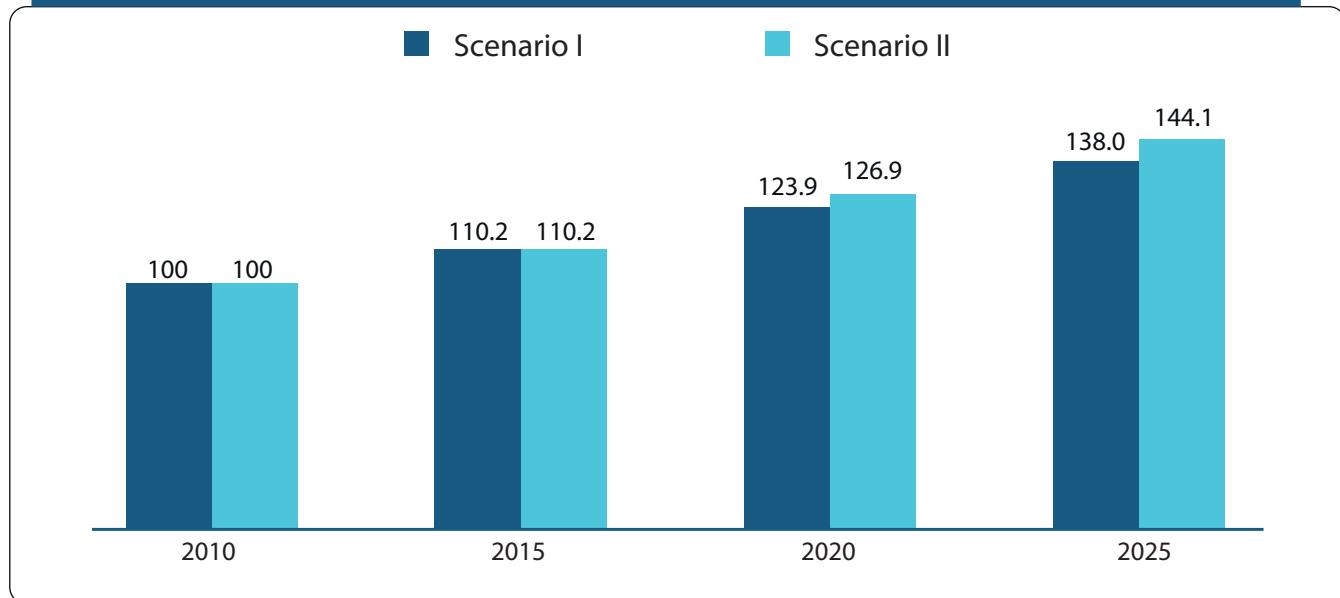


Figure 1.7

### PART III: ESTIMATING GROWTH-DEMAND FOR HEALTHCARE WORKERS IN NORTHWESTERN ONTARIO

In this section the growth-demand indicators are estimated based on the size and age distribution of Northwestern Ontario's population as well as information on healthcare expenditure per capita in Ontario. The results show that changes in size and age distribution of Northwestern Ontario's population will have significant impact on demand for healthcare workers in the coming years.

The overall demand for healthcare workers in Northwestern Ontario is expected to increase by 15 to 21 percent during the projection period. During the same period, healthcare demand by the population aged 60 years and older is expected to increase by 38 to 44 percent<sup>4</sup>.

#### KEY RESULTS: ESTIMATING GROWTH-DEMAND FOR HEALTHCARE WORKERS IN NORTHWESTERN ONTARIO

- The overall demand for healthcare workers in Northwestern Ontario is expected to increase by 15.87 percent (scenario I) or 21.03 percent (scenario II) during 2010-2025. The demand by the population aged 60 years and older is expected to increase by 37.95 percent (scenario I) or 44.12 percent (scenario II) during the same period.

<sup>4</sup>Results for the non-traditional healthcare occupations are provided in the main body of the report.

## Projected Increase in Demand for Healthcare Workers 2010 to 2025

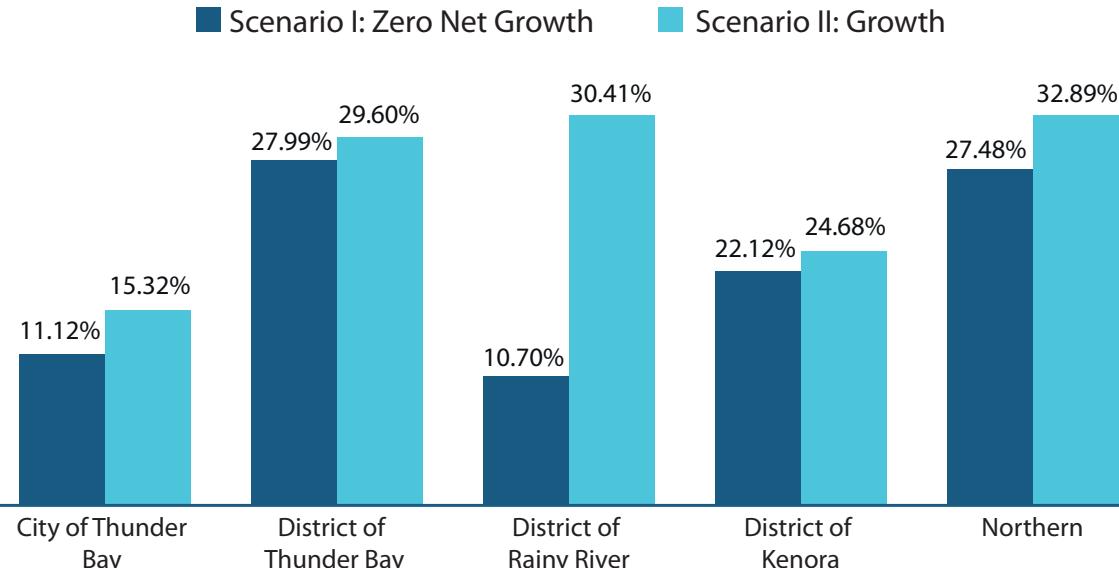


Figure 1.8

- Demand for healthcare workers in the **District of Thunder Bay IDN** is expected to increase by 27.99 percent (scenario I) or 29.60 percent (scenario II) during 2010-25. Demand by those aged 60 and over is expected to increase by 74.28 percent (scenario I) or 76.48 percent (scenario II) during the same period.
- Demand for healthcare workers in the **District of Rainy River IDN** is expected to increase by 10.70 percent (scenario I) or 30.41 percent (scenario II) during 2010-25. Demand by those aged 60 and over is expected to rise by 26.80 percent (scenario I) or 49.39 percent (scenario II) during the same period.
- Demand for healthcare workers in the **District of Kenora IDN** is expected to increase by 22.12 percent (scenario I) or 24.68 percent (scenario II) during 2010-25. Demand by the population aged 60 and over is expected to rise by 47.93 percent (scenario I) or 51.12 percent (scenario II) during the same period.
- Demand for healthcare workers in the **Northern IDN** is expected to increase by 27.48 percent (scenario I) or 32.89 percent (scenario II) during 2010-25. Demand by the population aged 60 and older is expected to increase by 72.75 percent (scenario I) or 80.08 percent (scenario II) during the same period.

Table 1.2 shows the estimated number of new entrants required to satisfy the growth demand for selected National Occupation Classification (NOC) groups in the five IDNs in Northwestern Ontario during 2010-2025.

Estimated number of required new hires: 2010 to 2025			
CITY OF THUNDER BAY IDN	2010-2015	2015-2020	2020-2025
Nursing-Related Occupations (NOC:3152, 3233)	160	109	105
Assisting Occupations (NOC: 3413, 3414)	92	62	60
Medical Technologies (NOC: 321)	33	22	21
Therapy Assessment Professionals (NOC: 314)	19	13	13
Physicians (NOC: 3111, 3112)	19	13	13
Paramedics (NOC: 3234)	10	6	6
DISTRICT OF THUNDER BAY IDN			
Nursing-Related Occupations (NOC:3152, 3233)	28	25	22
Assisting Occupations (NOC: 3413, 3414)	10	9	8
Medical Technologies (NOC: 321)	10	9	8
Therapy Assessment Professionals (NOC: 314)	1	1	1
Physicians (NOC: 3111, 3112)	6	5	5
Paramedics (NOC: 3234)	6	5	5
DISTRICT OF RAINY RIVER IDN			
Nursing-Related Occupations (NOC:3152, 3233)	4	43	35
Assisting Occupations (NOC: 3413, 3414)	3	30	24
Medical Technologies (NOC: 321)	1	8	6
Therapy Assessment Professionals (NOC: 314)	0	4	3
Physicians (NOC: 3111, 3112)	0	5	4
Paramedics (NOC: 3234)	1	9	7
DISTRICT OF KENORA IDN			
Nursing-Related Occupations (NOC:3152, 3233)	5	39	35
Assisting Occupations (NOC: 3413, 3414)	3	23	21
Medical Technologies (NOC: 321)	1	6	5
Therapy Assessment Professionals (NOC: 314)	1	7	6
Physicians (NOC: 3111, 3112)	0	3	3
Paramedics (NOC: 3234)	1	8	7
NORTHERN IDN			
Nursing-Related Occupations (NOC:3152, 3233)	17	15	15
Assisting Occupations (NOC: 3413, 3414)	14	13	13
Medical Technologies (NOC: 321)	9	8	8
Therapy Assessment Professionals (NOC: 314)	1	1	1
Physicians (NOC: 3111, 3112)	1	1	1
Paramedics (NOC: 3234)	4	4	4

Table 1.2

As we saw above, the current level of healthcare professionals per person in the District of Thunder Bay IDN and Northern IDN are below the provincial average. Therefore, an increase in the estimated demand for new entrants will be required to compensate for the current deficit in those jurisdictions. In other words, the number of required new entrants in the District of Thunder Bay IDN and Northern IDN should be multiplied by a factor of 1.27 and 1.51, respectively.

## PART IV: PROFILE OF HEALTHCARE PROVIDERS IN NORTHWESTERN ONTARIO AND ITS SUB-REGIONS

A detailed profile of healthcare providers in Northwestern Ontario and its sub-regions based on a special tabulation obtained from Statistics Canada's 2006 Census<sup>5</sup> is supplied in this section. Employment in the healthcare sector accounts for 10.1 percent of total employment in Northwestern Ontario. The healthcare sector is an important component of the regional economic base. However, unlike forestry and mining industries, the healthcare sector is a non-cyclical, growing component of the regional economic base and plays a stabilizing role in the regional economy. In addition, given the relatively high labour compensation and high value-added nature of the industry, the employment and income multipliers associated with the sector are relatively high, implying relatively significant employment and income resulting from each dollar of spending on the regional health industry.

The National Occupation Classification (NOC) manages the collection and reporting of occupational statistics and provides labour market information. For this study, all the occupations within the structure and skill type of "Health" that start with the number three (3) are referred to as "traditional" healthcare occupations. Occupations in the field of healthcare that did not fall under these NOC codes are referred to as "non-traditional" healthcare occupations. Most are from NOC Major Group 41, Social and community service professionals, which includes: Psychologists, Social Workers, and Family, Marriage and Other Related Counsellors.

Northwestern Ontario's traditional healthcare sector employs an estimated 7,470 individuals. Employment in the non-traditional healthcare sector equals 3,565. Together, the traditional and non-traditional healthcare sectors account for approximately 11,035 workers in Northwestern Ontario.

### TRADITIONAL HEALTH OCCUPATIONS:

Table 1.3 shows the top six traditional healthcare professions. These occupations comprise 86.9 percent of total employment in traditional healthcare sector in Northwestern Ontario.

Traditional Healthcare Providers: Top six healthcare professions by number of employees (2006)					
SELECTED OCCUPATIONAL GROUPS	20-49	50-54	55-59	60-64	65+
Nursing-Related Occupations (NOC: 3152, 3233)	1,540	415	535	370	170
Assisting Occupations (NOC: 3413, 3414)	1,115	255	160	135	85
Medical Technologies (NOC: 321)	375	80	90	75	10
Therapy Assessment Professionals (NOC: 314)	290	25	20	40	10
Physicians (NOC: 3111, 3112)	175	25	50	15	80
Paramedics (NOC: 3234)	225	55	25	15	20
<b>TOTAL</b>	<b>3720</b>	<b>855</b>	<b>880</b>	<b>650</b>	<b>375</b>

Table 1.3

- Registered nurses represent almost 34.0 percent of total employment in Northwestern Ontario's healthcare sector. Licensed practical nurses represent 6.6 percent of the workers. Together, the nursing related occupations represent almost 40.5 percent of employment in Northwestern Ontario's healthcare sector.

- Assisting occupations in health care account for 23.3 percent of employment. This group includes nurse aides, orderlies and patient service associates and other assisting occupations in support of the health services. Together, the nursing and assisting occupations in health care account for 63.9 percent of total employment in Northwestern Ontario's healthcare sector.
- Medical technologists and technicians account for 8.55 percent of employment followed by therapy and assessment professionals (5.0%), physicians (4.9%) and paramedics (4.6%).
- Women account for the majority of employment in the sector making up 81.8 percent of workforce.

Figure 1.9 shows the occupational structure of the traditional health occupations classified under the NOC Health category.

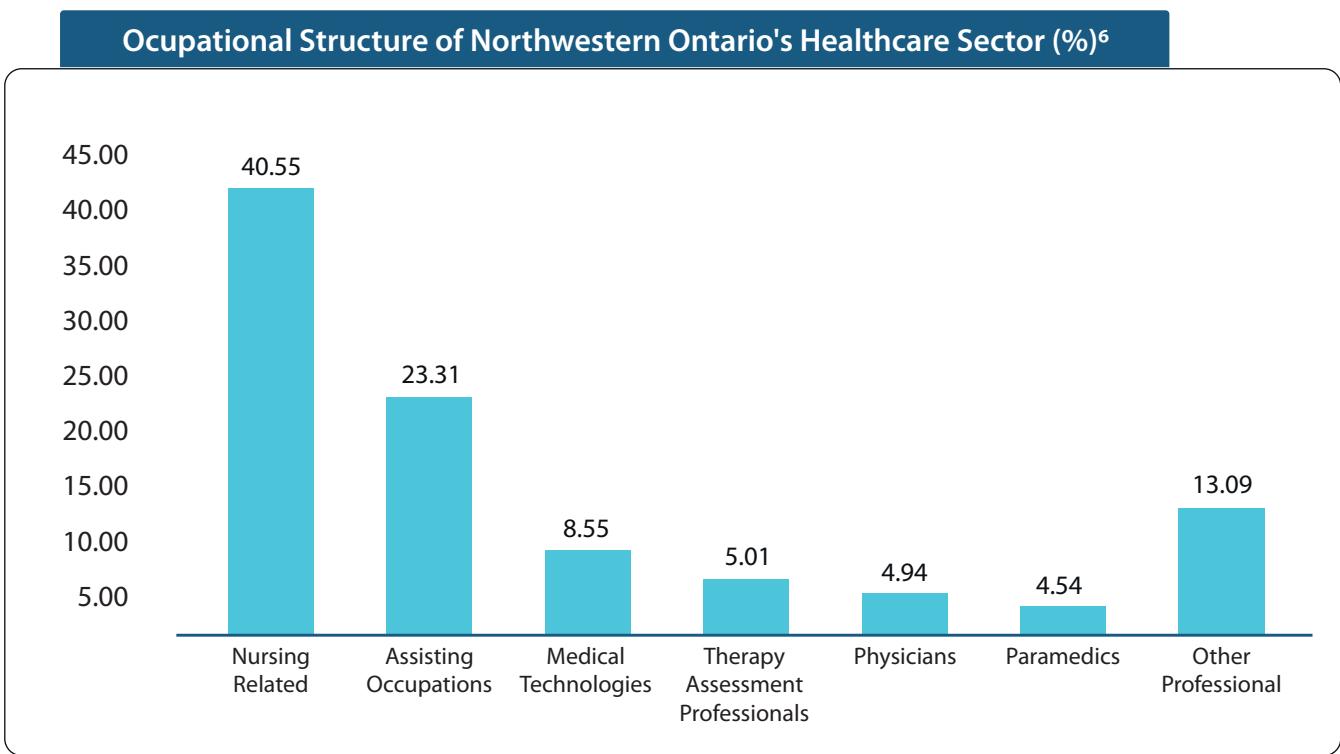


Figure 1.9

### **NON-TRADITIONAL HEALTHCARE SECTOR:**

- The non-traditional healthcare sector is dominated by community and social service workers who account for 55 percent of total employment in that sector followed by social workers (22.0%) and family, marriage and other counsellors (12.6%)
- Women account for 75.8 percent of employment in the non-traditional healthcare sectors.

### **ETHNIC ORIGIN**

Figure 1.10 shows that the share of Francophone workers in the regional healthcare sector is slightly below their population share. The same is true for the non-English, French or Aboriginal population. While the share of the Aboriginal population in the traditional healthcare sector is below their population share, they represent a much larger share of employment in the non-traditional healthcare sector of the regional economy.

- 81.74 percent of all workers in the traditional healthcare sector are of English origin compared to a much lower rate of 58.2 percent in non-traditional healthcare.

<sup>6</sup> Statistics Canada, 2006 Census

- 9.2 percent of healthcare providers are of non-English, French or Aboriginal origin followed by 6.3 percent Aboriginal and 2.8 percent Francophone.
- Aboriginal workers comprise approximately 34.2 percent of non-traditional healthcare workers followed by non-English, French or Aboriginal (5.6%) and Francophone (2.0%).
- Non-English, French or Aboriginal origin individuals account for approximately 11.6 percent of the regional population

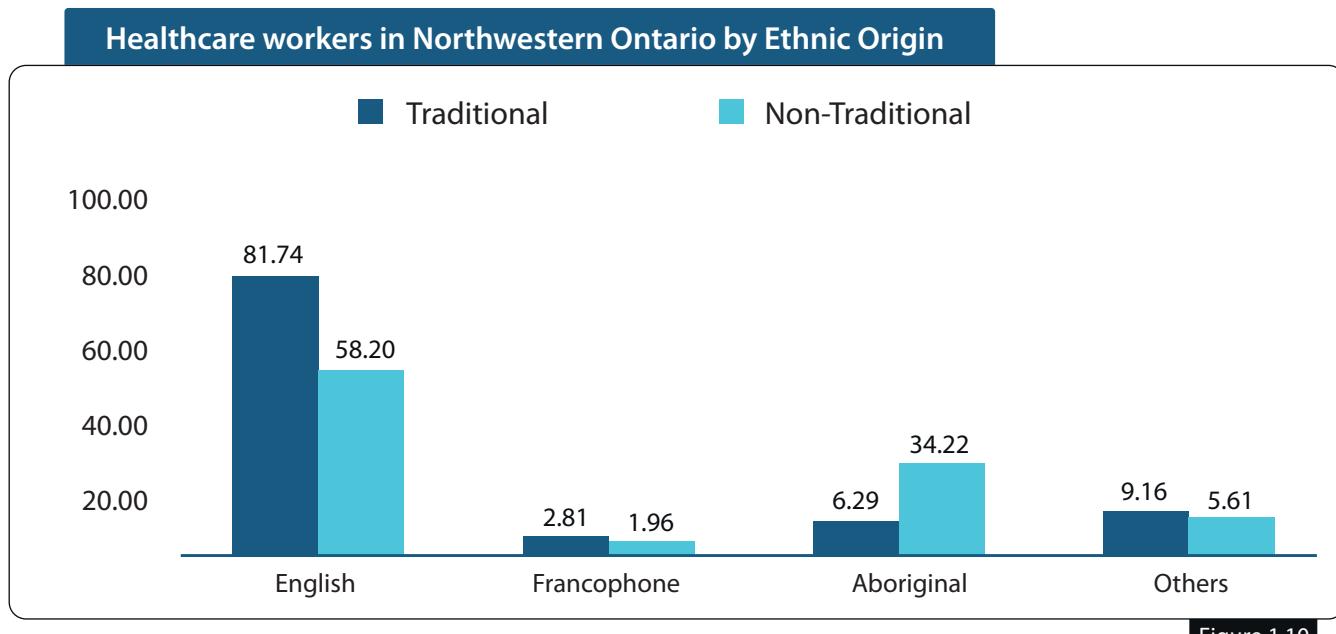


Figure 1.10

## KEY RESULTS: PROFILE OF HEALTHCARE PROVIDERS IN NORTHWESTERN ONTARIO AND ITS SUB-REGIONS HIGHLIGHTS

- The healthcare sector employs approximately 4,655 people in the **City of Thunder Bay IDN**. The non-traditional sector employs almost 1,605 people. Together, the traditional and non-traditional healthcare sectors account for 10.6 percent of total employment in the City of Thunder Bay IDN.
- There are approximately 535 individuals employed in the traditional healthcare sector of **District of Thunder Bay IDN**. An additional 350 are employed in the non-traditional sector. Together, they comprise almost 7.3 percent of total employment in that region. The sector is dominated by women who account for 80.4 percent of employment in the traditional and 78.6 percent of employment in the non-traditional healthcare sectors.
- The **District of Rainy River IDN's** traditional healthcare sector employs approximately 755 individuals. In addition, approximately 375 people work in the non-traditional healthcare sector. Together, they account for 10.9 percent of total employment in the District of Rainy River IDN. The sector is dominated by women who account for 86.1 percent and 72.3 percent of employment in the traditional and non-traditional healthcare sectors, respectively. Men account for 11.9 percent of healthcare providers in the traditional sector and 24.7 percent in the non-traditional healthcare sector of The District of Rainy River IDN.
- Approximately 1,275 persons work in the traditional healthcare sector in the **District of Kenora IDN**. An additional 725 work in the non-traditional healthcare sector. Together, they comprised 9.3 percent of total employment in Kenora in 2005. The District of Kenora IDN's healthcare sector is dominated by women who account for 78.4 percent of employment in the traditional and 72.4 percent of employment in the non-traditional healthcare sectors.

- Approximately 385 people work in the traditional healthcare sector in the **Northern IDN**. An additional 515 individuals work in the non-traditional healthcare sectors in that region. Together, they represent 12.9 percent of total employment in that region. The majority or 72.2 percent of healthcare providers in the traditional sector are women. Women account for 63.1 percent of employment in the non-traditional sector.

## PART V: SURVEY AND FOCUS GROUP OF HEALTHCARE PROVIDERS AND RESULTS

A relatively large sample of healthcare providers was surveyed during the course of the study. The survey provided information on the demographic characteristics of patients, clients and residents in various IDNs within Northwestern Ontario. It also presented information on the percentage allocation of healthcare resources among patients by age. Finally, it provided data on the turnover rate among healthcare providers in Northwestern Ontario.

Focus groups, also held during the study, provided some of the healthcare employers' perspectives on the future of the labour force in healthcare.

### KEY RESULTS: SURVEY

A survey along with an introductory letter was sent to 93 LHIN-funded health service providers in Northwestern Ontario. An overall completion rate of 48.2 percent was achieved.

Figure 1.11 classifies healthcare providers in the survey by the number of service users (patients, residents and clients) they usually serve in a typical week.

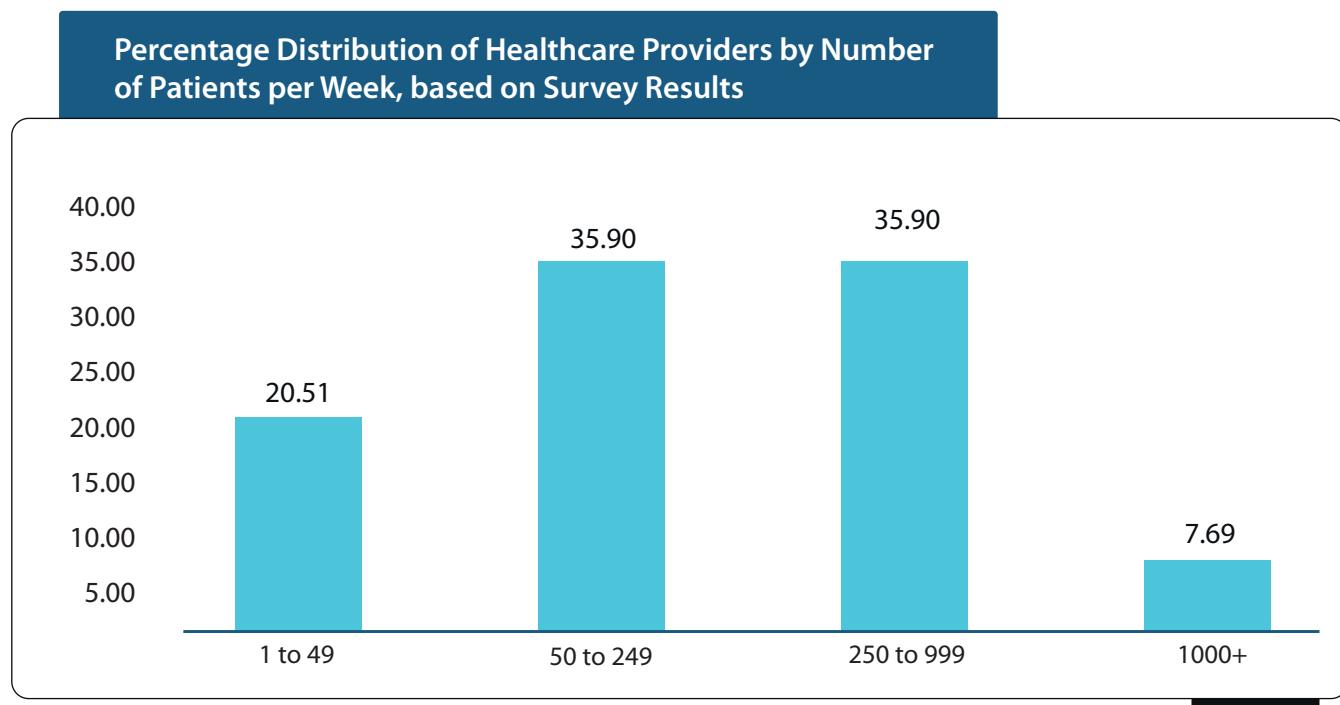


Figure 1.11

Regarding the number of service users being served, 20.5 percent of the healthcare providers in Northwestern Ontario are relatively small, servicing an average of 22.1 service users per week. 35.9 percent are medium size serving an average of 111.6 users per week. A similar percentage of healthcare providers are relatively large, serving 523.2 service users per week. Only 7.7 percent of healthcare providers are very large serving an average of 2,414.7 service users per week.

Figure 1.12 shows that 2.3 percent of service users are Francophone, 28.7 percent are Aboriginal and the rest or 68.8 percent are non-Francophone or Aboriginal. The share of the Francophone patients is slightly below their population share. 70.0 percent of institutions do not have a formal mechanism to identify Francophone patients which can explain a relatively lower share of Francophone patients compared to their population share. The share of the Aboriginal patients is larger than their population share in Northwestern Ontario.

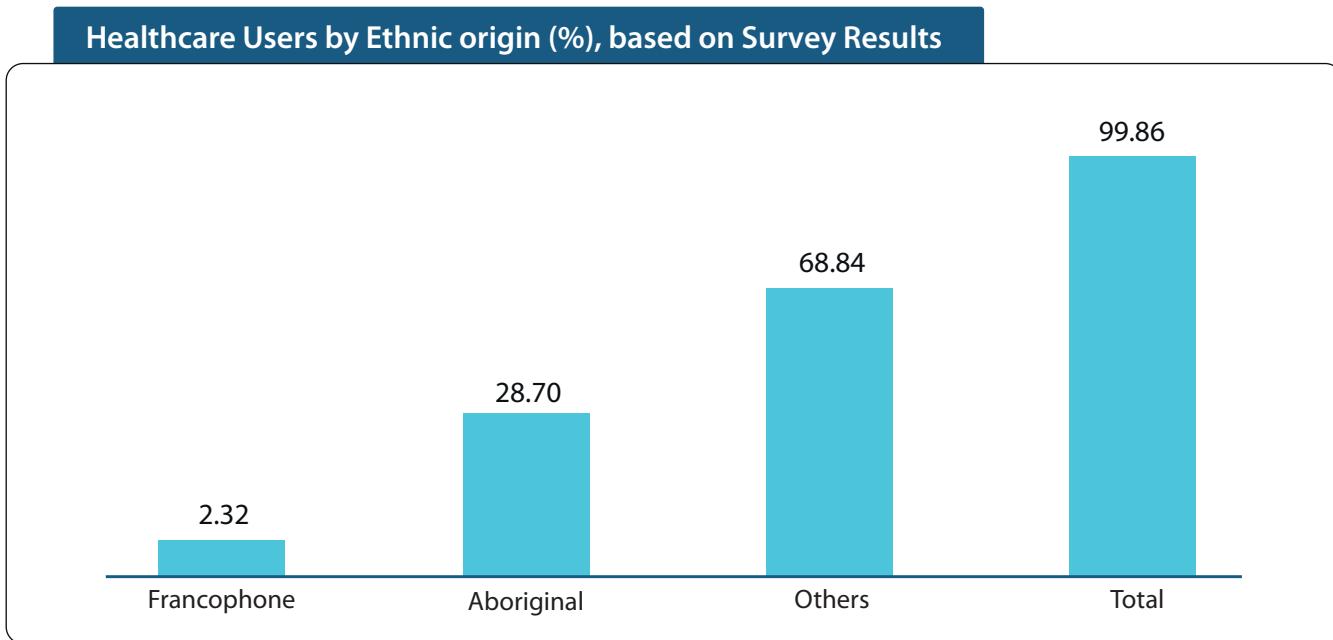


Figure 1.12

Approximately 28.4 percent of patients are 65 years of age and older. Figure 1.13 shows that 18.98 percent are between 51 and 64 years of age. Together, 47.4 percent of patients, residents and clients in Northwestern Ontario are over 51 years of age. This matches the Statistic Canada data for the percentage of population who are 50 years of age and older in Northwestern Ontario.

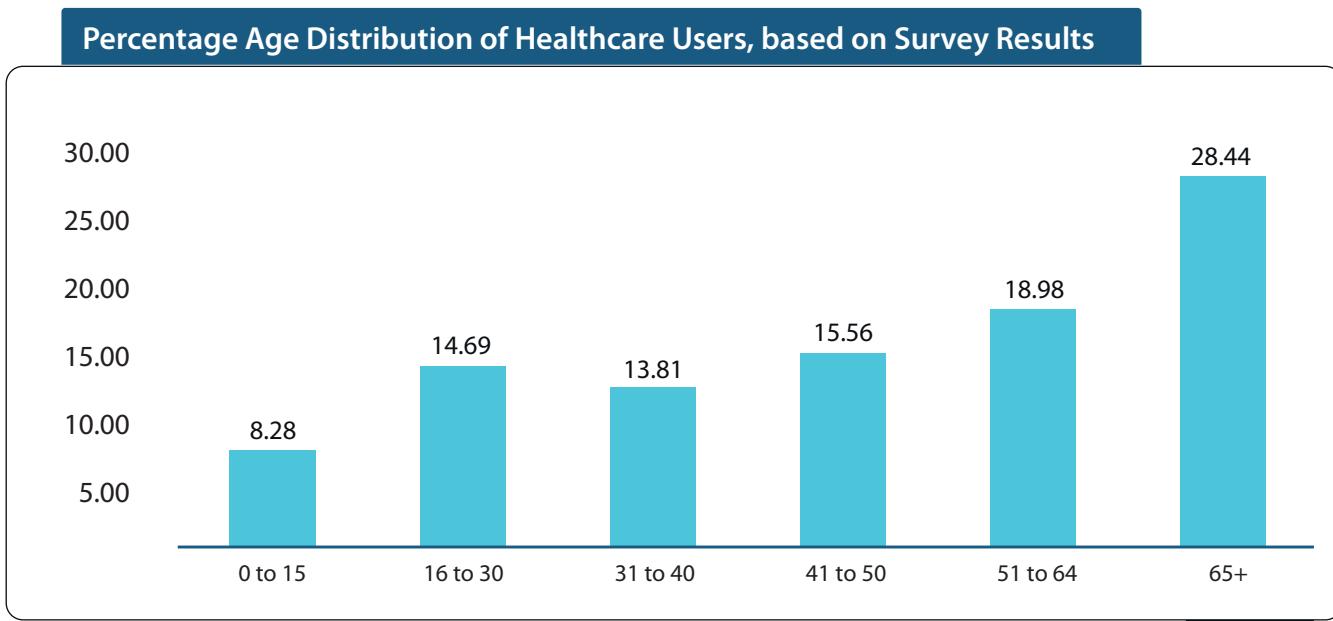


Figure 1.13

Two factors affect the amount of resources used by different age groups. First, an aging population increases the number of people in higher age categories and thus increases the quantity of healthcare demanded by older age groups. The second factor relates to the intensity of demand by older patients. There exists a direct relationship between age and quantity of healthcare demanded. Figure 1.14 shows the percentage of health-care resources used by patients, clients and residents by age in Northwestern Ontario.

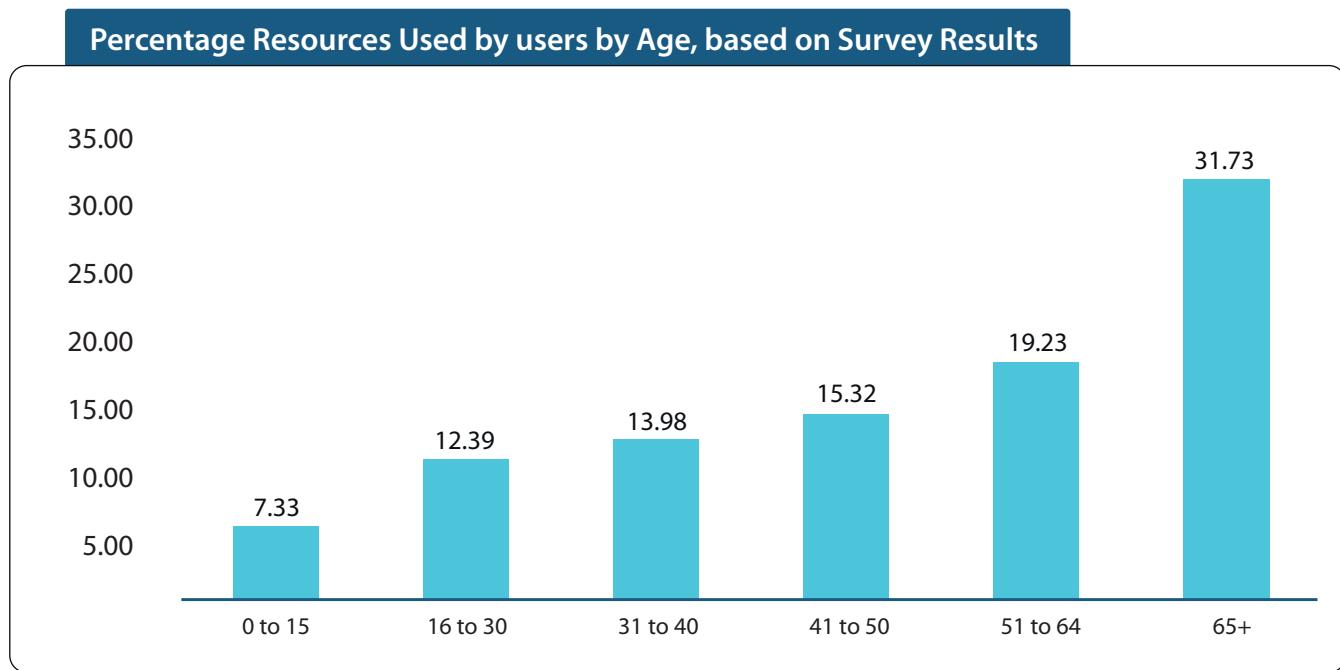


Figure 1.14

The survey results confirm that as population ages, their demand for healthcare services increases. This is also reflected in the expectation of service providers regarding expected growth of demand for their services in the coming years as shown in Figure 1.15.

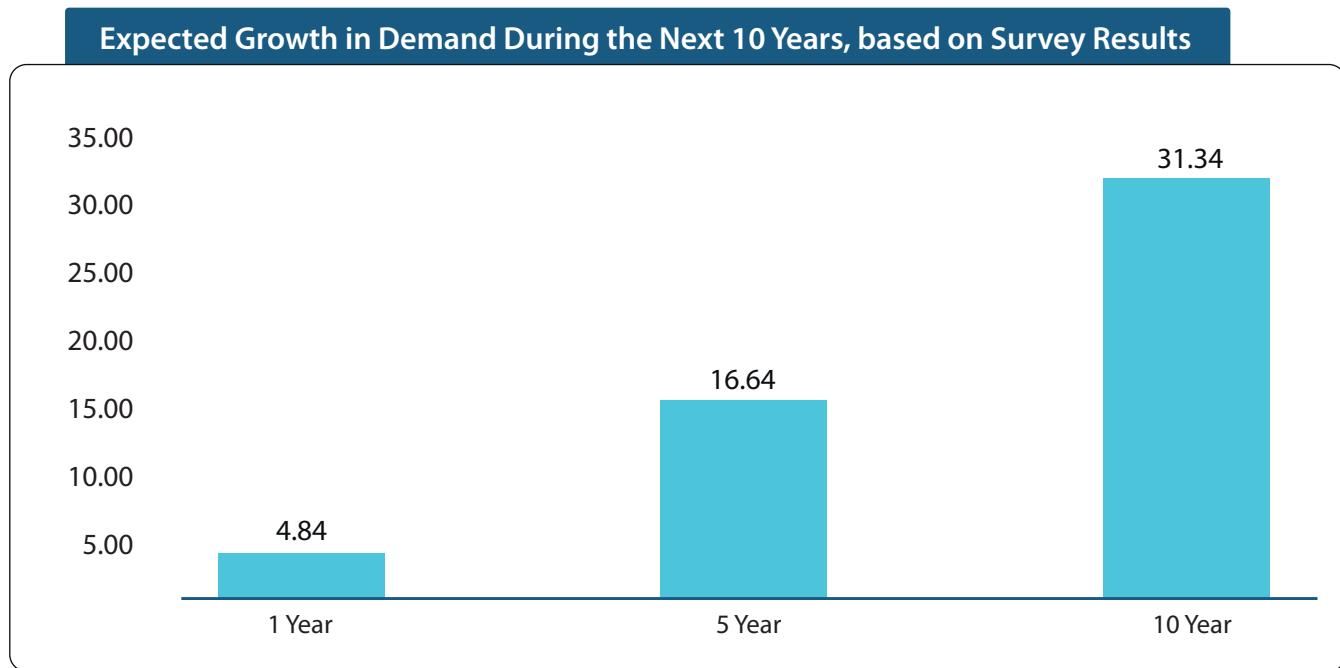


Figure 1.15

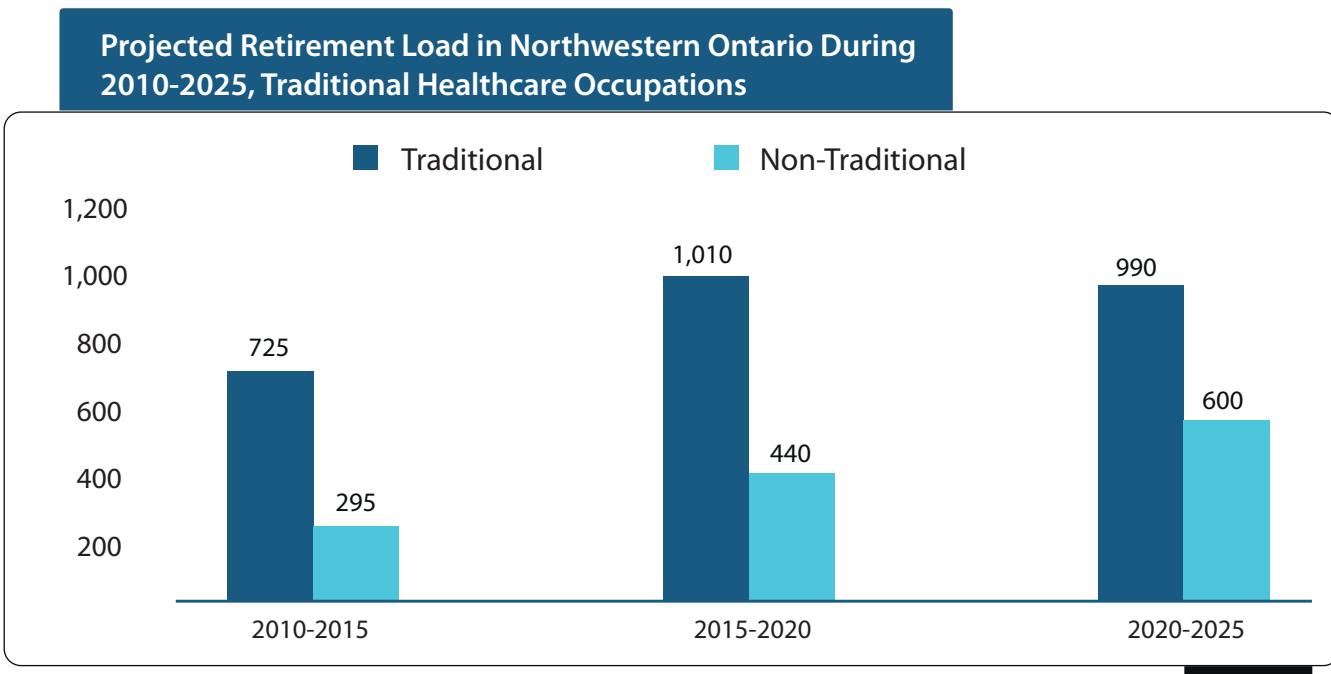
Based upon the survey responses, healthcare providers expect demand for their services to increase by 31.3 percent during the next 10 years. This expectation is consistent with the aging of Northwestern Ontario's population.

## KEY RESULTS: FOCUS GROUPS

- Focus group discussions were also conducted to validate the information from Statistics Canada. A total of 23 LHIN-funded organizations chose to participate in focus groups. The list represented a cross-section of services, staff sizes, and districts.
- Human Resource professionals across the region identified challenges in recruiting and retaining staff throughout the region that included: limited applicants, remoteness of work locations, financial compensation, work/life balance, and lack of recruiting resources.
- All districts reported predicted shortfalls in all areas of healthcare. The ones noted during the focus group included: Senior Management, Supervisory, and Leadership Positions, Dietitians, Physicians, Psychiatrists and Adolescent Psychiatrists, Personal Support Workers, a Bariatric Surgeon, Medical Laboratory Technicians, Specialists in Fetal Alcohol Spectrum Disorder (FASD), and Information Technologists. In surveys of the Focus Group participants, in addition to the ones noted, there are current vacancies and there will be significant vacancies in the next 5 and 10 years for: Registered Nurses, Registered Practical Nurses, Nurse Practitioners, and Physiotherapists.

## PART VI: HEALTHCARE DEMAND PROJECTIONS IN NORTHWESTERN ONTARIO

The future demand for healthcare occupations is comprised of two separate components. The first is the growth component of total demand for healthcare providers was shown previously in Figure 1.15. The second component estimates the need to replace those workers who retire over the forecast period. This constitutes the retirement-replacement, or retirement load component of the future demand for healthcare workers. The retirement load is estimated using detailed data on the occupational distribution of healthcare workers by age in various Northwestern Ontario regions<sup>7</sup>.



## **TRADITIONAL HEALTHCARE OCCUPATION RETIREMENT LOAD**

An estimated 725 or 9.7 percent of healthcare workers in Northwestern Ontario will retire during **2010-2015**. Registered nurses (285) account for the largest number of retirees during that period followed by nurse aides, orderlies and patient service associates (125) and registered practical nurses (85). During 2010-2015, the occupations with the largest retirement rate (% of workers retiring in each occupation) include dental technologists and technicians (33.3%), chiropractors (30%), dentists (17.2%), registered practical nurses (17.2%) and medical radiation technologists (17.1%).

Focusing on the **2015-2020** period, a total of 1,010 or 13.5 percent of healthcare workers will be retiring during that period. The occupations with the largest retirement load include registered nurses (410), nurse aides, orderlies and patient service associates (130) and registered practical nurses (125). The occupations with the highest retirement rate during 2015-2020 include all veterinarians, optometrists (50%), medical technologists (30.0%), registered practical nurses (25.2%) and specialist physicians (22.2%).

Finally during **2020-2025**, 990 or 13.3 percent of healthcare workers will be retiring. The occupations with the largest retirement load include registered nurses (385) and nurse aides, orderlies and patient service associates (210). The occupations with the highest retirement rate include all denturists, opticians (44.4%), dentists (20.7%) and pharmacists (19.5%).

## **NON-TRADITIONAL HEALTHCARE OCCUPATION RETIREMENT LOAD**

Among the non-traditional healthcare occupations, 8.2 percent or 295 workers are expected to retire during **2010-2015**. An estimated 12.3 percent or 440 workers are expected to retire during **2015-2020** and 16.8 percent or 600 workers are likely to retire during **2020-2025**. In other words, as Northwestern Ontario's population ages, the retirement rate is projected to increase from 4.0 percent during 2005-10 to 16.8 percent in period 2020-25. The occupations with the largest retirement load include community and social service workers followed by social workers and family, marriage and other counsellors.

## **ESTIMATES OF RETIREMENT LOAD FOR VARIOUS IDNS IN NORTHWESTERN ONTARIO**

Table 1.4 shows the estimated number of new entrants required in selected occupational groups to compensate for those healthcare providers who are expected to retire during the 2010-2025 period.

## Estimated Retirement Load for Traditional Healthcare Occupations by IDN

<b>CITY OF THUNDER BAY IDN</b>	<b>2010-2015</b>	<b>2015-2020</b>	<b>2020-2025</b>
Nursing-Related Occupations (NOC:3152, 3233)	265	285	285
Assisting Occupations (NOC: 3413, 3414)	90	65	185
Medical Technologies (NOC: 321)	60	65	15
Therapy Assessment Professionals (NOC: 314)	35	10	25
Physicians (NOC: 3111, 3112)	25	35	10
Paramedics (NOC: 3234)	0	10	30
<b>DISTRICT OF THUNDER BAY IDN</b>			
Nursing-Related Occupations (NOC:3152, 3233)	25	45	35
Assisting Occupations (NOC: 3413, 3414)	10	10	10
Medical Technologies (NOC: 321)	10	10	10
Therapy Assessment Professionals (NOC: 314)	0	0	0
Physicians (NOC: 3111, 3112)	0	0	0
Paramedics (NOC: 3234)	0	10	15
<b>DISTRICT OF KENORA IDN</b>			
Nursing-Related Occupations (NOC:3152, 3233)	55	75	50
Assisting Occupations (NOC: 3413, 3414)	30	50	30
Medical Technologies (NOC: 321)	0	20	0
Therapy Assessment Professionals (NOC: 314)	0	0	0
Physicians (NOC: 3111, 3112)	0	10	0
Paramedics (NOC: 3234)	0	10	10
<b>DISTRICT OF RAINY RIVER IDN</b>			
Nursing-Related Occupations (NOC:3152, 3233)	15	90	50
Assisting Occupations (NOC: 3413, 3414)	15	15	25
Medical Technologies (NOC: 321)	10	10	10
Therapy Assessment Professionals (NOC: 314)	0	0	0
Physicians (NOC: 3111, 3112)	0	0	15
Paramedics (NOC: 3234)	20	0	10
<b>NORTHERN IDN</b>			
Nursing-Related Occupations (NOC:3152, 3233)	20.00	30.00	10.00
Assisting Occupations (NOC: 3413, 3414)	10.00	20.00	10.00
Medical Technologies (NOC: 321)	-	-	20.00
Therapy Assessment Professionals (NOC: 314)	-	-	-
Physicians (NOC: 3111, 3112)	-	-	-
Paramedics (NOC: 3234)	-	-	10.00

Table 1.4

## **TOTAL DEMAND FOR HEALTHCARE WORKERS: NUMBER OF REQUIRED NEW ENTRANTS INTO THE HEALTHCARE SECTOR IN NORTHWESTERN ONTARIO**

Figure 1.17 demonstrate the total number of new entrants needed to replace those who retire as well as accommodating the growing demand for healthcare services caused by demographic changes in Northwestern Ontario. This equals 4,001 in the traditional and 1,951 in the non-traditional sectors during 2010-2025 if there is zero net migration (Scenario I). The expected number of new hires increases to 4,347 in the traditional and 2,117 in the non-traditional sectors under Scenario II, a moderate population growth assumption.

## Total Number of New Entrants Required in Healthcare Under Scenarios I & II, 2010 -2025 in Five Year Increments

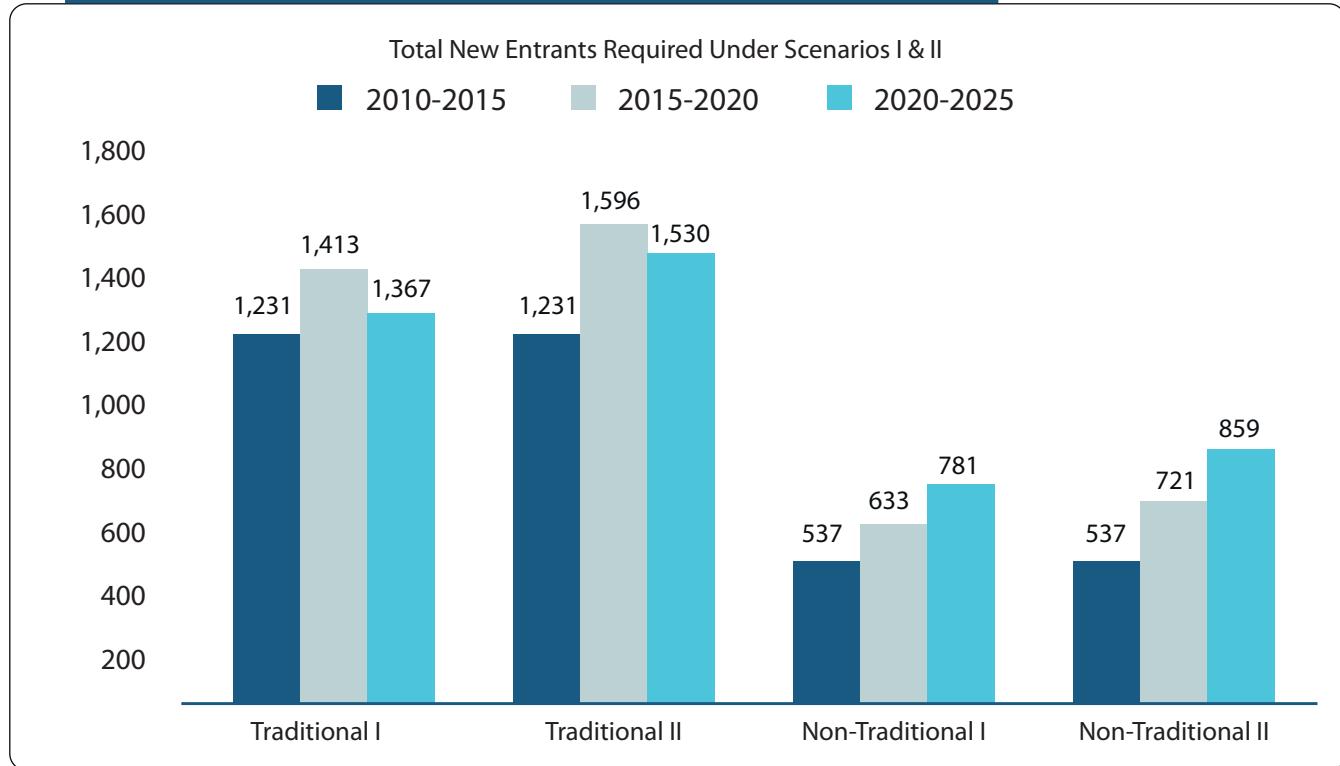


Figure 1.17

The top 10 occupations in terms of the number of new entrants required to accommodate the expected future needs are:

1. Registered nurses (1,517 to 1,634)
2. Nurse aides, orderlies and patient service associates (684 to 743)
3. Registered practical nurses (326 to 349)
4. Other assisting occupations in support of health services (167 to 189)
5. Paramedics (153 to 169)
6. Pharmacists (114 to 124)
7. Medical laboratory technologists and pathologists' assistants (115 to 123)
8. Physiotherapists (110 to 120)
9. Dentists (106 to 113)
10. Medical Radiation Technologists (101 to 109)

In addition, there is a need for approximately 88 to 96 specialist physicians as well as 63 to 71 general practitioners. The nursing occupation remains most vulnerable to shortages because of the large numbers needed. At the same time, a shortage of even a small number of healthcare providers in technical specializations can interrupt healthcare delivery in Northwestern Ontario.

The top three non-traditional healthcare occupations in terms of new entrants required are:

1. Community and social service workers (975 to 1,065)
2. Social workers (441 to 477)
3. Family, marriage and other related counsellors (283 to 304)







## BACKGROUND

The purpose of this study was to analyze and forecast specific health human resource demands within each of 5 regions, or districts, throughout Northwestern Ontario over the next 10 years. These five districts correspond with the integrated district networks identified in the North West LHIN Health Services Blueprint:

1. City of Thunder Bay
2. District of Thunder Bay (Nipigon, Geraldton, Manitouwadge, Marathon, Terrace Bay, Schreiber)
3. District of Rainy River (Atikokan, Fort Frances, Emo, Rainy River)
4. District of Kenora (Kenora, Red Lake, Dryden)
5. Northern District (Sioux Lookout and outlying First Nations communities)

A detailed description of the Districts is available in Appendix I.

Factors such as expected population growth/decline due to birthrate, age, and economic activity within a region in addition to retirement rates, employee retention, and other existing HR factors within the health sector will be considered as starting points from which to forecast workforce needs. Additionally, specific occupational needs will be determined on a district-by-district basis.

## OBJECTIVES

This project seeks to complete an environmental scan of current health human resource capacity within the health care sector and predict retirements and vacancies over the next 5-10 years. It will assess future health care sector recruitment/retention needs within each of the integrated district networks. These objectives will be met and presented within the context of health service providers receiving funding allocations through North West LHIN (i.e. Hospitals, Community Care Access Centres, Community support service organizations; Long-term care homes; Community health Centres and Community mental health and addictions agencies). The needs and service provision of Healthcare service providers located within Northwestern Ontario but outside funding allocation or responsibility of NW LHIN were considered in this study but are outside of the scope of this project.

This study may also be used to inform employment service providers with reliable projections to assist them in planning, programming, and informed service delivery. This project will also serve to inform community-based planning by health hub and integrated district network and serve to inform a variety of community stakeholders in the formulation of their strategic plans. To this end, the plan should take into account recent changes in professional scope and the ability to work to full scope of practice within an inter-professional team approach, as well as current state salaries by profession across the region.

## STUDY DELIVERABLES

The study deliverables include:

- Environmental scan of current health human resource capacity within the healthcare sector in the North West LHIN region, including current labour rates/salary bands for Health Human Resources across the LHIN;
- Predicted retirements and vacancies over the next 5-10 years;

- Assessment of future healthcare sector recruitment/retention needs within each of the Integrated District Networks; and
- Reliable projections to assist employment service providers with planning, programming and informed service delivery.

The present study not only provides the deliverables listed above, it also providing the following information:

1. Population projections for the period to 2010-2025 that coincide with the Census years to make it possible for periodic updating. All projections are made for the 2010-2015, 2015-2020 and 2020-2025 periods.
2. Detailed population forecasts covering the 2010-2015, 2015-2020 and 2020-2025 periods for the five IDNs within Northwestern Ontario.
3. Detailed population projections for Northwestern Ontario as a whole.
4. Detailed population forecasts for the 14 Local Health Hubs within Northwestern Ontario.
5. A detailed profile of healthcare users in Northwestern Ontario based on the survey of employers in the region.

## LOCATION .....

The North Superior Workforce Planning Board catchment area is made up of the entire District of Thunder Bay as well as the area west of White River, east of Ojibway Nation of Saugeen and south of Webequie. It includes Nibinamik (Summer Beaver), Neskantaga (Landsdowne House) and Ebametoong (Fort Hope).

The Northwest Training and Adjustment Board catchment area spans from Ignace in the east, the Manitoba boundary in the west, the International border to the south and north up to James Bay. The project will also include far north communities including, but not limited to Red Lake and Pickle Lake and First Nations communities farther north.

## METHODOLOGY .....

The future demand for healthcare workers is comprised of two separate components. First, there is a need to replace those workers who retire over the projection period. This constitutes the retirement-replacement, or retirement load component of the future demand for healthcare workers.

The second component considers healthcare professionals who will have to be hired during 2010-2025 to address the growing demand for healthcare services caused by demographic changes, i.e. population growth and aging of the population. This constitutes the growth component of total demand for healthcare providers.

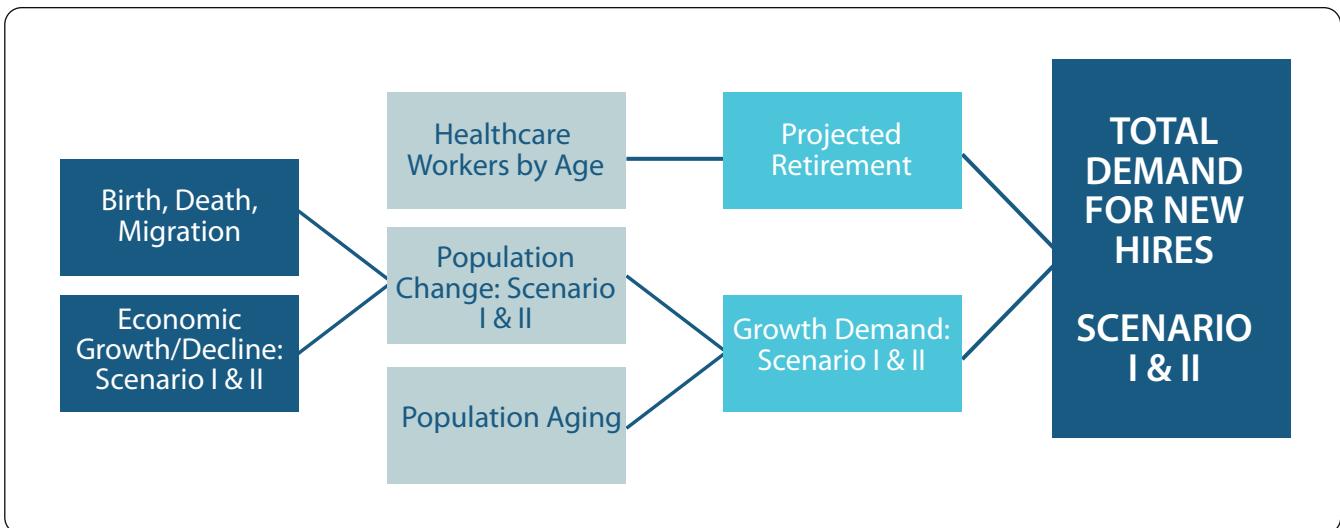
The retirement load is estimated using the most up-to-date data available from Statistics Canada as well as a survey of employers. This is augmented by the information obtained from various focus group discussions conducted during the course of preparing this report.

It is well-known that demographic factors, such as expected population growth/decline due to birth and death, age and migration, affect demand for healthcare services. Therefore, to estimate the growth component of total demand for healthcare workers, this study has made detailed population projections for all regions under study during 2010-2025. The population forecasts use regional-based information on fertility rates as well as regional economic conditions.

The demographic model used in this study is based on the regional cohort component methodology and has two major sets of components: demographic and economic as well as being capable of producing detailed population changes by sex and single year of age in various regions under study.

To estimate the growth component of total demand, this study develops and estimates healthcare demand indicators based on changing size and age distribution of the population and per capita health expenditures by age. Using the estimated healthcare demand indicators, the study estimates the growth component of demand for various occupations in all IDNs as well as in Northwestern Ontario during 2010-2015, 2015-2020 and 2020-2025.

Finally, the total demand for new entrants in various Northwestern Ontario regions equals the sum of the number of new entrants required to offset the expected retirements and those needed to address the growing demand caused by changing size and age distribution of the population in each jurisdiction.









## 2.1. INTRODUCTION

The structure of Northwestern Ontario's population is changing due to birth, mortality, immigration and emigration. These changes affect basic social and economic variables such as supply of labour, demand for health care, education, housing, and consumer goods. Demographics are affected by fundamental economic forces, but they also play a major role in shaping regional economic development prospects.

According to the 2012 North West LHIN's report, the demand for health care services in Northwestern Ontario is expected to increase in all sectors. Services associated with the elderly, such as long-term care, complex continuing care, and inpatient rehabilitation are expected to experience the highest growth rates<sup>8</sup>.

Although demographic changes are largely outside the control of local decision-makers, they have significant implications for health system decision making. In fact, demand for health care services is different across different age groups. A recent report by the Canadian Institute for Health Information reports that: "While Canadians older than age 65 account for just over 14% of the population, they consume 45% of provincial and territorial government health care dollars."<sup>9</sup>

To be able to accurately predict the future human resource health needs of the regional population over the next 10 to 15 years, it is important to correctly forecast population trends in Northwestern Ontario. This is done in this part of the study.

This part of the study has two objectives:

- To examine the population structure in various IDNs in Northwestern Ontario in 2010.
- Next, using Northwestern Ontario's population model, forecast future demographic changes in the five IDNs during 2010-2025.

<sup>8</sup> *Health Services Blueprint: "Building our Future", February 2012, PriceWaterhouseCoopers.*

<sup>9</sup> *Canadian Institute for Health Information, "National Health Expenditure Trends, 1975 to 2012", 2012.*

## 2.2. AGE DISTRIBUTION OF POPULATION

Tables 2.1 and 2.2 show the age distribution of population in the five integrated district networks in Northwestern Ontario in 2010. Tables 2.1 and 2.2 show that the age distribution of population is more or less similar in various Northwestern Ontario's regions except for the Northern region which has a much younger population due to its overwhelming share of Aboriginal people. We have to mention that there were approximately 9,035 missing population counts due to unavailability of Census data on many smaller Aboriginal communities in the Northern region. Therefore, we have added 9,035 to the overall population of the Northern region assuming that the age distribution of the missing population counts is similar to the overall distribution in that region.

Age Distribution of Population in Northwestern Ontario's Regions						
AGE CATEGORY	CITY OF THUNDER BAY IDN	DISTRICT OF THUNDER BAY IDN	DISTRICT OF RAINY RIVER IDN	DISTRICT OF KENORA IDN	NORTHERN IDN	NORTH-WESTERN ONTARIO
0-4	5,680	1,305	1,150	2,545	2,159	12,839
5-9	5,815	1,340	1,235	2,400	1,938	12,728
10-14	6,545	1,440	1,360	2,825	1,841	14,011
15-19	7,860	1,660	1,475	3,190	1,832	16,017
20-24	8,135	1,260	1,100	2,560	1,690	14,745
25-29	7,235	1,120	955	2,230	1,619	13,159
30-34	6,750	1,125	995	2,405	1,345	12,620
35-39	7,180	1,300	1,135	2,515	1,283	13,413
40-44	8,070	1,510	1,235	2,820	1,274	14,909
45-49	9,515	2,050	1,530	3,525	1,434	18,054
50-54	10,365	2,515	1,750	3,855	1,310	19,795
55-59	9,440	2,235	1,535	3,435	885	17,530
60-64	8,330	1,900	1,395	3,110	735	15,470
65-69	5,850	1,245	975	2,140	496	10,706
70-74	4,759	906	805	1,685	381	8,536
75-79	3,935	630	675	1,320	221	6,781
80-84	3,195	405	555	850	186	5,191
85-89	2,155	230	345	535	88	3,353
90+	1,035	80	185	265	53	1,618
<b>TOTAL</b>	<b>121,849</b>	<b>24,256</b>	<b>20,390</b>	<b>44,210</b>	<b>20,770</b>	<b>231,475</b>

Table 2.1

### Percentage Distribution of Population by Age in Northwestern Ontario

AGE CATEGORY	CITY OF THUNDER BAY IDN	DISTRICT OF THUNDER BAY IDN	DISTRICT OF RAINY RIVER IDN	DISTRICT OF KENORA IDN	NORTHERN IDN	NORTH-WESTERN ONTARIO
0-4	4.66	5.38	5.64	5.76	10.40	5.55
5-9	4.77	5.52	6.06	5.43	9.33	5.50
10-14	5.37	5.94	6.67	6.39	8.86	6.05
15-19	6.45	6.84	7.23	7.22	8.82	6.92
20-24	6.68	5.19	5.39	5.79	8.14	6.37
25-29	5.94	4.62	4.68	5.04	7.80	5.69
30-34	5.54	4.64	4.88	5.44	6.48	5.45
35-39	5.89	5.36	5.57	5.69	6.18	5.79
40-44	6.62	6.23	6.06	6.38	6.14	6.44
45-49	7.81	8.45	7.50	7.97	6.90	7.80
50-54	8.51	10.37	8.58	8.72	6.31	8.55
55-59	7.75	9.21	7.53	7.77	4.26	7.57
60-64	6.84	7.83	6.84	7.03	3.54	6.68
65-69	4.80	5.13	4.78	4.84	2.39	4.62
70-74	3.91	3.74	3.95	3.81	1.83	3.69
75-79	3.23	2.60	3.31	2.99	1.07	2.93
80-84	2.62	1.67	2.72	1.92	0.89	2.24
85-89	1.77	0.95	1.69	1.21	0.43	1.45
90+	0.85	0.33	0.91	0.60	0.26	0.70
<b>TOTAL</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

Table 2.2

Examination of Tables 2.1 and 2.2 shows that the baby boomers born from 1947 to 1966 represent an approximate 30.0 percent of Northwestern Ontario's population. They represent approximately 21.0 percent of the population in the Northern region. The Depression and World War II generations that preceded the baby boomers (born from 1930 to 1946) represent approximately 15.6 percent of Northwestern Ontario's population. They account for only 6.86 percent of the population in the Northern region.

The baby bust generation that came after the baby boomers (born between 1967 and 1979) represent approximately 17.0 percent of Northwestern Ontario's population. The offspring of the baby boomers or the "baby boom echo" who were born from 1980 to 1995 represent approximately 19.0 percent of Northwestern Ontario's population. Finally, the millennium busters born between 1996 and 2010 represent approximately 17.1 percent of Northwestern Ontario's population. They account for more than 28.5 percent of the population in the Northern region.

The different behaviour of these age groups will shape this region's demographics during the coming years. More specifically, the baby boom generation that represents approximately 30 percent of the regional population, will be 65 years and older over the next 10 years. The aging of this group will create significant demand for health care services in the coming years.

Various economic conditions affect different groups in different ways. For example, a recessionary environment affects the population group looking for employment for the first time. In general, a recessionary environment leads to out-migration of youth, which affects regional population structure. Similar conditions elsewhere in Canada do not lead to the same phenomenon since inter-regional migration is much easier than inter-country migration. It is likely that better economic conditions in various centers or health care hubs, relative to the rest of Northwestern Ontario, would lead to migration of people from rural communities to city centers. In fact, this process has been happening during the past 15 years.

Examination of demographic trends in Northwestern Ontario during 1966-2010 suggests that the region's population has been subject to cyclical movements reflecting its resource-based economy. Periods of boom in forestry and mining have resulted in rising population and periods of decline were reflected in declining population. Overall Northwestern Ontario's population in 2010 was identical to that in the 1965-70 period. It reached its highest level at 244,117 in 1996. The current population, ignoring the missing Aboriginal counts, represents its lowest level in the past 45 years. This is because of a serious decline in the regional forestry industry in 2008. Population trends in various IDNs are similar to that in Northwestern Ontario.

Rising commodity prices causing significant investment in exploration has resulted in a potential boom in Northern Ontario's mining sector. There is the potential of about ten mines opening in the coming years. They are:

1. Osisko
2. Bending Lake
3. Rainy River Resources
4. Gold Canyon
5. Hard Rock
6. Pickle Lake (Rockex)
7. Noront
8. Cliffs Resources
9. Stillwater
10. Treasury Gold

It is expected that these developments, as well as expansion of the existing mines, will result in an increased population of approximately 10,400 people in various Northwestern Ontario regions. This is a relatively conservative estimate taking into account the fact that many of the new employees will be migrant or mobile workers who will not relocate to this region. An approximate distribution of the expected population increase by IDN is presented in Table 2.3.

**Expected Population Growth during 2015-2025 by Region**

REGION	EXPECTED INCREASE IN POPULATION	PERCENTAGE
City of Thunder Bay IDN	4,500	43.27
District of Thunder Bay IDN	300	2.88
District of Rainy River IDN	3,600	34.62
District of Kenora IDN	1,000	9.62
Northern IDN	1,000	9.62
<b>TOTAL</b>	<b>10,400</b>	<b>100.00</b>

Table 2.3

## 2.3. POPULATION PROJECTION FOR VARIOUS IDNS IN NORTHWESTERN ONTARIO .....

Our demographic projection model provides the basis for quantitative estimates of future population trends in various Northwestern Ontario regions. This model allows us to develop age, sex, and location-specific population projections for various IDNs in Northwestern Ontario, given specific assumptions on births, deaths and migration.

Our projection model is based on the regional cohort component approach. The population projection model has two major sets of components-- demographic and economic. The model includes an economic sub-model for calculating levels of regional in-migration and out-migration. The demographics of the regional population projection model are based on a "component method" involving separate projections of the basic elements of population change. These components include:

The resident population in various IDNs

1. Fertility
2. Mortality
3. Immigration
4. Emigration

From these statistics, we estimate fundamental population relationships for each IDN under study.

## BASIC ASSUMPTIONS MADE IN THIS PART OF THE STUDY .....

### **2.3.1: THE RESIDENT POPULATION**

The resident population in the projection model refers to the base-year population, specifying the 2011 census year. The resident population is tabulated by age and sex for age groups under 100 with a single category for age 100 and above.

### **2.3.2: BIRTHS**

We have used fertility rates for District of Thunder Bay, Kenora district and Rainy River district to forecast population trends in the City of Thunder Bay IDN, District of Thunder Bay IDN, District of Kenora IDN and District of Rainy River IDN. A recent report by the Ministry of Health and Long-Term Care indicates that: "Fertility is almost exclusively the source of population growth for Aboriginal peoples in Ontario... Although minimal information is directly available on Aboriginal fertility in Canada, INAC has reported a total fertility rate (TFR), which is the number of children a woman would have under current prevailing fertility rates, of 2.9 children in 2000 for Registered Indian women. In the same year, the TFR for Canadian women was approximately half that rate at 1.5 children."<sup>10</sup> Therefore, we have used an adjusted fertility rate for Northern region taking into account the fact that approximately 82.0 percent of its population is Aboriginal.

<sup>10</sup> Ministry of Health and Long-Term Care, "First Nations Peoples in Ontario: A demographic Portrait, January 2000", p. 15.

### **2.3.3: DEATHS**

National and provincial estimates for death and survival rates are based on the Life Tables for Canada 2002. They are produced by Statistics Canada from data obtained in the 2001 census. We assume that survival rates in Northern Ontario are similar to rates elsewhere in Ontario. We also assume that these rates remain unchanged over the projection period.

### **2.3.4: POPULATION GROWTH AND MIGRATION**

The projections done in this study are based on two scenarios. Scenario I assumes that net migration flows will be nil. This represents our baseline projection scenario. The second scenario assumes that various regions will experience inflow of population according to the figures indicated in Table 2.3.

## **2.4: POPULATION PROJECTION ESTIMATES .....**

This section provides population forecasts for various IDNs in Northwestern Ontario during 2010-2025.

### **2.4.1: CITY OF THUNDER BAY IDN**

Table 2.4 and Figure 2.1 show population trends in the City of Thunder Bay IDN assuming zero net migration during the forecast period. This is our baseline projection which should be considered conservative given the potential growth in the regional mining sector over the forecast period. Population figures for 2005 and 2010 are based on Statistics Canada's Census of population. Table 2.4 shows that the total population in the City of Thunder Bay IDN will decline slightly during 2010-2025. As shown in Figure 2.1, the overall population in the City of Thunder Bay IDN is aging and the percentage of people aged 65 and over increased from 16.06 in 2005 to 17.18 percent in 2010 and is expected to increase to 24.8 percent in 2025. As we will see later in this report, the aging of population has significant impact on health care demand in the coming years.

### Population Forecast for the City of Thunder Bay IDN assuming Zero Net Migration

AGE CATEGORY	2005	2010	2015	2020	2025
0-4	5,625	5,680	5,852	5,972	5,697
5-9	6,605	5,815	5,712	5,841	5,961
10-14	7,925	6,545	5,898	5,709	5,838
15-19	8,269	7,860	6,791	5,889	5,701
20-24	8,065	8,135	7,932	6,773	5,874
25-29	6,615	7,235	7,996	7,909	6,753
30-34	6,865	6,750	7,122	7,971	7,885
35-39	8,155	7,180	6,768	7,093	7,939
40-44	9,620	8,070	7,449	6,729	7,053
45-49	10,715	9,515	8,031	7,384	6,671
50-54	9,775	10,365	9,747	7,921	7,283
55-59	8,585	9,440	9,988	9,533	7,747
60-64	6,220	8,330	8,989	9,634	9,193
65-69	5,130	5,850	7,506	8,481	9,091
70-74	4,620	4,759	5,177	6,838	7,726
75-79	4,125	3,935	4,015	4,452	5,877
80-84	3,300	3,195	3,116	3,121	3,465
85-89	1,730	2,155	2,110	2,026	2,035
90+	810	1,035	1,300	1,399	1,355
<b>TOTAL</b>	<b>122,754</b>	<b>121,849</b>	<b>121,499</b>	<b>120,676</b>	<b>119,142</b>

Table 2.4

### Percentage Distribution of Population In Thunder Bay IDN

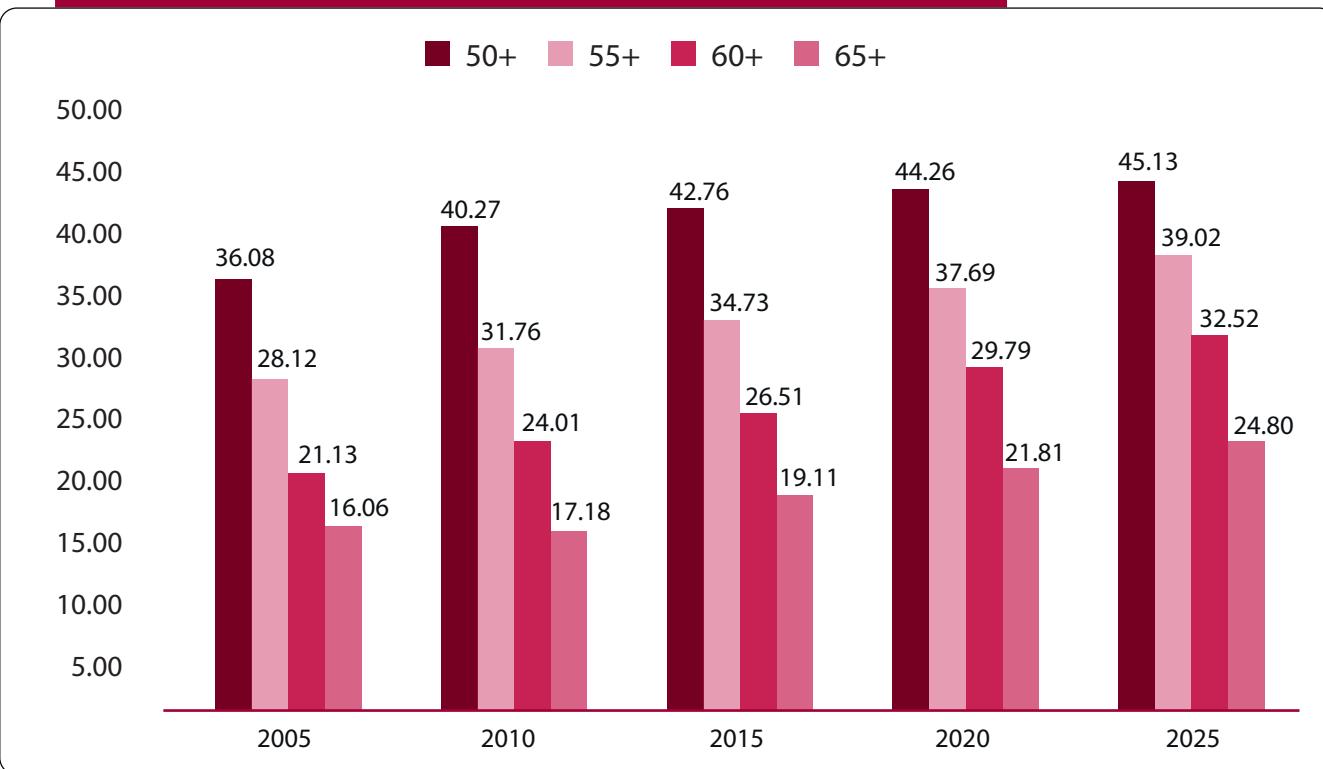


Figure 2.1

Table 2.5 shows population trends allowing for increased population by 4,500 over the forecast period. In fact, the expected population increase will only happen after 2015 and this is reflected in the population estimates reported in Table 2.5. We have assumed that the age distribution of the newcomers is the same as the existing regional distribution.

Table 2.5 shows that the potential mining developments will have a positive impact on the City of Thunder Bay IDN's population. In other words, the population of the City of Thunder Bay IDN is expected to increase from 121,849 in 2010 to 123,642 in 2025.

Population Forecast for the City of Thunder Bay IDN Under Scenario II					
AGE CATEGORY	2005	2010	2015	2020	2025
0-4	5,625	5,680	5,852	6,083	5,912
5-9	6,605	5,815	5,712	5,950	6,186
10-14	7,925	6,545	5,898	5,815	6,059
15-19	8,269	7,860	6,791	5,999	5,916
20-24	8,065	8,135	7,932	6,899	6,095
25-29	6,615	7,235	7,996	8,057	7,008
30-34	6,865	6,750	7,122	8,120	8,182
35-39	8,155	7,180	6,768	7,226	8,239
40-44	9,620	8,070	7,449	6,854	7,319
45-49	10,715	9,515	8,031	7,522	6,923
50-54	9,775	10,365	9,747	8,069	7,558
55-59	8,585	9,440	9,988	9,711	8,040
60-64	6,220	8,330	8,989	9,814	9,540
65-69	5,130	5,850	7,506	8,639	9,434
70-74	4,620	4,759	5,177	6,965	8,018
75-79	4,125	3,935	4,015	4,535	6,099
80-84	3,300	3,195	3,116	3,179	3,596
85-89	1,730	2,155	2,110	2,064	2,112
90+	810	1,035	1,300	1,425	1,406
<b>TOTAL</b>	<b>122,754</b>	<b>121,849</b>	<b>121,499</b>	<b>122,926</b>	<b>123,642</b>

Table 2.5

Overall, Tables 2.4 and 2.5 and Figure 2.1 show that the population of the City of Thunder Bay IDN is aging. According to the Canadian Institute for Health Information, the per capita cost of health care increases exponentially after age 50. Figure 2.1 shows that the percentage of population aged 50 and over in the City of Thunder Bay IDN is expected to increase from 40.3 percent in 2010 to 45.1 percent in 2025. Similarly, the percentage of those 55 years and over has increased from 28.12 percent in 2005 to 31.76 percent in 2010 and is expected to increase to 39.0 percent in 2025. Finally, one-third of the City of Thunder Bay IDN's population will be over 60 years of age in 2025.

## 2.4.2: DISTRICT OF THUNDER BAY IDN

Table 2.6 and Figure 2.2 show population trends in District of Thunder Bay IDN during 2005-2025. We can see that while the total population stays relatively unchanged, its composition changes dramatically during the forecast period. The percentage of population aged 65 and over increases from 14.41 percent in 2010 to 27.73 percent in 2025. Similarly, the percentage of population aged 55 and over increases from 31.46 percent in 2010 to 45.58 percent in 2025. In other words, close to half of the population will be over 55 years of age in 2025.

Table 2.7 shows the size distribution of population under scenario II. As discussed above, the upcoming boom in the mining sector has a small effect on the overall population of District of Thunder Bay IDN. The percentage distribution of the population stays unchanged.

Population Forecast for the District of Thunder Bay IDN under Scenario I					
AGE CATEGORY	2005	2010	2015	2020	2025
0-4	1,315	1,305	1,032	1,048	1,106
5-9	1,575	1,340	1,324	1,030	1,046
10-14	2,010	1,440	1,309	1,324	1,030
15-19	2,006	1,660	1,508	1,308	1,322
20-24	1,395	1,260	1,656	1,504	1,304
25-29	1,230	1,120	1,197	1,651	1,499
30-34	1,495	1,125	1,112	1,193	1,646
35-39	1,620	1,300	1,121	1,108	1,189
40-44	2,250	1,510	1,363	1,115	1,101
45-49	2,695	2,050	1,553	1,351	1,105
50-54	2,455	2,515	2,165	1,532	1,333
55-59	2,020	2,235	2,375	2,116	1,498
60-64	1,390	1,900	2,172	2,290	2,039
65-69	1,025	1,245	1,680	2,048	2,159
70-74	780	906	1,080	1,528	1,863
75-79	620	630	761	923	1,309
80-84	335	405	461	590	713
85-89	120	230	239	295	383
90+	70	80	128	154	181
<b>TOTAL</b>	<b>26,406</b>	<b>24,256</b>	<b>24,239</b>	<b>24,108</b>	<b>23,828</b>

Table 2.6

## Percentage Distribution of Population in the District of Thunder Bay IDN

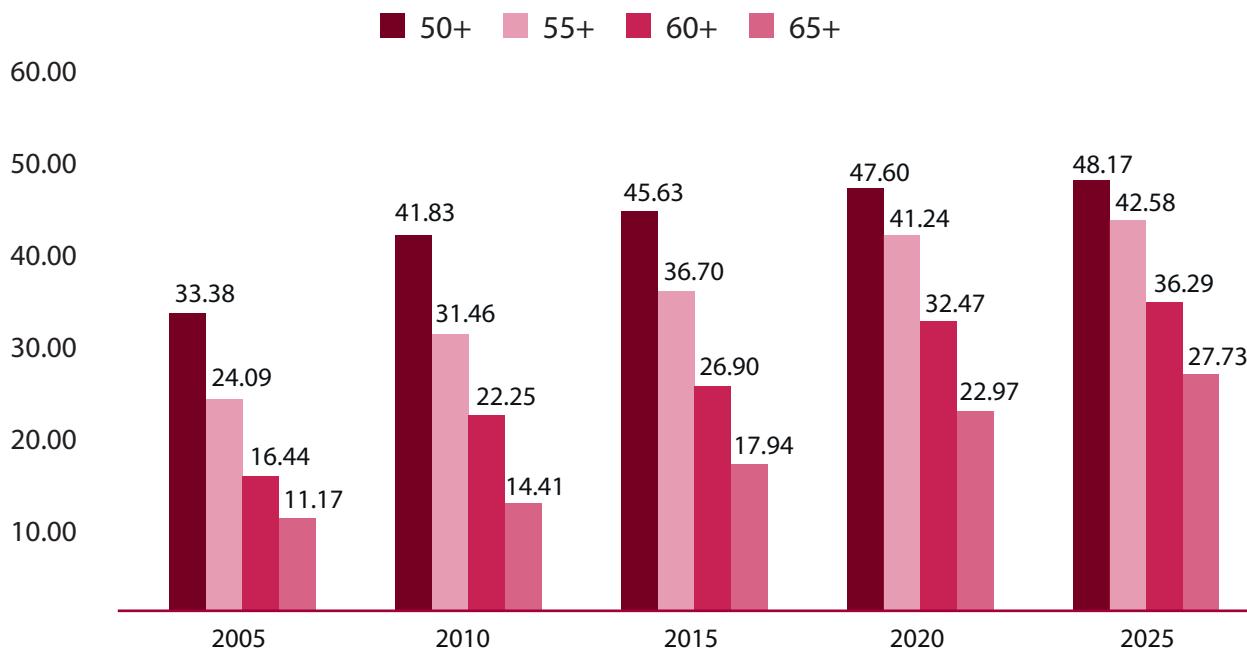


Figure 2.2

## Population Forecast for the District of Thunder Bay IDN under Scenario II

AGE CATEGORY	2005	2010	2015	2020	2025
0-4	1,315	1,305	1,032	1,055	1,120
5-9	1,575	1,340	1,324	1,037	1,060
10-14	2,010	1,440	1,309	1,332	1,043
15-19	2,006	1,660	1,508	1,316	1,338
20-24	1,395	1,260	1,656	1,513	1,320
25-29	1,230	1,120	1,197	1,662	1,518
30-34	1,495	1,125	1,112	1,201	1,667
35-39	1,620	1,300	1,121	1,115	1,204
40-44	2,250	1,510	1,363	1,122	1,115
45-49	2,695	2,050	1,553	1,360	1,119
50-54	2,455	2,515	2,165	1,541	1,350
55-59	2,020	2,235	2,375	2,129	1,517
60-64	1,390	1,900	2,172	2,304	2,065
65-69	1,025	1,245	1,680	2,061	2,187
70-74	780	906	1,080	1,537	1,887
75-79	620	630	761	929	1,326
80-84	335	405	461	593	722
85-89	120	230	239	297	388
90+	70	80	128	155	183
<b>TOTAL</b>	<b>26,406</b>	<b>24,256</b>	<b>24,239</b>	<b>24,258</b>	<b>24,128</b>

Table 2.7

### 2.4.3. DISTRICT OF RAINY RIVER IDN

Table 2.8 and Figure 2.3 show population trends in the District of Rainy River IDN during 2005-2025. Table 2.8 shows that the population of the District of Rainy River IDN stays relatively unchanged during the forecast period. However, the age composition of the population changes significantly during 2010-2025. As Figure 2.3 shows, the percentage of those aged 50 and over rises from 35.3 percent in 2005 to 43.4 percent in 2025, an increase of 23.0 percent. Similarly, approximately one-third of the population will be over 60 years of age in 2025.

As mentioned above, the District of Rainy River IDN population is expected to increase by 3,600 because of the expected boom in the mining industry in the coming years. Taking this into account, Table 2.9 shows the expected population trend in the District of Rainy River IDN under scenario II. Table 2.9 shows that the District of Rainy River IDN population is expected to increase from 20,390 in 2010 to 23,808 in 2025, a growth of 16.8 percent during 2010-2015.

Population Forecast for the District of Rainy River IDN under Scenario I					
AGE CATEGORY	2005	2010	2015	2020	2025
0-4	1,225	1,150	1,047	1,087	1,141
5-9	1,400	1,235	1,164	1,046	1,085
10-14	1,625	1,360	1,225	1,164	1,045
15-19	1,610	1,475	1,378	1,223	1,162
20-24	1,170	1,100	1,462	1,375	1,220
25-29	1,025	955	1,033	1,457	1,371
30-34	1,165	995	953	1,029	1,453
35-39	1,285	1,135	1,007	949	1,025
40-44	1,660	1,235	1,174	1,001	944
45-49	1,795	1,530	1,236	1,164	992
50-54	1,620	1,750	1,601	1,219	1,148
55-59	1,455	1,535	1,674	1,566	1,192
60-64	1,055	1,395	1,484	1,614	1,510
65-69	900	975	1,229	1,399	1,522
70-74	810	805	893	1,119	1,274
75-79	700	675	669	767	962
80-84	570	555	522	520	596
85-89	325	345	367	339	339
90+	190	185	210	235	227
<b>TOTAL</b>	<b>21,585</b>	<b>20,390</b>	<b>20,326</b>	<b>20,273</b>	<b>20,208</b>

Table 2.8

## Percentage Distribution of Population in the District of Rainy River IDN

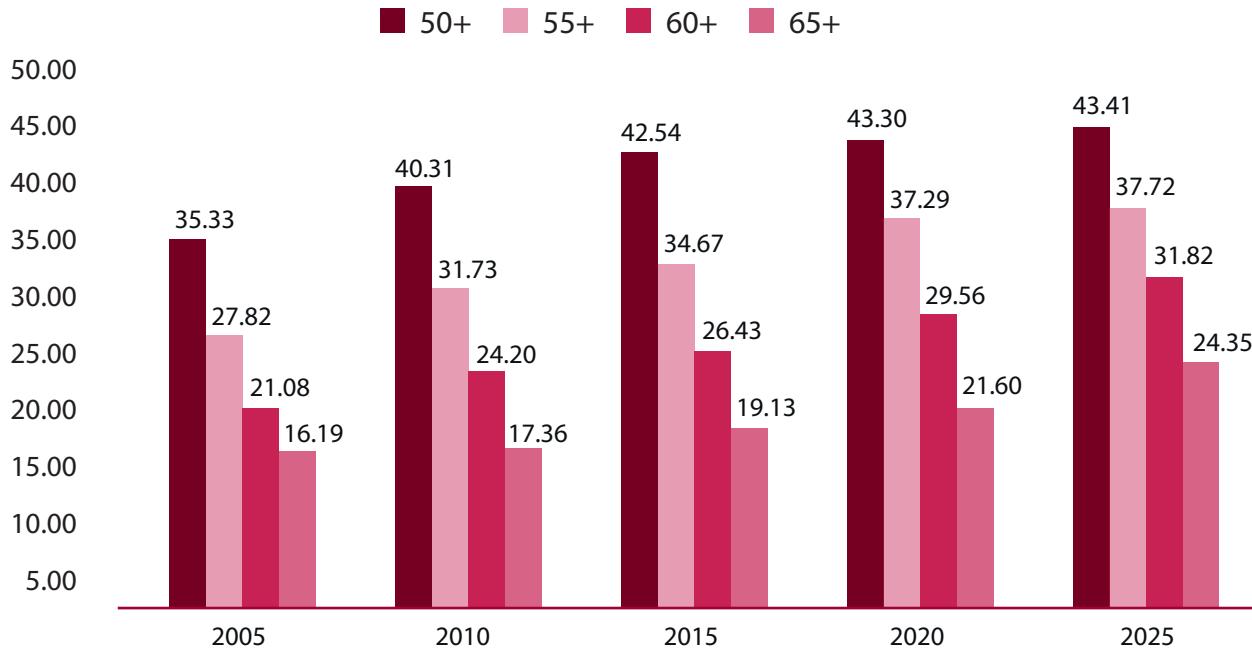


Figure 2.3

### Population Forecast for the District of Rainy River IDN under Scenario II

AGE CATEGORY	2005	2010	2015	2020	2025
0-4	1,225	1,150	1,047	1,195	1,344
5-9	1,400	1,235	1,164	1,150	1,278
10-14	1,625	1,360	1,225	1,280	1,231
15-19	1,610	1,475	1,378	1,345	1,369
20-24	1,170	1,100	1,462	1,512	1,437
25-29	1,025	955	1,033	1,603	1,615
30-34	1,165	995	953	1,132	1,712
35-39	1,285	1,135	1,007	1,043	1,208
40-44	1,660	1,235	1,174	1,101	1,112
45-49	1,795	1,530	1,236	1,280	1,169
50-54	1,620	1,750	1,601	1,341	1,353
55-59	1,455	1,535	1,674	1,722	1,405
60-64	1,055	1,395	1,484	1,775	1,779
65-69	900	975	1,229	1,539	1,794
70-74	810	805	893	1,231	1,501
75-79	700	675	669	843	1,133
80-84	570	555	522	571	702
85-89	325	345	367	373	399
90+	190	185	210	258	268
<b>TOTAL</b>	<b>21,585</b>	<b>20,390</b>	<b>20,326</b>	<b>22,293</b>	<b>23,808</b>

Table 2.9

#### 2.4.4. DISTRICT OF KENORA IDN

Table 2.10 and Figure 2.4 show population trends in the District of Kenora IDN during 2005-2025. The District of Kenora IDN's population is expected to increase during the forecast period. This is mainly due to the fact that a significant percentage of the District of Kenora IDN's population is Aboriginal who are much younger than the overall population and have relatively higher fertility rates. As Table 2.10 shows the District of Kenora IDN is expected to experience a population growth of 4.5 percent during 2010-2025. The composition of the population is also expected to change during 2010-2025. The percentage of those 65 and older increases from 15.4 percent in 2010 to 23.1 percent in 2025, an increase of 50.0 percent.

Table 2.11 shows the size distribution of population under scenario II. As discussed above, the upcoming boom in the mining sector has a positive effect on the overall population of the District of Kenora IDN. The percentage distribution of the population stays unchanged.

Population Forecast for the District of Kenora IDN under Scenario I					
AGE CATEGORY	2005	2010	2015	2020	2025
0-4	3,615	2,545	2,862	3,057	3,056
5-9	3,870	2,400	2,459	2,857	3,051
10-14	4,300	2,825	2,494	2,457	2,856
15-19	4,245	3,190	2,931	2,490	2,454
20-24	3,320	2,560	3,108	2,923	2,484
25-29	2,940	2,230	2,494	3,099	2,915
30-34	2,945	2,405	2,195	2,486	3,089
35-39	3,395	2,515	2,412	2,186	2,476
40-44	4,145	2,820	2,563	2,398	2,173
45-49	4,270	3,525	2,874	2,540	2,377
50-54	3,720	3,855	3,633	2,834	2,505
55-59	3,330	3,435	3,696	3,552	2,772
60-64	2,340	3,110	3,259	3,565	3,424
65-69	2,000	2,140	2,897	3,072	3,363
70-74	1,600	1,685	1,801	2,633	2,795
75-79	1,225	1,320	1,444	1,543	2,255
80-84	885	850	957	1,122	1,195
85-89	455	535	556	623	731
90+	235	265	331	360	398
<b>TOTAL</b>	<b>52,835</b>	<b>44,210</b>	<b>44,964</b>	<b>45,799</b>	<b>46,370</b>

Table 2.10

## Percentage Distribution of Population in the District of Kenora IDN

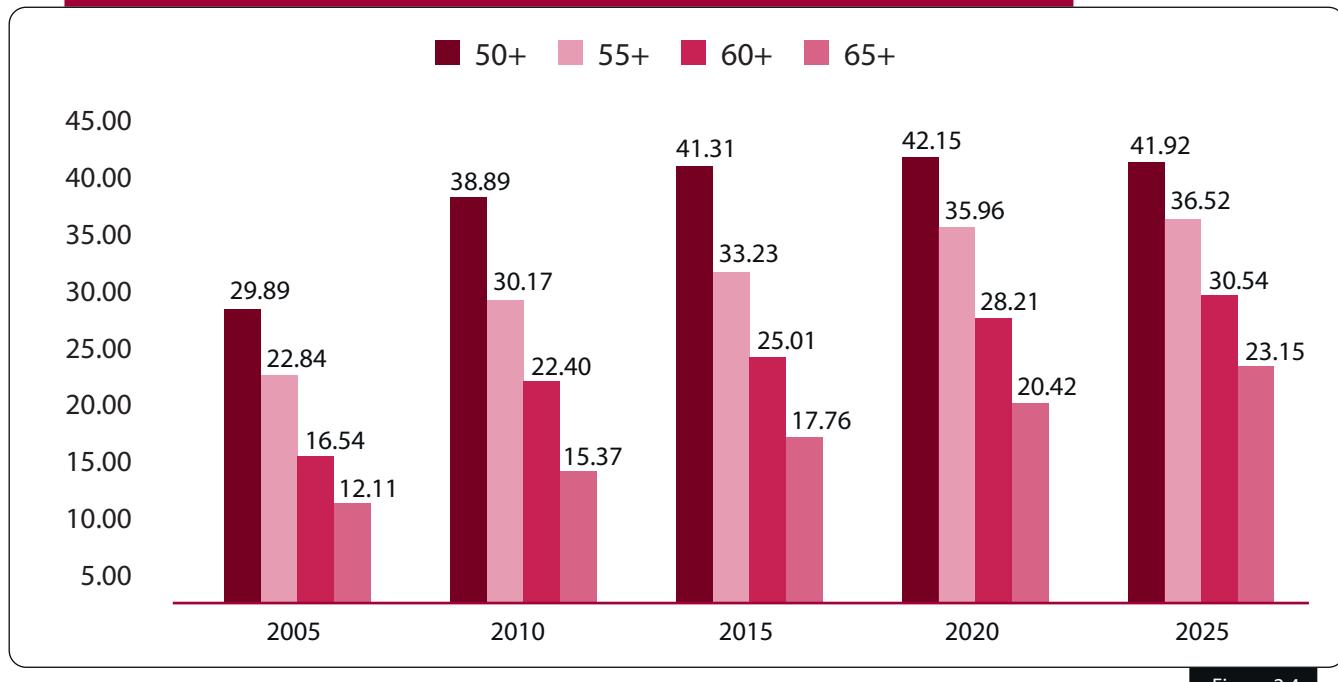


Figure 2.4

## Population Forecast for the District of Kenora IDN under Scenario II

AGE CATEGORY	2005	2010	2015	2020	2025
1-4	3,615	2,545	2,862	3,090	3,122
5-9	3870	2,400	2,459	2,888	3,117
10-14	4300	2,825	2,494	2,484	2,917
15-19	4245	3,190	2,931	2,518	2,507
20-24	3320	2,560	3,108	2,955	2,537
25-29	2940	2,230	2,494	3,133	2,978
30-34	2945	2,405	2,195	2,513	3,156
35-39	3395	2,515	2,412	2,210	2,529
40-44	4145	2,820	2,563	2,424	2,220
45-49	4270	3,525	2,874	2,568	2,429
50-54	3720	3,855	3,633	2,865	2,559
55-59	3330	3,435	3,696	3,591	2,831
60-64	2340	3,110	3,259	3,603	3,498
65-69	2000	2,140	2,897	3,106	3,435
70-74	1600	1,685	1,801	2,662	2,856
75-79	1225	1,320	1,444	1,560	2,304
80-84	885	850	957	1,134	1,220
85-89	455	535	556	630	746
90+	235	265	331	364	406
<b>TOTAL</b>	<b>52,835</b>	<b>44,210</b>	<b>44,964</b>	<b>46,299</b>	<b>47,370</b>

Table 2.11

#### 2.4.5. NORTHERN IDN

Table 2.12 and Figure 2.5 show population trends in Northern IDN during 2005-2025. During the forecast period, the Northern IDN population is expected to grow from 20,770 in 2010 to 23,551 in 2025, a growth of 13.4 percent. As mentioned above, the majority of population in the Northern region are Aboriginal. This is reflected in a relatively younger population structure in that region. As Figure 2.5 shows, only 6.1 percent of the Northern IDN population were 65 and over in 2005. This share is expected to increase to 10.9 percent in 2025.

As mentioned above, the Northern IDN population is expected to increase by about 1,000 over the forecast period. This population increase is reflected in Table 2.13. Under this scenario, the Northern IDN population increases from 20,770 in 2010 to 24,551 in 2025, an increase of 23.0 percent.

Population Forecast for the Northern IDN under Scenario I					
AGE CATEGORY	2005	2010	2015	2020	2025
0-4	2,134	2,159	2,155	2,166	2,206
5-9	1,892	1,938	2,013	2,084	2,103
10-14	1,945	1,841	1,876	1,950	2,026
15-19	1,811	1,832	1,806	1,815	1,893
20-24	1,587	1,690	1,744	1,745	1,760
25-29	1,640	1,619	1,606	1,685	1,692
30-34	1,407	1,345	1,563	1,551	1,633
35-39	1,389	1,283	1,270	1,508	1,502
40-44	1,542	1,274	1,225	1,224	1,458
45-49	1,372	1,434	1,248	1,177	1,180
50-54	1,049	1,310	1,413	1,193	1,129
55-59	816	885	1,140	1,340	1,134
60-64	610	735	786	1,065	1,257
65-69	403	496	664	720	975
70-74	332	381	431	585	639
75-79	206	221	265	360	488
80-84	197	186	187	200	273
85-89	72	88	120	117	127
90+	27	53	43	68	74
<b>TOTAL</b>	<b>20,430</b>	<b>20,770</b>	<b>21,554</b>	<b>22,552</b>	<b>23,551</b>

Table 2.12

## Percentage Distribution of Population in the Northern IDN

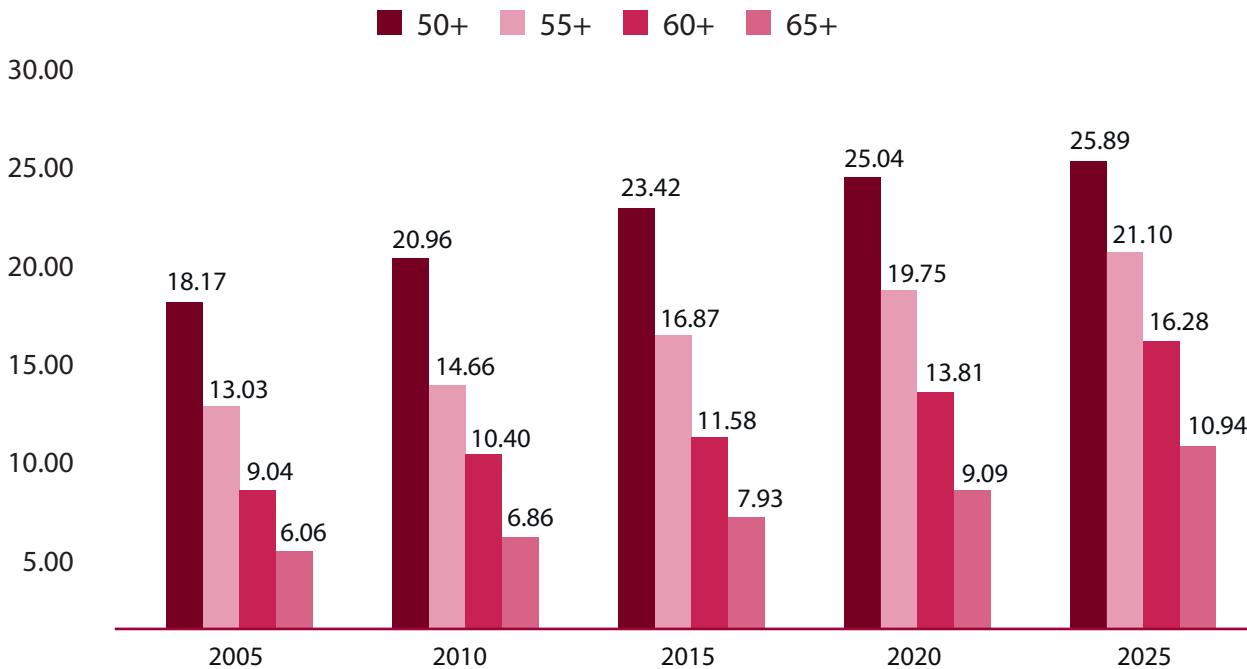


Figure 2.5

## Population Forecast for the Northern IDN under Scenario II

AGE CATEGORY	2005	2010	2015	2020	2025
0-4	2,134	2,159	2,155	2,214	2,300
5-9	1,892	1,938	2,013	2,130	2,192
10-14	1,945	1,841	1,876	1,993	2,112
15-19	1,811	1,832	1,806	1,856	1,974
20-24	1,587	1,690	1,744	1,783	1,835
25-29	1,640	1,619	1,606	1,722	1,763
30-34	1,407	1,345	1,563	1,586	1,702
35-39	1,389	1,283	1,270	1,542	1,566
40-44	1,542	1,274	1,225	1,251	1,520
45-49	1,372	1,434	1,248	1,203	1,230
50-54	1,049	1,310	1,413	1,219	1,177
55-59	816	885	1,140	1,369	1,182
60-64	610	735	786	1,088	1,311
65-69	403	496	664	736	1,016
70-74	332	381	431	598	666
75-79	206	221	265	368	509
80-84	197	186	187	205	285
85-89	72	88	120	120	133
90+	27	53	43	69	77
<b>TOTAL</b>	<b>20,430</b>	<b>20,770</b>	<b>21,554</b>	<b>23,052</b>	<b>24,551</b>

Table 2.13

## 2.4.6. POPULATION TRENDS IN NORTHWESTERN ONTARIO

Table 2.14 and Figure 2.6 show the baseline population projections for Northwestern Ontario. Table 2.14 shows that Northwestern Ontario's population is expected to increase from 231,475 in 2010 to 233,098 in 2025. The composition of the total population will also undergo significant changes. As Figure 2.6 shows, the percentage of population aged 65 and over increases from 15.6 percent in 2010 to 23.3 percent in 2025, an increase of 49.4 percent.

Table 2.15 shows Northwestern Ontario's population forecasts taking into account the anticipated boom in the regional mining industry. We can observe that the overall regional population in 2025 will be approximately equal to that in 2005. Historically, cyclical decline and the consequent job losses in one of the regional resource-based sectors have been offset by cyclical growth in employment in the other resource sectors. Table 2.14 shows that this cyclical pattern of changing employment and population appears to be continuing into the future.

Population Forecast for Northwestern Ontario under Scenario I					
AGE CATEGORY	2005	2010	2015	2020	2025
0-4	13,914	12,839	12,948	13,330	13,207
5-9	15,342	12,728	12,672	12,858	13,246
10-14	17,805	14,011	12,802	12,603	12,794
15-19	17,941	16,017	14,415	12,726	12,532
20-24	15,537	14,745	15,902	14,319	12,641
25-29	13,450	13,159	14,326	15,801	14,229
30-34	13,877	12,620	12,944	14,232	15,706
35-39	15,844	13,413	12,577	12,844	14,132
40-44	19,217	14,909	13,775	12,467	12,730
45-49	20,847	18,054	14,942	13,616	12,325
50-54	18,619	19,795	18,559	14,699	13,398
55-59	16,206	17,530	18,873	18,107	14,343
60-64	11,615	15,470	16,690	18,167	17,424
65-69	9,458	10,706	13,975	15,720	17,110
70-74	8,142	8,536	9,381	12,703	14,298
75-79	6,876	6,781	7,155	8,046	10,892
80-84	5,287	5,191	5,243	5,553	6,242
85-89	2,702	3,353	3,392	3,400	3,615
90+	1,332	1,618	2,011	2,215	2,235
<b>TOTAL</b>	<b>244,010</b>	<b>231,475</b>	<b>232,582</b>	<b>233,408</b>	<b>233,098</b>

Table 2.14

## Percentage Distribution of Population in Northwestern Ontario

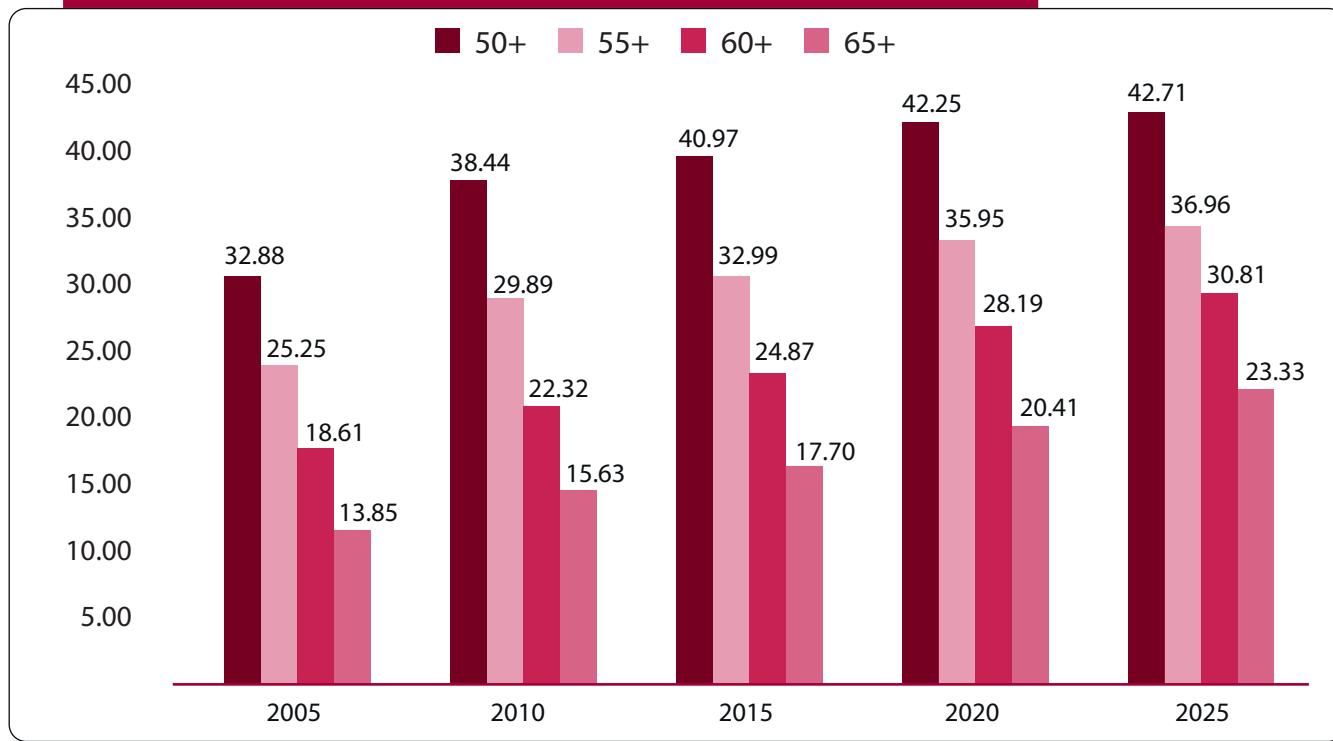


Figure 2.6

## Population Forecast for Northwestern Ontario under Scenario II

AGE CATEGORY	2005	2010	2015	2020	2025
0-4	13,914	12,839	12,948	13,652	13,826
5-9	15,342	12,728	12,672	13,170	13,856
10-14	17,805	14,011	12,802	12,920	13,386
15-19	17,941	16,017	14,415	13,046	13,132
20-24	15,537	14,745	15,902	14,669	13,246
25-29	13,450	13,159	14,326	16,179	14,891
30-34	13,877	12,620	12,944	14,559	16,422
35-39	15,844	13,413	12,577	13,145	14,757
40-44	19,217	14,909	13,775	12,753	13,302
45-49	20,847	18,054	14,942	13,931	12,868
50-54	18,619	19,795	18,559	15,031	13,990
55-59	16,206	17,530	18,873	18,514	14,964
60-64	11,615	15,470	16,690	18,569	18,173
65-69	9,458	10,706	13,975	16,062	17,835
70-74	8,142	8,536	9,381	12,978	14,894
75-79	6,876	6,781	7,155	8,227	11,343
80-84	5,287	5,191	5,243	5,675	6,511
85-89	2,702	3,353	3,392	3,479	3,768
90+	1,332	1,618	2,011	2,269	2,335
<b>TOTAL</b>	<b>244,010</b>	<b>231,475</b>	<b>232,582</b>	<b>238,827</b>	<b>243,498</b>

Table 2.15





### 3.1. INTRODUCTION

This part of the study estimates indicators that track the growth-demand component for healthcare workers in various Northwestern Ontario regions. The growth-demand component reflects the need for more workers to accommodate the rising demand for healthcare services caused by changes in the size and age distribution of the population in Northwestern Ontario. We assume that the ratio of workers to patients/residents/clients remains the same over the forecast period. It is important to note that the aging profile of the population affects demand for certain occupations differently. For example, the demand for workers employed in long-term care services is expected to rise rapidly as a result of relatively faster growth of population aged 60 years and over. The aging of the population may not affect demand for healthcare workers serving a younger population cohort.

Therefore, we estimate two sets of indicators. One based on the size and age distribution of the overall population and the other based on the size and age distribution of the population 60 years of age and older. As was discussed in part II, the overall regional population is aging. In addition, Northwestern Ontario's population is expected to experience a modest increase due to an upcoming boom in the mining sector of the regional economy. The indicators developed in this part of the study aim at the need to quantitatively measure the impact of demographic changes on demand for healthcare workers in this region.

A recent study by the Canadian Institute for Health Information provides estimates of per capita provincial health expenditures by age in Ontario for 2010. This is shown in Figure 3.1.

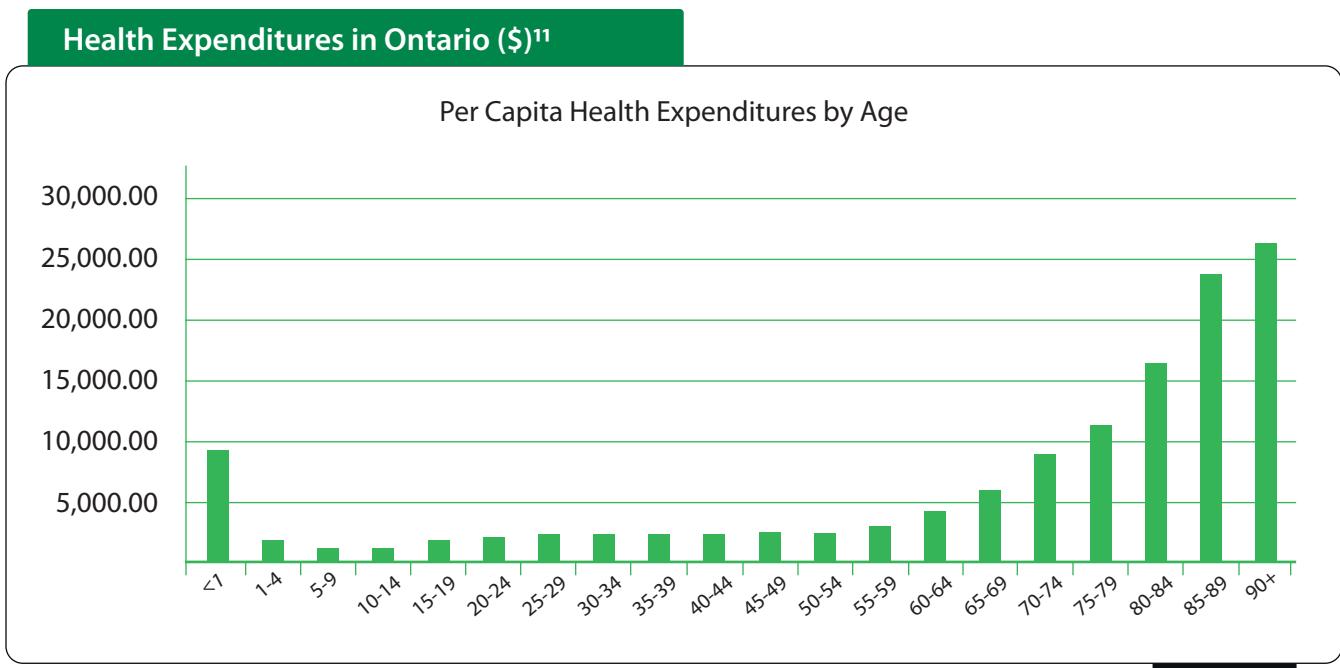


Figure 3.1

Figure 3.1 shows that per capita health expenditures increase significantly as population ages. In other words, demand for healthcare resources is positively correlated with age. Thus, per capita health expenditures by age can be used as a proxy for demand for healthcare services by different age groups. Therefore, using size and age distribution of population in various Integrated District Networks in Northwestern Ontario, we can estimate an index that tracks changes in demand for healthcare services during 2010-2025. These healthcare demand indicators measure growth in demand for healthcare services in various Northwestern Ontario regions.

<sup>11</sup> Canadian Institute for Health Information, National Health Expenditure Trends, 1975 to 2012, p. 155.

## 3.2. GROWTH-DEMAND INDICATOR FOR NORTHWESTERN ONTARIO

Using the per capita health expenditures and the detailed age distribution of population in various Northwestern Ontario regions, we estimate indicators that show the percentage growth in demand for healthcare workers in various Northwestern Ontario regions.

Figure 3.2 shows the estimated growth-demand indicator based on the overall population in Northwestern Ontario under the baseline and growth scenarios. We have used demand for healthcare workers in 2010 as the benchmark against which we measure growth. Table 3.2 shows that the overall demand for healthcare workers increased by approximately 2.0 percent from 2005 to 2010 but is expected to increase by a much larger percentage in the coming years. Under scenario I, demand is expected to increase by 4.66 percent during 2010-2015, by 10.30 percent during 2010-2020 and by 15.87 percent during 2010-2025. Under scenario II, which involves a conservative population growth of approximately 0.35 percent per year during 2010-2025, the demand for healthcare workers increases by 21.03 percent or 1.40 percent per year over the 2010-2025 period. The reason for a much faster growth of demand for healthcare workers compared to the overall population growth during 2010-25 is related to the aging of the regional population during that period. As discussed above, demand for healthcare services increases by age.

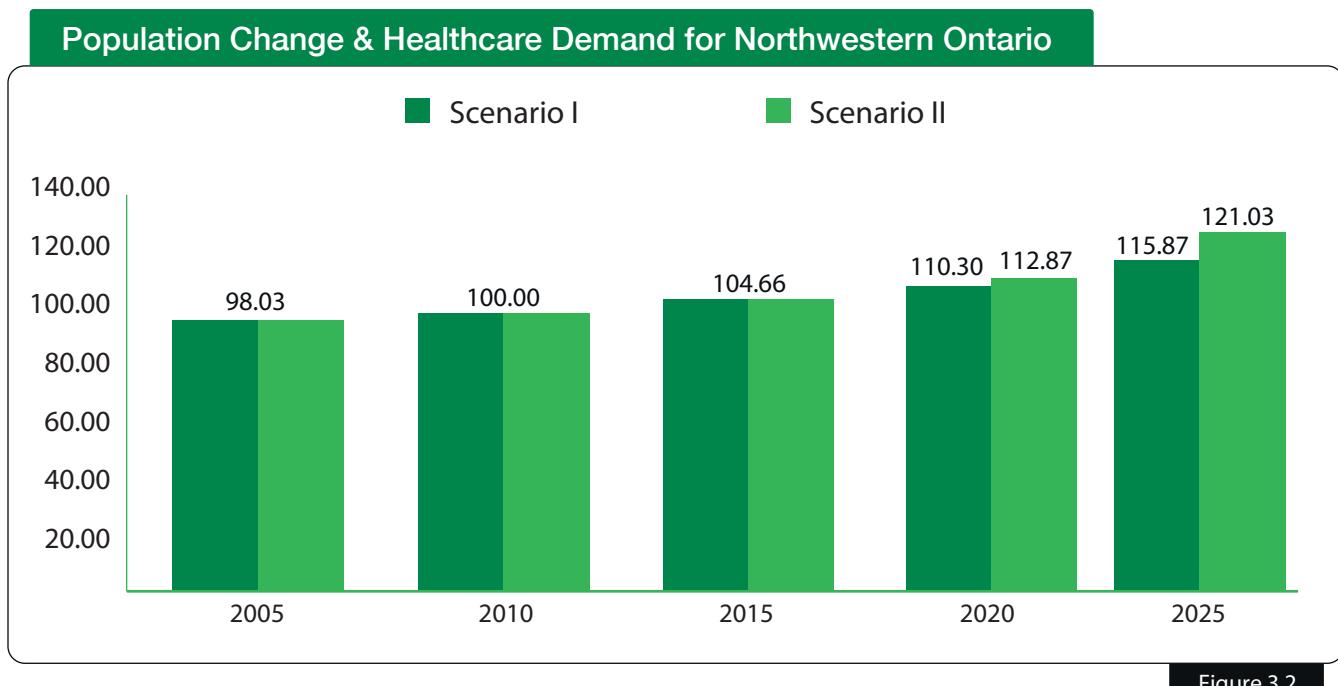


Figure 3.2

Figure 3.3 shows the growth-demand indicator for the population aged 60 years and over in Northwestern Ontario. It can be seen that this segment of demand increases much faster than the overall demand for healthcare workers in Northwestern Ontario. In general, while the overall demand for healthcare workers is expected to increase by 21.0 percent or about 1.4 percent per year during 2010-25, the demand by the older segment of the population will increase by 44.12 percent or 2.91 percent per year during the same period.

## Healthcare Demand by Population 60+ in Northwestern Ontario

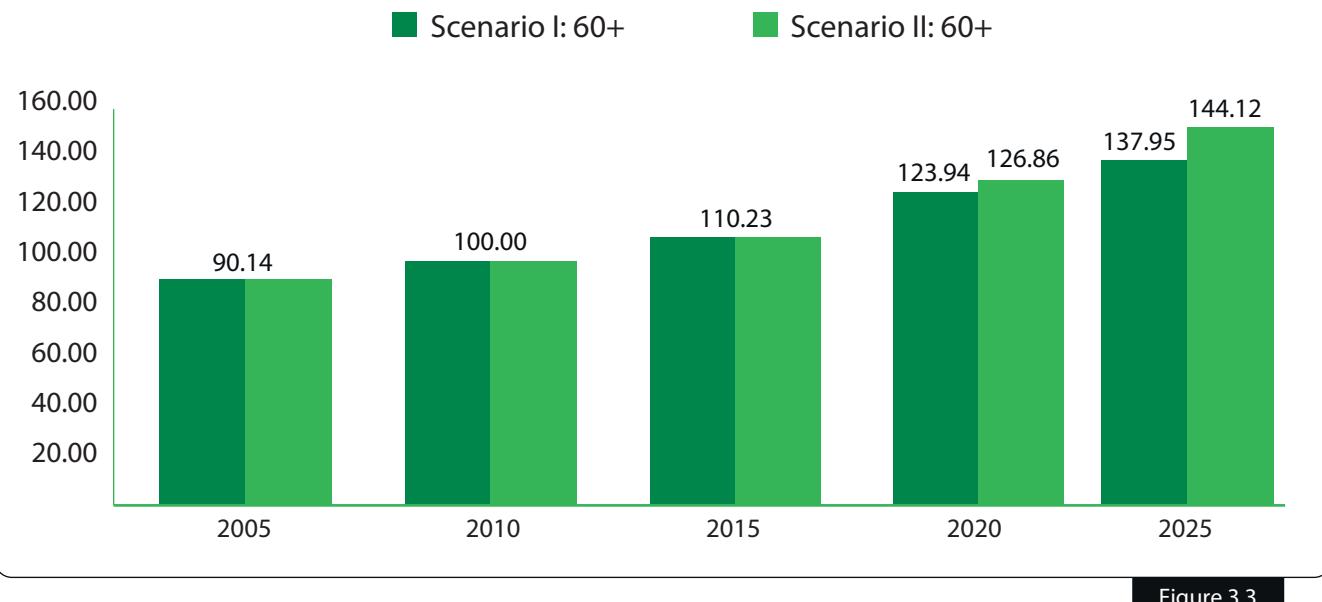


Figure 3.3

### 3.3. GROWTH-DEMAND INDICATOR FOR THE CITY OF THUNDER BAY IDN .....

Figures 3.4 and 3.5 show trends in the growth component of demand for healthcare workers in Thunder Bay CMA during 2005-2025. Focusing on the overall demand for healthcare workers, Figure 3.4 shows that demand increased by approximately 4.6 percent during 2005-2010. Under the baseline scenario, demand for workers is expected to increase by 11.12 percent during 2010-25. This represents an annual growth rate of approximately 0.74 percent. Under scenario II, Thunder Bay's population will grow at an average annual rate of approximately 0.1 percent per year during 2010-2025. During that period, demand for healthcare workers is expected to increase by an average annual rate of approximately 1.02 percent. As mentioned above, the reason for a faster growth of demand for healthcare workers compared to the overall population growth is that the overall population is aging and healthcare demand increases by age.

Figure 3.5 shows that demand for healthcare workers catering to the needs of the population aged 60 years and older increases at a much faster rate than the overall demand. More specifically, while the overall demand for healthcare workers will increase by 15.32 percent (scenario II) or 1.2 percent per year during 2010-25, demand by the population 60 years and over is expected to increase by 33.62 percent or 2.21 percent per year during the same period.

## Population Change & Healthcare Demand in Thunder Bay CMA

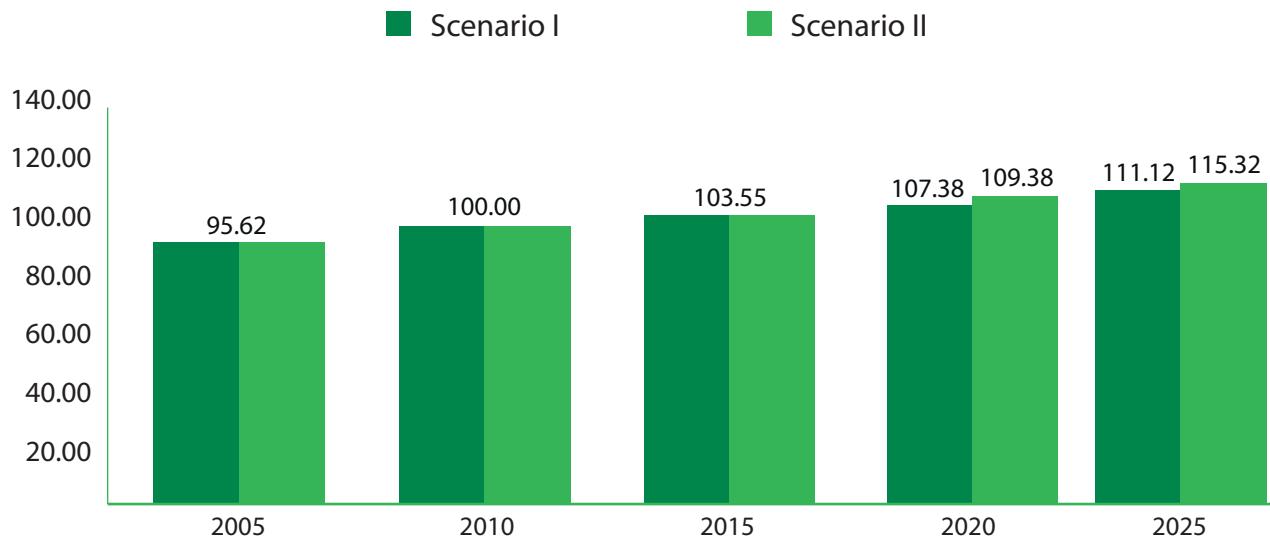


Figure 3.4

## Healthcare Demand by Population 60+ in Thunder Bay CMA

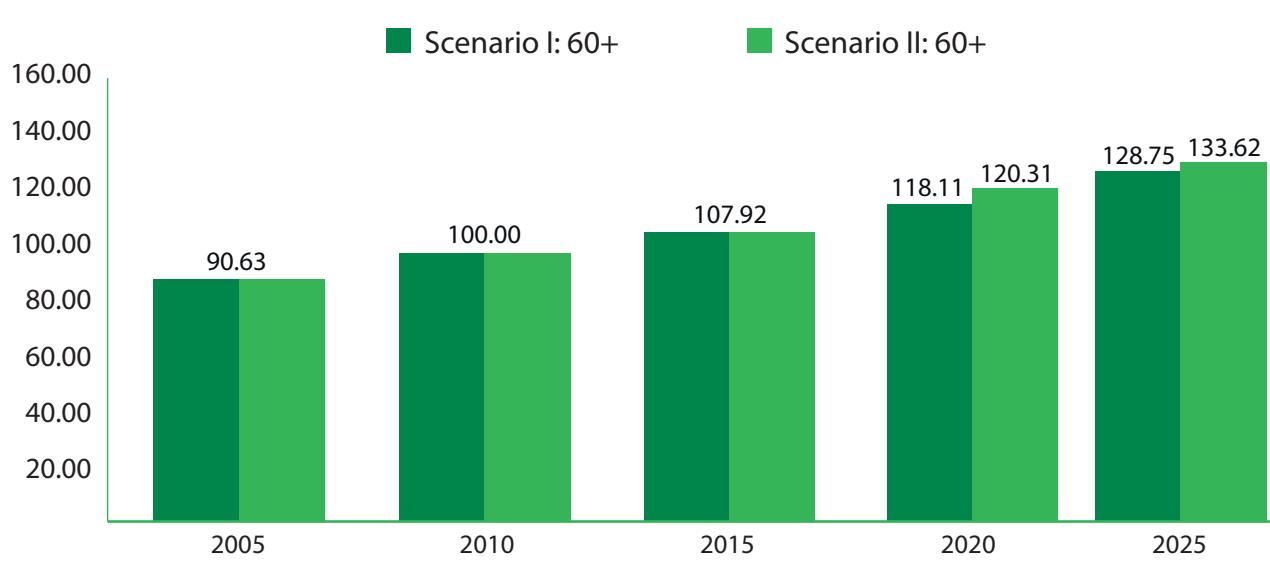


Figure 3.5

### **3.4. GROWTH-DEMAND INDICATOR FOR DISTRICT OF THUNDER BAY IDN**

Figures 3.6 and 3.7 show the growth demand indicator for healthcare workers in District of Thunder Bay IDN. Figure 3.6 shows that the overall demand will increase from 100 in 2010 to 127.99 (scenario I) or 129.60 (scenario II) in 2025. This represents an annual average growth rate of approximately 1.87 percent during 2010-25. This is much faster than the growth rate of demand in Northwestern Ontario and reflects a relatively older population in District of Thunder Bay IDN compared to the rest of Northwestern Ontario.

Focusing on the population aged 60 and older, we observe that demand for healthcare services will increase from 100 in 2010 to 174.28 (scenario I) or 176.48 (scenario II). This represents a growth rate of approximately 5.10 percent per year.

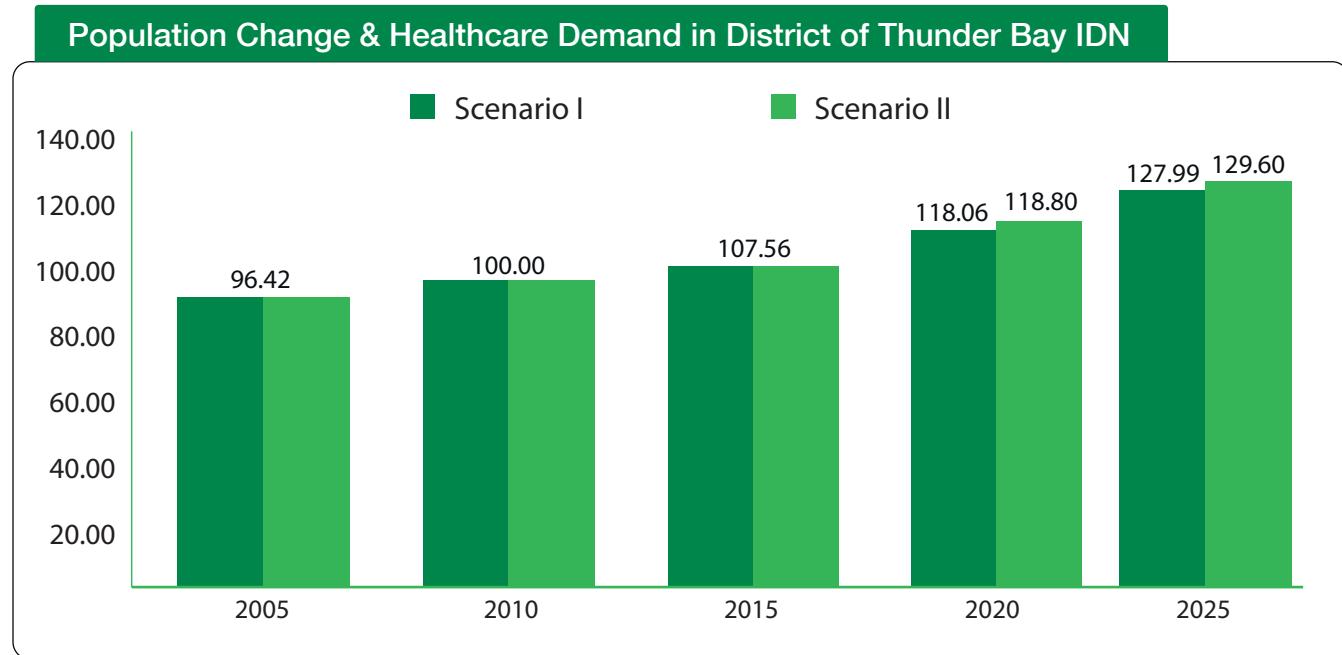


Figure 3.6

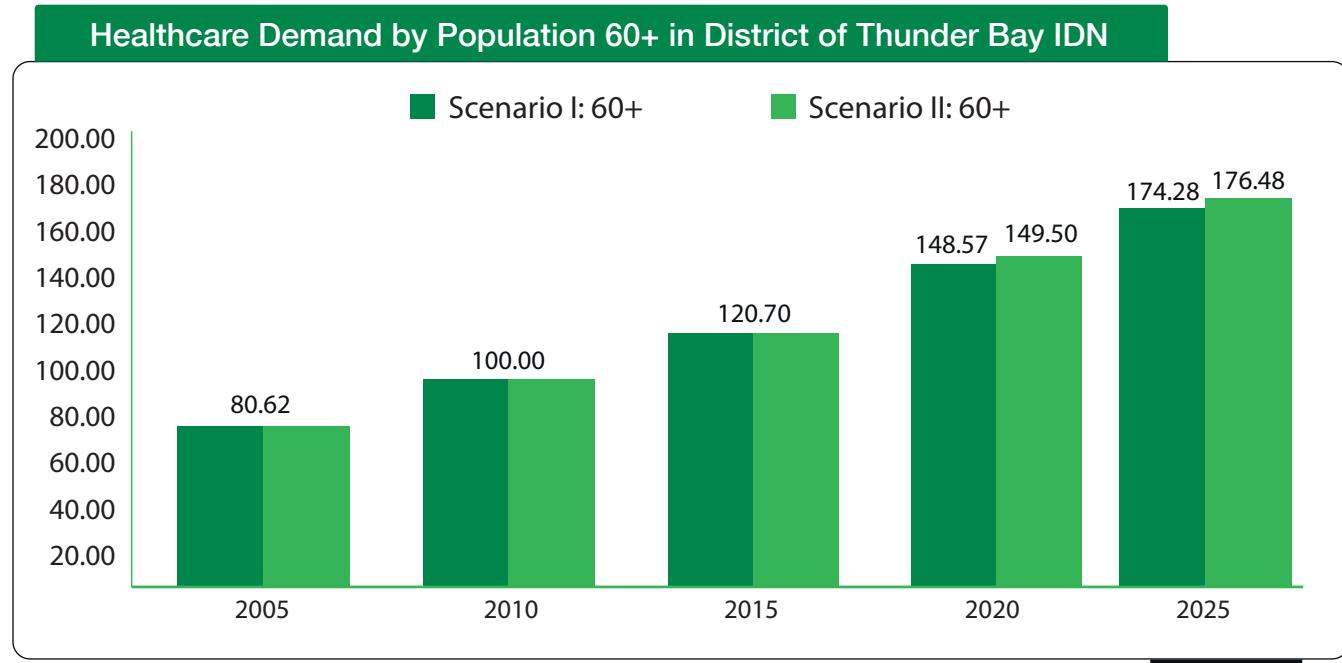


Figure 3.7

### 3.5. GROWTH-DEMAND INDICATOR FOR THE DISTRICT OF RAINY RIVER IDN

Figures 3.8 and 3.9 show the growth-demand indicators for healthcare workers in the District of Rainy River IDN. Figure 3.8 shows that the growth component of demand for healthcare workers declined from 2005 to 2010 reflecting the declining Rainy River population during that period. However, demand is expected to increase by 10.70 percent (scenario I) and 30.41 percent (scenario II) during 2010-25.

Focusing on demand by population 60 years and older, Figure 3.9 shows that demand for healthcare workers catering to the needs of the older population will increase by 26.80 percent (scenario I) and 49.39 percent (scenario II) during 2010-25.

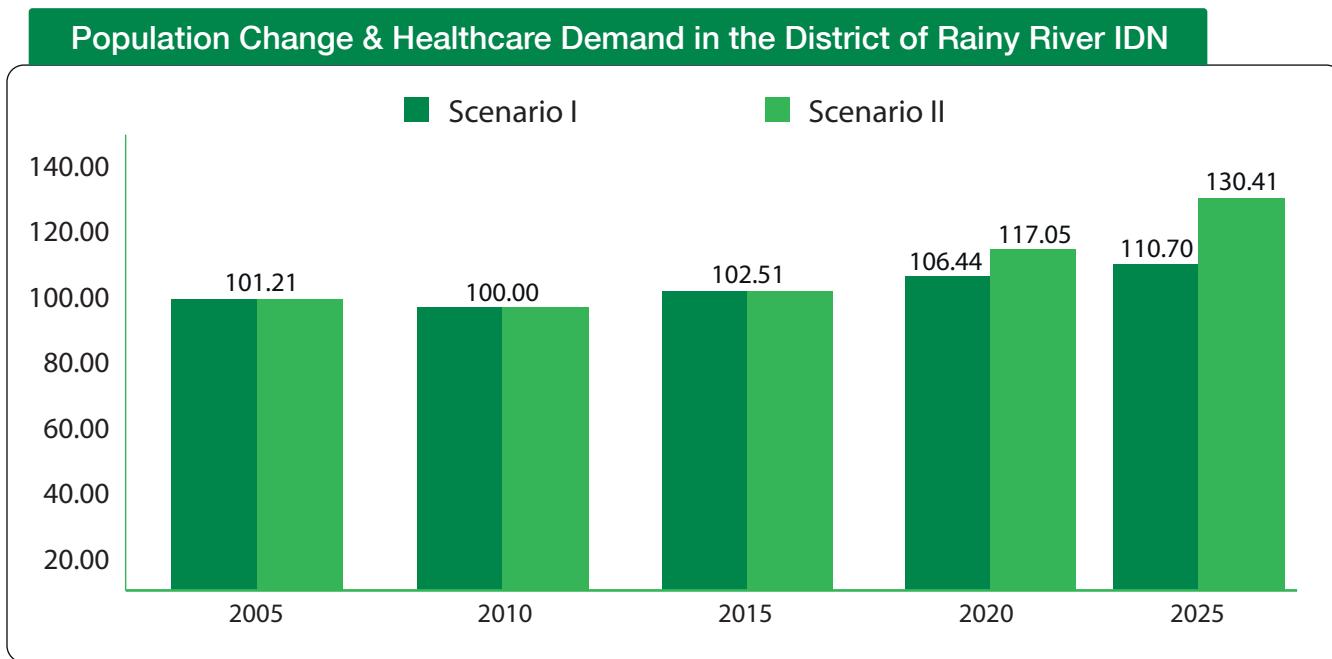


Figure 3.8

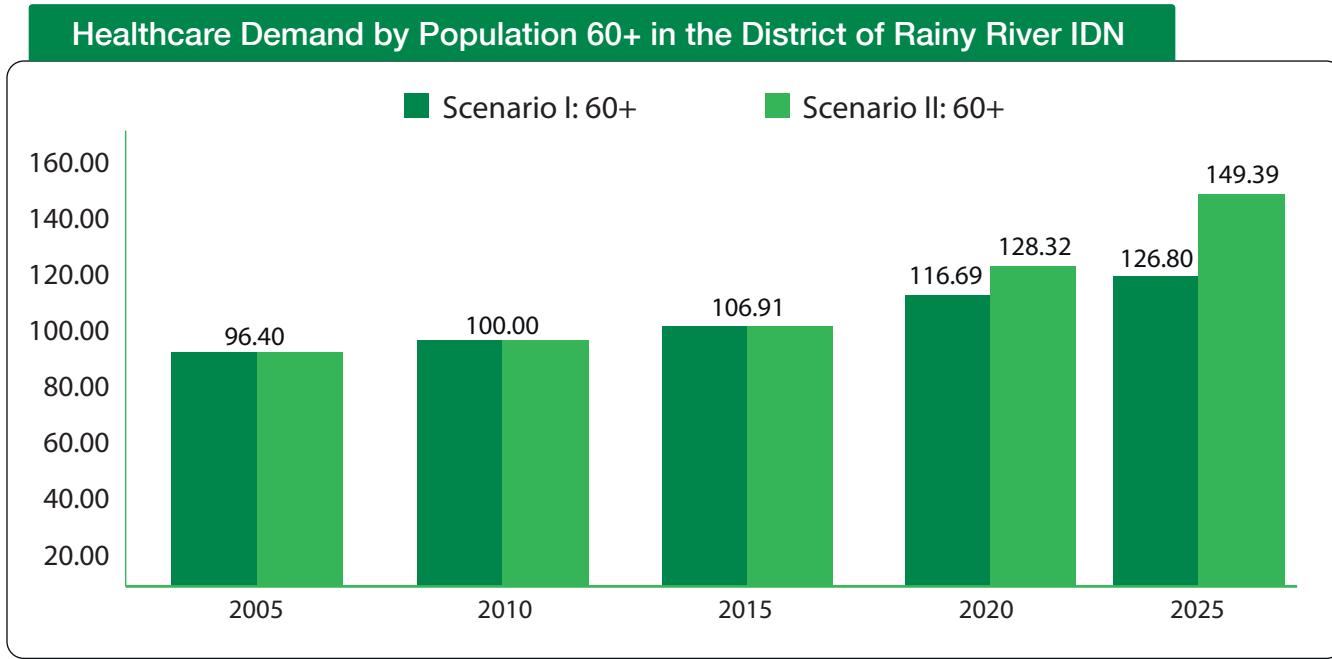


Figure 3.9

## 3.6. GROWTH-DEMAND INDICATOR FOR THE DISTRICT OF KENORA IDN

Figures 3.10 and 3.11 show growth-demand for healthcare workers in the District of Kenora IDN. Demand for healthcare workers declined by 5.29 percent during 2005-2010. This was in response to a significant loss of population during that period. However, the overall demand is expected to increase by 22.12 percent (scenario I) and 24.68 percent (scenario II) during 2010-25. Demand by the population aged 60 years and older increased by 47.93 percent (scenario I) and 51.12 percent (scenario II) during 2010-25.

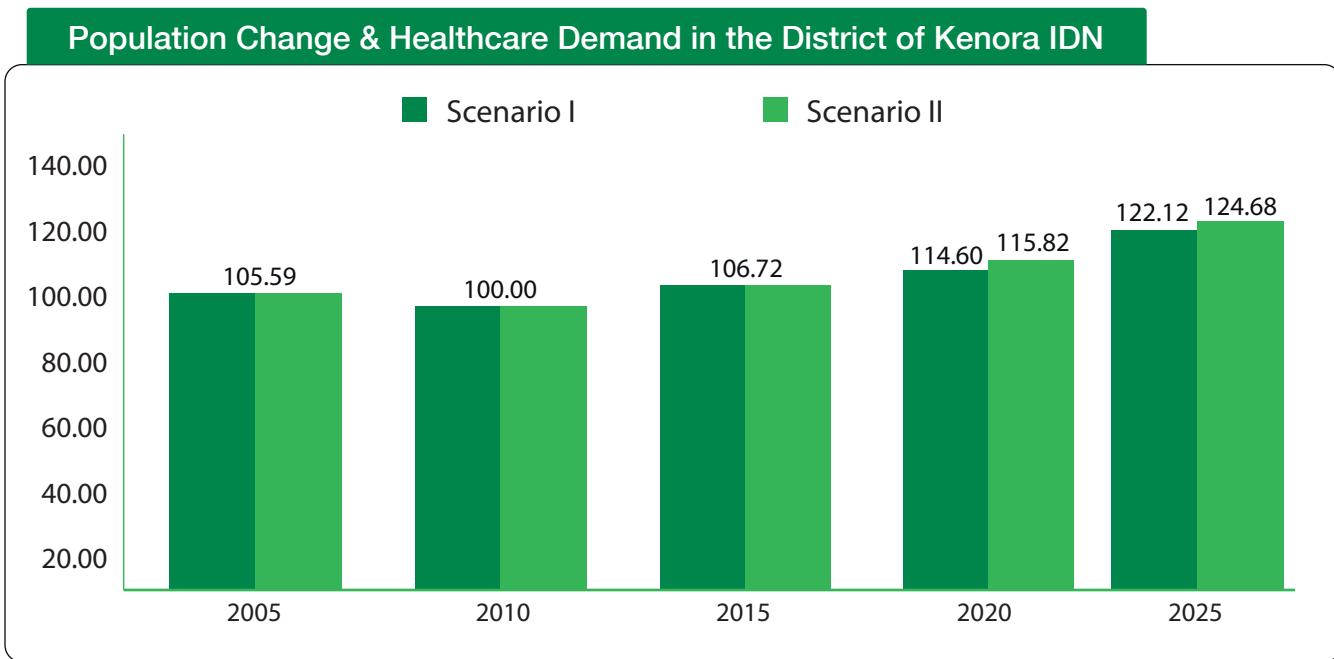


Figure 3.10

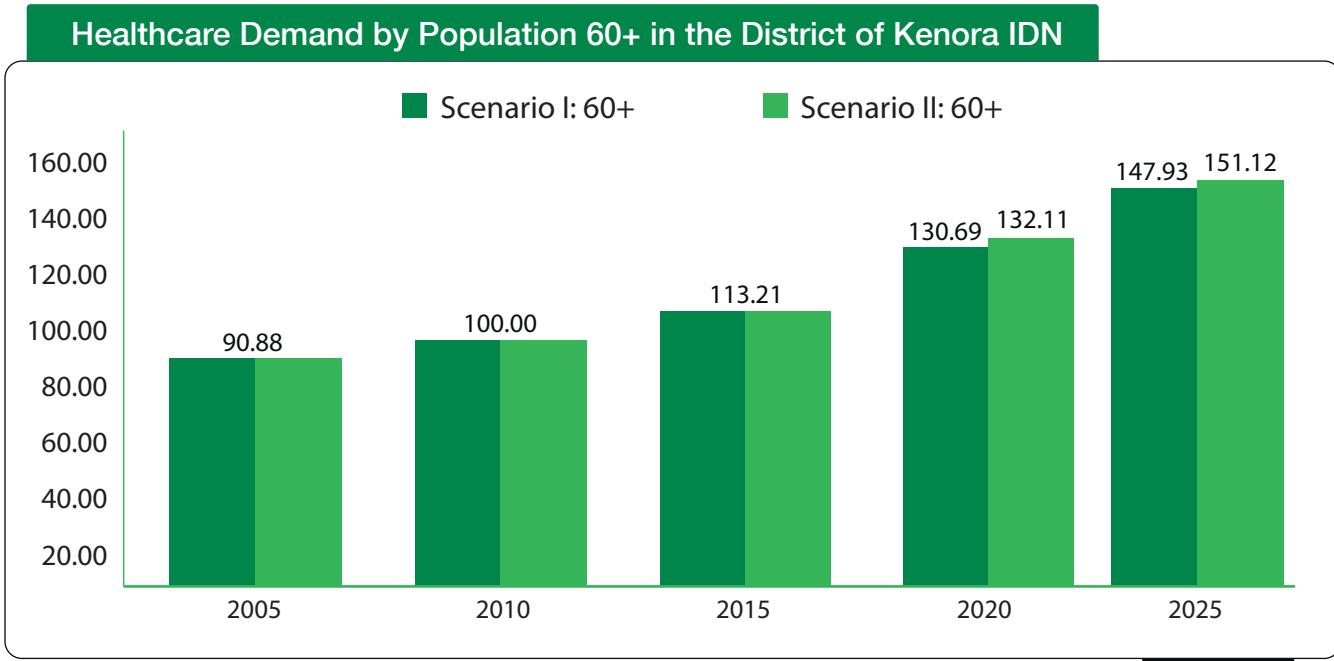


Figure 3.11

## 3.7. POPULATION-BASED DEMAND INDICATOR FOR NORTHERN IDN

Figures 3.12 and 3.13 show the growth-demand indicators for healthcare workers in the Northern IDN. Figure 3.12 shows that the growth component of demand for healthcare workers increased by 5.25 percent from 2005 to 2010. The rate of growth of demand increases rapidly after 2010. It increases by 6.82 percent during 2010-15, by 16.64 percent (scenario I) or 119.23 percent (scenario II) during 2010-20 and by 27.48 percent (scenario I) or 32.89 percent (scenario II) during 2010-2025.

Focusing on demand by population 60 years and older, Figure 3.13 shows that demand for healthcare workers catering to the needs of the older population will increase by 72.75 percent (scenario I) and 80.08 percent (scenario II) during 2010-25.

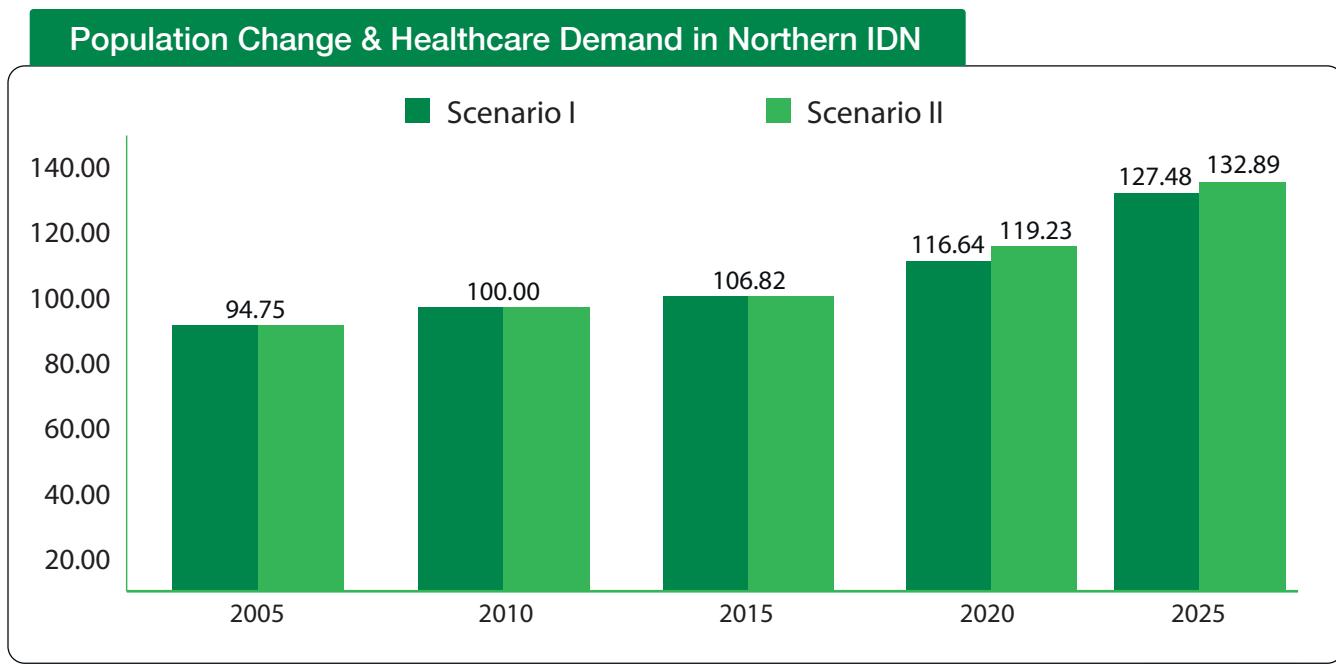


Figure 3.12

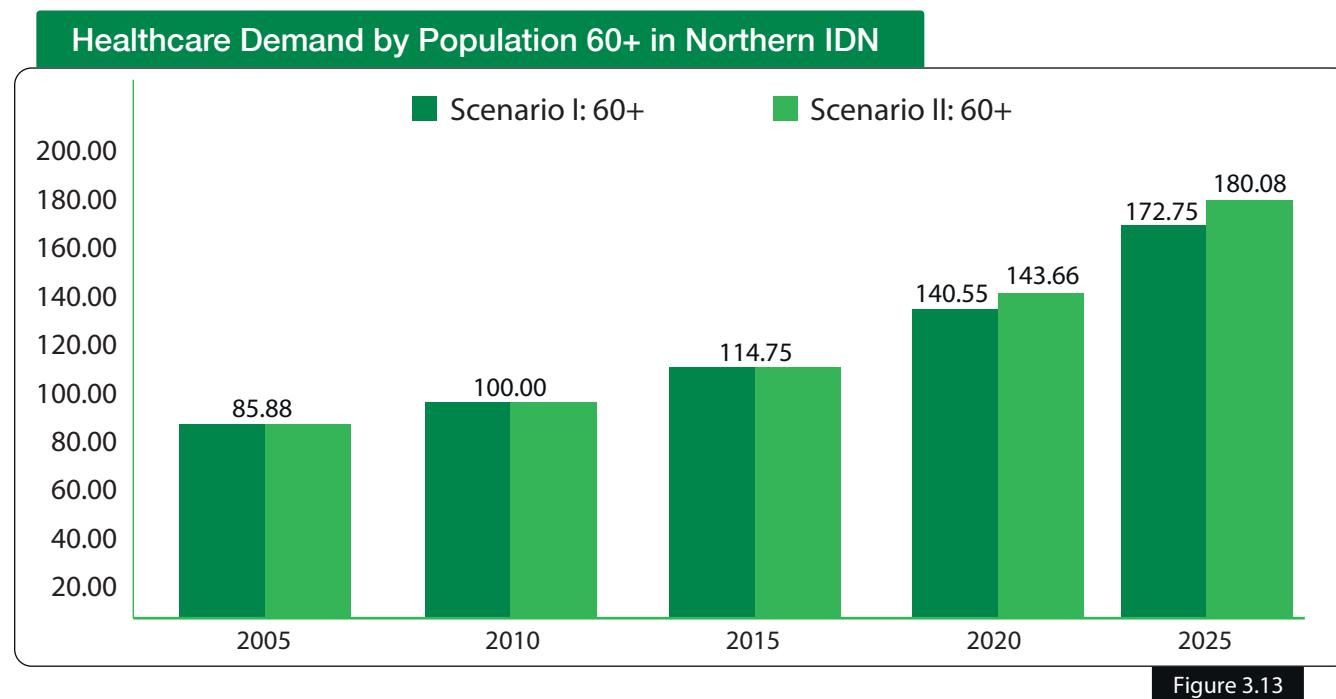


Figure 3.13





## 4.1. PROFILE OF HEALTHCARE PROVIDERS IN NORTHWESTERN ONTARIO REGIONS

This part of the study provides a detailed profile of healthcare providers in Northwestern Ontario and its sub-regions based on special tabulations obtained from Statistics Canada's 2006 Census<sup>12</sup>. Northwestern Ontario's traditional healthcare sector employs 7,470 individuals. Employment in the non-traditional healthcare sector equals 3,565. Together, the traditional and non-traditional healthcare sectors account for 10.1 percent of total employment in Northwestern Ontario. The healthcare sector is an important component of the region's economic base. Unlike forestry and mining industries, the healthcare sector is a stable, non-cyclical and growing component of the regional economic base and plays a stabilizing role in the regional economy. In addition, given the relatively high labour compensation and high value-added nature of the sector, the employment and income multipliers associated with this sector are relatively high. In other words, the employment and income impacts of a dollar spent on the regional healthcare sector are very large.

### **NATIONAL OCCUPATION CLASSIFICATION: HEALTH**

Appendices A to F present basic data on healthcare providers in Northwestern Ontario and its five Integrated District Networks (IDN). It can be seen that registered nurses (NOC: 3152) represent approximately 34.0 percent of total employment in Northwestern Ontario's healthcare sector<sup>13</sup>. Licensed practical nurses (NOC: 3233) represent 6.6 percent of the workers. Together, the nursing related occupations (NOC: 3152 and 3233) represent approximately 40.5 percent of employment in Northwestern Ontario's healthcare sector.

Assisting occupations in health care account for 23.3 percent of employment. This group includes nurse aides, orderlies and patient service associates (NOC: 3413) and other assisting occupations in support of the health services (NOC: 3414). Nurse aides, orderlies and patient service associates (NOC: 3413) assist nurses, hospital staff and physicians in the basic care of patients. They are employed in hospitals, nursing homes, assisted-care facilities for the elderly and other healthcare establishments. The other assisting occupation group (NOC: 3414) includes workers who provide services and assistance to healthcare professionals and other healthcare staff. They are employed in hospitals, medical clinics, offices of healthcare professionals, nursing homes, optical retail stores and laboratories, pharmacies and medical pathology laboratories<sup>14</sup>. Together, the nursing and assisting occupations in health care account for 63.9 percent of total employment in Northwestern Ontario's healthcare sector.

Medical technologists and technicians (NOC: 321) account for 8.51 percent of employment followed by therapy and assessment professionals (NOC: 314: 5.0%), physicians (NOC: 3111, 3112: 4.8%) and paramedics (NOC: 3234: 4.6%). Together, the above occupations account for 87.0 percent of employment in the regional healthcare sector (Figure 4.1). Women account for the majority of employment in the sector. They comprise 81.8 percent of employment in the traditional and 75.8 percent of employment in the non-traditional healthcare sectors.

<sup>12</sup>Census 2011 data was not available at the time of writing the present report. However, it is entirely possible that the 2011 census would be significantly less accurate and informative than the 2006 Census due to the changes in regulation regarding the Census long-forms in 2011.

<sup>13</sup>In what follows, all references to the healthcare sector refer to the traditional healthcare sector. References to the non-traditional healthcare sector are explicitly specified.

<sup>14</sup>Human Resources and Skills Development Canada, National Occupational Classification, 2011.

## Occupational Structure of Northwestern Ontario's Healthcare Sector

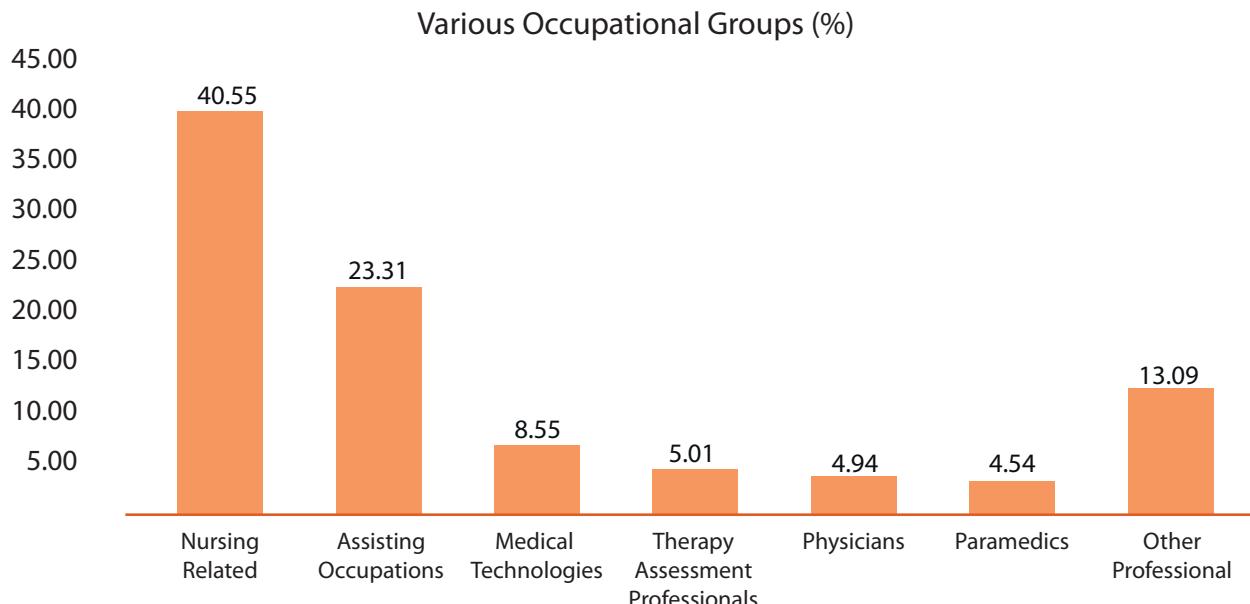


Figure 4.1

The non-traditional healthcare sector is dominated by community and social service workers (NOC: 4212) who account for 55.0 percent of total employment in that sector followed by social workers (NOC: 4152: 22.0%) and family, marriage and other counsellors (NOC: 4153: 12.6%).

The majority or 91.1 percent of healthcare workers are wage earners. The rest or 8.9 percent are self-employed. However, there is significant variation in self-employment among different occupations. For example, all denturists, 90.0 percent of dentists and 83.3 percent of chiropractors are self-employed. Approximately 69.2 percent of specialists and 57.6 percent of general practitioners and family physicians are self-employed. The non-traditional healthcare occupations are dominated by wage earners who account for more than 98.8 percent of employment in that sector.

Figure 4.2 shows that the majority or 81.7 percent of healthcare workers are of English origin. Approximately 9.2 percent are of non-English, French or Aboriginal origin followed by 6.3 percent Aboriginal and 2.8 percent Francophone. Approximately 58.2 percent of all workers in the non-traditional healthcare sector are of English origin. Aboriginal workers comprise 34.2 percent of employment followed by non-English, French or Aboriginal (5.6%) and Francophone (2.0%). According to the 2011 Census, the Francophone population comprises 3.0 percent of Northwestern Ontario's population. The Aboriginal population comprises 20.0 percent and non-English, French or Aboriginal origin individuals account for 11.6 percent of the regional population. Figure 4.2 shows that the share of Francophone workers in the regional healthcare sector is slightly below their population share. Same is true for the non-English, French or Aboriginal population. While the share of the Aboriginal population in the traditional healthcare sector is below their population share, they represent a much larger share of employment in the non-traditional healthcare sector of the regional economy.

## Ethnic Origin in Northwestern Ontario's Healthcare Sector (%)

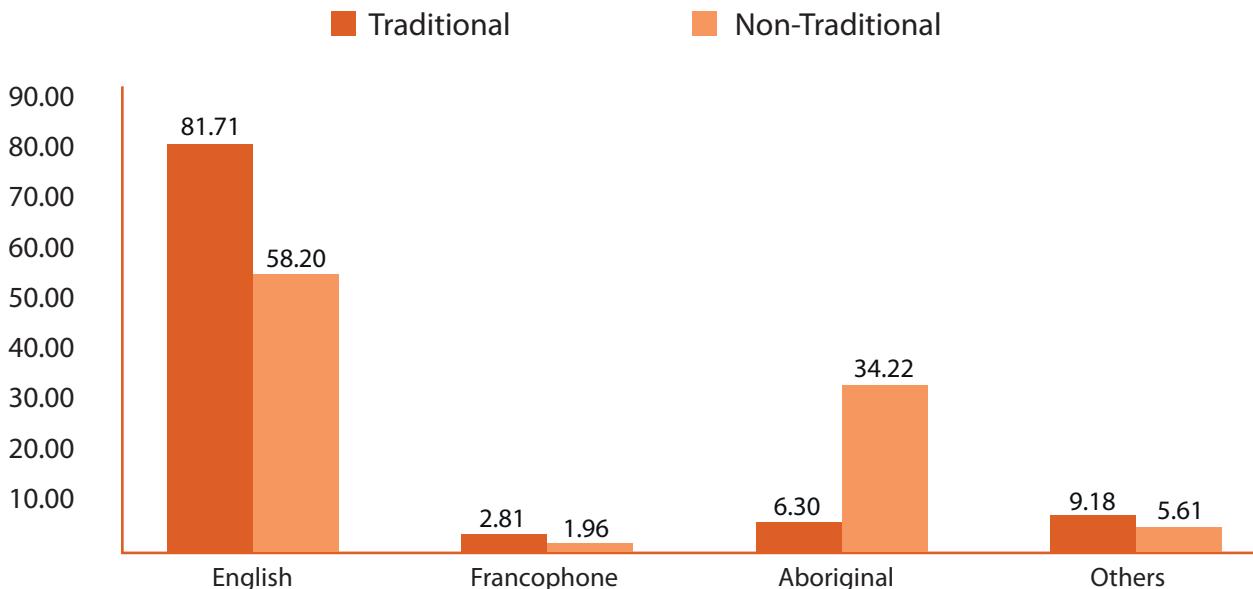


Figure 4.2

Table 4.1 shows the age distribution of healthcare providers in Northwestern Ontario. It can be seen that 57.0 percent of workers were between 15 and 44 years of age in 2005. This is the group that will not be retiring during the next 10 years. The group of workers who were between the ages of 45 and 49 comprised 13.0 percent of the workforce in 2005. This group will be approaching retirement during the next ten years. The group of workers who were 50 years of age and over in 2005 comprised 29.0 percent of the workforce in the healthcare sector. This group that will be retiring during the next ten years includes 44.0 percent of physicians followed by nursing-related workers (35%), medical technologists (28.0%), assisting occupations (22.0%), therapy assessment professionals (18.0%) and paramedics (18.0%).

## Age Distribution of Healthcare Workers in Northwestern Ontario (2005)

SELECTED OCCUPATIONAL GROUPS (NOC)	15-44	45-49	50-54	55-59	60-64	65+
Nursing Related (3152, 3233)	51%	14%	18%	12%	4%	1%
Assisting Occupations (3413, 3414)	64%	15%	9%	8%	3%	2%
Medical Technologies (321)	60%	13%	14%	12%	2%	0%
Therapy Assessment Professionals (314)	75%	6%	5%	10%	3%	0%
Physicians (3111, 3112)	51%	7%	14%	4%	12%	12%
Paramedics (3234)	66%	16%	7%	4%	3%	3%
<b>TOTAL</b>	<b>57%</b>	<b>13%</b>	<b>14%</b>	<b>10%</b>	<b>4%</b>	<b>2%</b>

Table 4.1

Table 4.2 shows the age distribution of healthcare workers in the non-traditional healthcare sector of Northwestern Ontario's economy. It can be seen that 59.0 percent of workers in the non-traditional healthcare sector were between 15 and 44 years of age in 2005. This group will not be retiring during the next 10 years. The group of workers between the ages of 45 and 49 in 2005 accounts for 17.0 percent of the sector's employment. During the next ten years, this group will be approaching retirement. The group of workers who were 50 years of age and over in 2005 comprised 25.0 percent of the non-traditional healthcare sector's workforce. They will be retiring during the next ten years.

Age Distribution of Healthcare Workers in the Non-Traditional Sector (2005)						
NON-TRADITIONAL HEALTH CARE CAREERS	15-44	45-49	50-54	55-59	60-64	65+
NOC 1243 Medical Secretaries	56%	19%	7%	11%	7%	0%
NOC 2263 Inspectors in Public and Environmental Health and Occupational Health and Safety	41%	27%	14%	9%	0%	9%
NOC 4151 Psychologists	55%	27%	18%	0%	0%	0%
NOC 4152 Social Workers	57%	19%	11%	9%	4%	0%
NOC 4153 Family, Marriage and Other Related Counsellors	48%	15%	15%	14%	4%	2%
NOC 4167 Recreation, Sports and Fitness Program Supervisors and Consultants	39%	22%	28%	11%	0%	0%
NOC 4212 Community and Social Service Workers	64%	15%	12%	6%	3%	1%
<b>TOTAL</b>	<b>59%</b>	<b>17%</b>	<b>12%</b>	<b>8%</b>	<b>3%</b>	<b>1%</b>

Table 4.2

Based on the 2006 Census, the following Table shows the average employment earnings of healthcare providers in Northwestern Ontario in 2005 dollars.

Average Employment Earnings in 2005 Dollars by Occupation Based on the 2006 National Occupational Classification System.		
NOC: 2006	TYPE OF INCOME	AVERAGE EARNINGS
D011 Specialist physicians	Average wages and salaries \$	94,270
D011 Specialist physicians	Average self-employment net income \$	213,320
D012 General practitioners and family physicians	Average wages and salaries \$	94,769
D012 General practitioners and family physicians	Average self-employment net income \$	189,344
D013 Dentists	Average wages and salaries \$	152,486
D013 Dentists	Average self-employment net income \$	231,355
D02 Optometrists, chiropractors and other health diagnosing and treating professionals	Average self-employment net income \$	64,597
D022 Chiropractors	Average self-employment net income \$	65,902
D031 Pharmacists	Average wages and salaries \$	97,630
D032 Dietitians and nutritionists	Average wages and salaries \$	49,301
D041 Audiologists and speech-language pathologists	Average wages and salaries \$	51,331
D042 Physiotherapists	Average wages and salaries \$	51,094
D042 Physiotherapists	Average self-employment net income \$	55,023
D043 Occupational therapists	Average wages and salaries \$	41,538
D111 Head nurses and supervisors	Average wages and salaries \$	53,603
D112 Registered nurses	Average wages and salaries \$	55,173
D211 Medical laboratory technologists and pathologists' assistants	Average wages and salaries \$	56,811
D212 Medical laboratory technicians	Average wages and salaries \$	35,053

D213 Veterinary and animal health technologists and technicians	Average wages and salaries \$	28,300
D214 Respiratory therapists, clinical perfusionists and cardio-pulmonary technologists	Average wages and salaries \$	52,085
D215 Medical radiation technologists	Average wages and salaries \$	53,380
D216 Medical sonographers	Average wages and salaries \$	82,454
D216 Medical sonographers	Average self-employment net income \$	53,524
D219 Other medical technologists and technicians (except dental health)	Average wages and salaries \$	56,658
D22 Technical occupations in dental health care	Average wages and salaries \$	41,322
D222 Dental hygienists and dental therapists	Average wages and salaries \$	43,703
D23 Other technical occupations in health care (except dental)	Average wages and salaries \$	44,235
D231 Opticians	Average wages and salaries \$	44,498
D233 Licensed practical nurses	Average wages and salaries \$	37,151
D234 Ambulance attendants and other paramedical occupations	Average wages and salaries \$	59,012
D235 Other technical occupations in therapy and assessment	Average wages and salaries \$	15,396
D235 Other technical occupations in therapy and assessment	Average self-employment net income \$	20,589
D311 Dental assistants	Average wages and salaries \$	25,765
D312 Nurse aides, orderlies and patient service associates	Average wages and salaries \$	26,658
D313 Other assisting occupations in support of health services	Average wages and salaries \$	26,406
E021 Psychologists	Average wages and salaries \$	56,497
E022 Social workers	Average wages and salaries \$	43,565
E023 Family, marriage and other related counselors	Average wages and salaries \$	37,652
E212 Community and social service workers	Average wages and salaries \$	30,849
F154 Program leaders and instructors in recreation, sport and fitness	Average wages and salaries \$	9,304

Source: Statistics Canada, 2006 Census, Special Tabulation.

## 4.2. PROFILE OF HEALTHCARE PROVIDERS IN THUNDER BAY CMA .....

The healthcare sector employs approximately 4,655 people in the Thunder Bay Census Metropolitan Area (CMA). The non-traditional sector employs approximately 1,605 people. Together, the traditional and non-traditional healthcare sectors account for 10.6 percent of total employment in the Thunder Bay CMA. Given that the sector is provincially financed and has a significant value-added component, it plays a stabilizing role in the regional economy. Employment in the sector is dominated by women who account for 81.0 percent of employment in traditional and non-traditional healthcare sectors.

Registered nurses represent 34.3 percent of total employment. Licensed practical nurses account for 7.5 percent of the employed workers. Together, the nursing related occupations represent 41.8 percent of all

employment in the healthcare sector. Assisting occupations in health care account for 23.7 percent of employment. The nursing and assisting occupations in health care account for 65.5 percent of total employment in Thunder Bay's healthcare sector. Medical technologists and technicians account for 9.0 percent of employment followed by therapy and assessment professionals (5.0%), physicians (4.7%) and paramedics (2.6%). The above occupations account for 86.8 percent of total employment in Thunder Bay's healthcare sector (Figure 4.3).

The non-traditional sector is dominated by community and social service workers who account for 51.7 percent of total employment followed by social workers (25.5%) and family, marriage and other counsellors (9.03%). Together, the above three occupational groups comprise 86.2 percent of workers in the non-traditional healthcare sector.

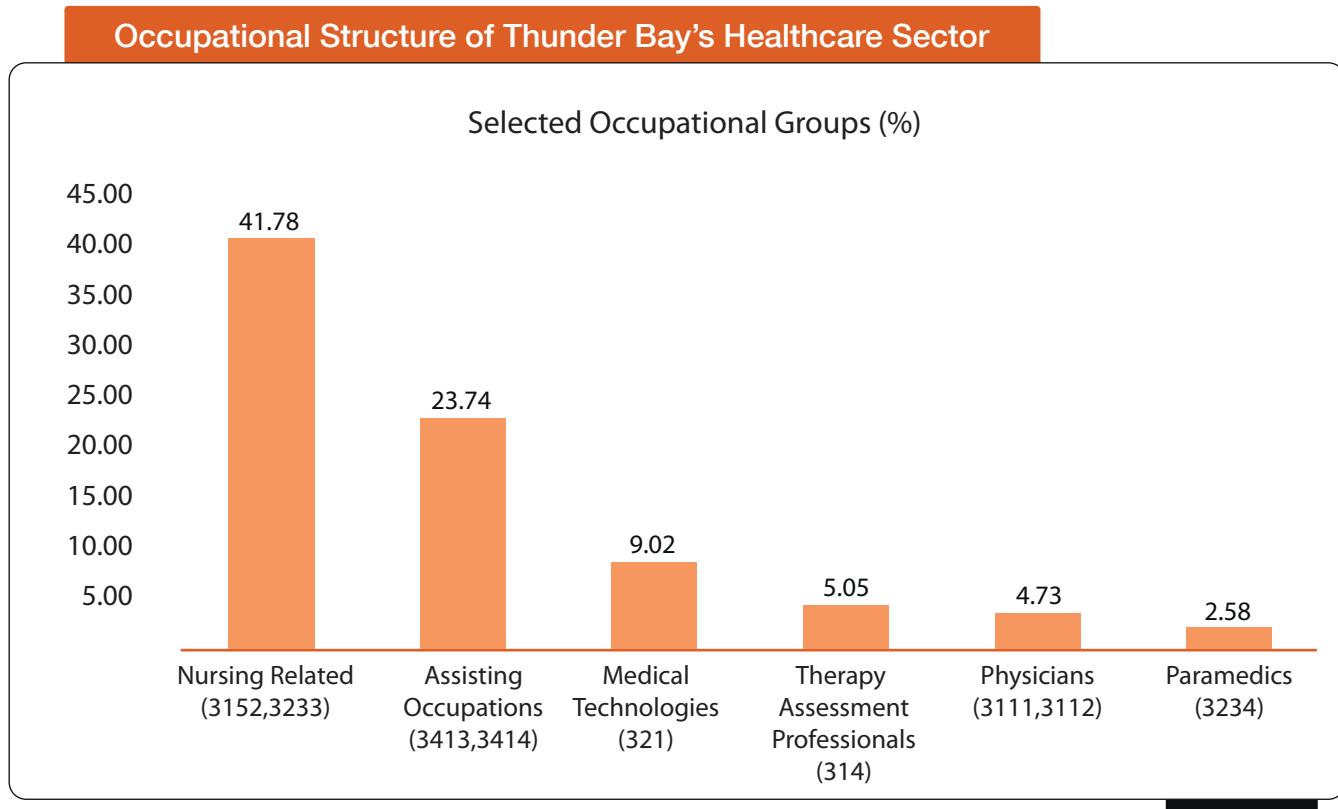


Figure 4.3

The majority or 91.3 percent of healthcare providers are wage earners. The rest or 8.7 percent are self-employed. However, there is a significant variation in self-employment among different occupations. For example, all midwives and chiropractors are self-employed, 94.4 percent of dentists and 5.7 percent of those who work in other technical occupations in therapy and assessment are self-employed. In addition, 65.4 percent of specialists and 44.4 percent of general practitioners and family physicians are self-employed. The non-traditional healthcare occupations are dominated by wage earners who account for 99.4 percent of employment in that sector.

Figure 4.4 shows employment by ethnic origin in Thunder Bay CMA's healthcare sector. As shown in Figure 4.4, the majority or 81.2 percent of healthcare providers in the traditional sector are of English origin. Approximately 11.2 percent are of non-English, French or Aboriginal origin followed by 4.6 percent Aboriginal and 3.0 percent Francophone. Approximately 72.6 percent of workers in the non-traditional sector are of English origin. Aboriginal workers comprise 16.8 percent followed by non-English, French or Aboriginal (8.7%) and

Francophone workers (1.9%). According to the 2011 Census, the Francophone population comprises 3.6 percent of Thunder Bay's population. The Aboriginal population accounts for 10.4 percent and non-English, French or Aboriginal origin individuals account for 10.6 percent of the regional population. Figure 4.4 shows that the share of the Francophone workers in healthcare employment is below their population share. Same is true for the non-English, French or Aboriginal population. The share of the Aboriginal population in the traditional healthcare sector is below their population share while they represent a much larger share of employment in the non-traditional healthcare sector compared to their regional population share.

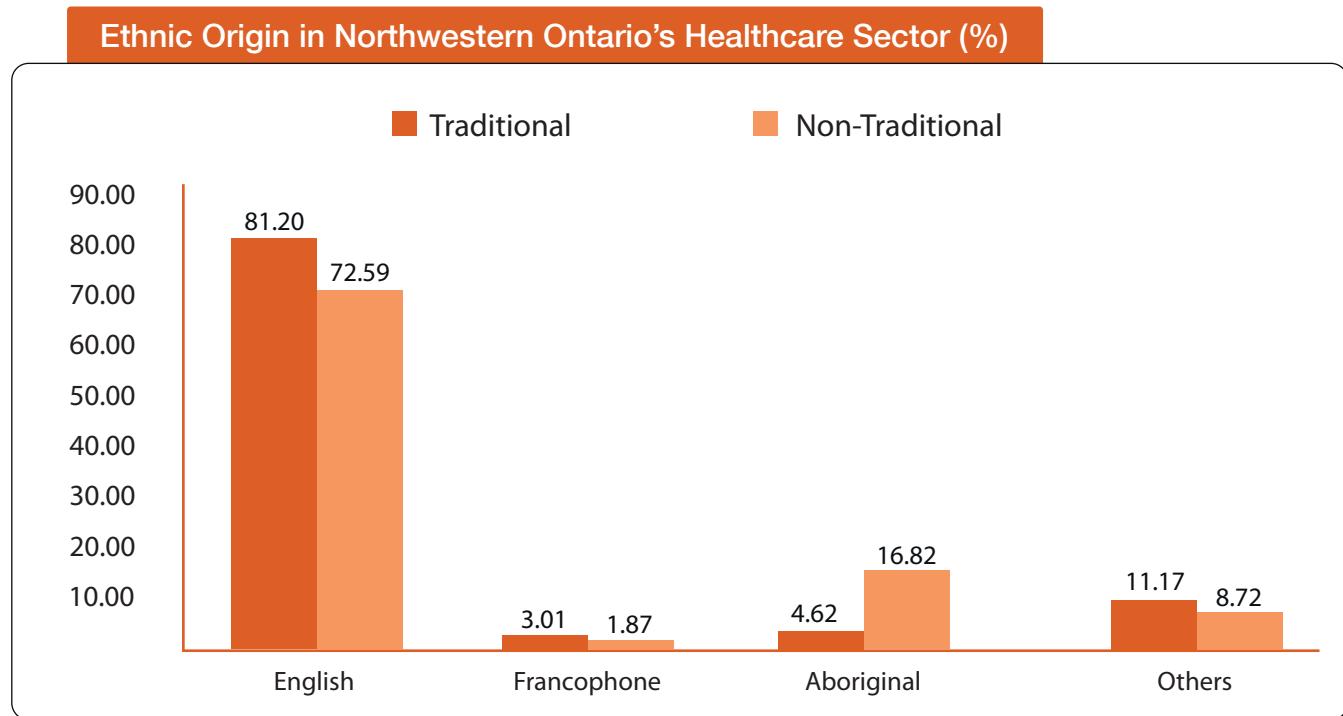


Figure 4.4

Table 4.3 shows the age distribution of healthcare providers in Thunder Bay CMA. It shows that 57.0 percent of healthcare workers were between 15 and 44 years of age in 2005. This is the group that will not be retiring during the next 10 years. The group of workers who were between the ages of 45 and 49 in 2005 account for 14.0 percent of the workforce. This group will be approaching retirement during the next ten years. The group of healthcare workers who were 50 years of age and over in 2005 comprised 29.0 percent of all employed workers in the healthcare sector. This is the group that will be retiring during the next ten years. They include 51.0 percent of physicians followed by nursing-related workers (34%), medical technologists (34.0%), assisting occupations (18.0%), therapy assessment professionals (19.0%) and paramedics (9.0%).

Age Distribution of Healthcare Workers in Northwestern Ontario (2005)						
SELECTED OCCUPATIONAL GROUP	15-44	45-49	50-54	55-59	60-64	65+
Nursing Related (3152, 3233)	51%	15%	15%	14%	4%	1%
Assisting Occupations (3413, 3414)	65%	17%	6%	8%	4%	0%
Medical Technologies (321)	62%	4%	16%	15%	3%	0%
Therapy Assessment Professionals (314)	70%	11%	4%	15%	0%	0%
Physicians (3111, 3112)	45%	4%	15%	11%	15%	11%
Paramedics (3234)	65%	26%	9%	0%	0%	0%
<b>TOTAL</b>	<b>57%</b>	<b>14%</b>	<b>12%</b>	<b>11%</b>	<b>4%</b>	<b>2%</b>

Table 4.3

Table 4.4 shows the age distribution of healthcare workers in the non-traditional healthcare sector of Thunder Bay's economy. It can be seen that approximately 60.0 percent of healthcare workers in the non-traditional healthcare sector were between 15 and 44 years of age in 2005. This group will not be retiring during the next 10 years. The group of workers between the ages of 45 and 49 in 2005 comprised 19 percent of employment in that sector. During the next ten years they will be approaching retirement. The group of workers who were 50 years of age and over in 2005 comprised 21.0 percent of the non-traditional healthcare sector's workforce. They will be retiring during the next ten years.

Age Distribution of Workers in the Non-Traditional Healthcare Sector (2005)						
NON-TRADITIONAL HEALTHCARE CAREERS	15-44	45-49	50-54	55-59	60-64	65+
NOC 1243 Medical Secretaries	41%	24%	12%	12%	12%	0%
NOC 2263 Inspectors in Public and Environmental Health and Occupational Health and Safety	18%	27%	18%	18%	0%	18%
NOC 4151 Psychologists	0%	60%	40%	0%	0%	0%
NOC 4152 Social Workers	60%	16%	10%	10%	5%	0%
NOC 4153 Family, Marriage and Other Related Counsellors	61%	21%	7%	11%	0%	0%
NOC 4167 Recreation, Sports and Fitness Program Supervisors and Consultants	20%	30%	50%	0%	0%	0%
NOC 4212 Community and Social Service Workers	67%	17%	8%	6%	2%	0%
<b>TOTAL NON-TRADITIONAL HEALTHCARE CAREERS</b>	<b>60%</b>	<b>19%</b>	<b>11%</b>	<b>8%</b>	<b>2%</b>	<b>1%</b>

Table 4.4

### 4.3. PROFILE OF HEALTHCARE PROVIDERS IN DISTRICT OF THUNDER BAY IDN .....

There are approximately 535 individuals employed in the traditional healthcare sector of District of Thunder Bay IDN. An additional 350 are employed in the non-traditional sector. Together, they comprise 7.3 percent of total employment in that region. The sector is dominated by women who account for 80.4 percent of employment in the traditional and 78.6 percent of employment in the non-traditional healthcare sectors.

Registered nurses account for 40.2 percent of total employment in the district's healthcare sector. Licensed practical nurses comprise 2.8 percent of the employed workers. Together, the nursing related occupations account for 43.0 percent of all employed persons in the district's healthcare sector. Assisting occupations in health care account for 15.9 percent of employment. The nursing and assisting occupations in healthcare account for 58.9 percent of total employment in the healthcare sector. Medical technologists and technicians account for 14.0 percent of employment followed by physicians (9.3%) and paramedics (8.4%). Together, the above occupations account for 90.6 percent of employment in the district's healthcare sector (Figure 4.5).

## Occupational Structure of District of Thunder Bay IDN's Healthcare Sector

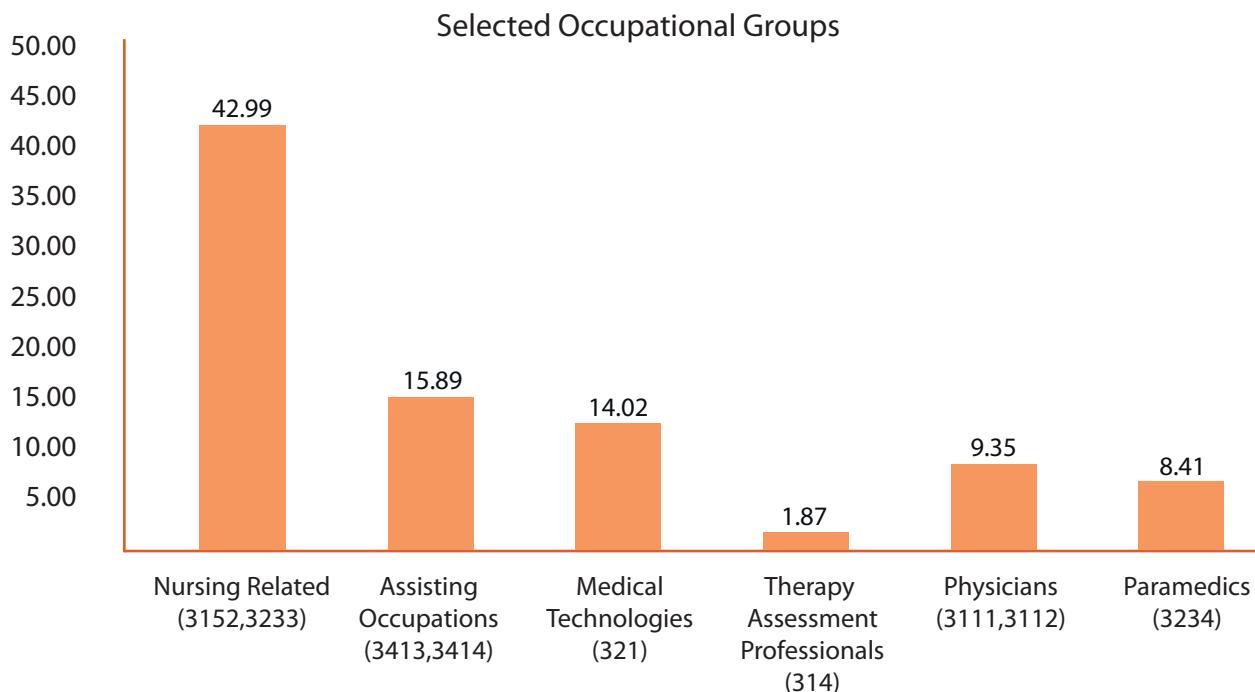


Figure 4.5

The non-traditional healthcare sector is dominated by community and social service workers who account for 47.1 percent of total employment in that sector followed by social workers (24.3%) and family, marriage and other counsellors (11.4%). Together, the above three groups comprise 82.8 percent of employed workers in the non-traditional healthcare sector.

The majority or 86.0 percent of healthcare workers in District of Thunder Bay IDN are wage earners. The rest or 14.0 percent are self-employed. There exists a significant variation in self-employment among different occupations. For example, all individuals in other technical occupations in therapy and assessment are self-employed. Similarly, 80.0 percent of specialists and general practitioners and family physicians are self-employed. The non-traditional healthcare occupations are dominated by wage earners who account for 97.1 percent of employment in that sector.

Figure 4.6 shows employment by ethnic origin in the district's healthcare sector. As shown in Figure 4.6, the majority or 75.7 percent of healthcare workers in the traditional sector are of English origin. Approximately 10.3 percent are Francophone, 10.3 percent are of non-English, French or Aboriginal origin followed by 3.7 percent Aboriginal. Approximately 65.7 percent of workers in the non-traditional sector are of English origin. Aboriginal workers comprise 22.9 percent of employed workers followed by non-English, French or Aboriginal (5.7%) and Francophone workers (5.7%).

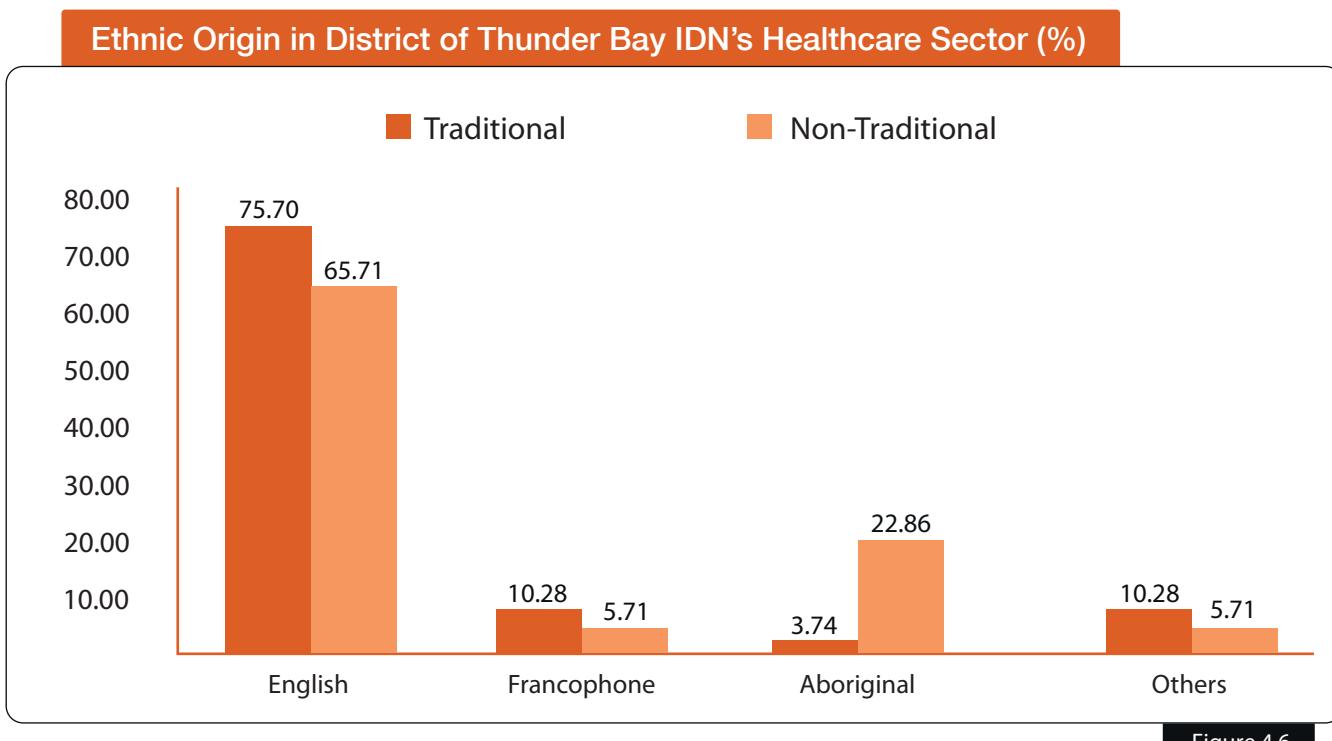


Figure 4.6

Table 4.5 shows the age distribution of healthcare providers in District of Thunder Bay IDN. It shows that 56.0 percent of healthcare workers were between 15 and 44 years of age in 2005. This is the group that will not be retiring during the next 10 years. The group of workers who were between the ages of 45 and 49 accounted for 15.0 percent of employment in 2005. This group will be approaching retirement during the next ten years. The group of healthcare workers who were 50 years of age and over in 2005 comprised 29.0 percent of employed workers in that sector. This group that will be retiring during the next ten years includes 40.0 percent of physicians followed by assisting occupation (33%), nursing-related workers (29%), medical technologists (24.0%) and paramedics (20.0%).

Age Distribution of Healthcare Workers in District of Thunder Bay IDN (2005)						
SELECTED OCCUPATIONAL GROUP	15-44	45-49	50-54	55-59	60-64	65+
Nursing Related (3152, 3233)	56%	15%	19%	10%	0%	0%
Assisting Occupations (3413, 3414)	56%	11%	11%	11%	0%	11%
Medical Technologies (321)	65%	12%	12%	12%	0%	0%
Therapy Assessment Professionals (314)	100%	0%	0%	0%	0%	0%
Physicians (3111, 3112)	60%	0%	0%	0%	20%	20%
Paramedics (3234)	50%	30%	20%	0%	0%	0%
<b>TOTAL</b>	<b>56%</b>	<b>15%</b>	<b>14%</b>	<b>9%</b>	<b>2%</b>	<b>3%</b>

Table 4.5

Table 4.6 shows the age distribution of healthcare workers in the non-traditional healthcare sector of District of Thunder Bay IDN's economy. It can be seen that 53.0 percent of employed workers in the non-traditional healthcare sector were between 15 and 44 years of age in 2005. This group will not be retiring during the next 10 years. The group between the ages of 45 and 49 in 2005 accounted for 16 percent of employment in that sector. They will be approaching retirement during the next ten years. The group of workers who were 50 years of age and over in 2005 comprised 31 percent of the non-traditional healthcare sector's employment. During the next ten years, they will be retiring.

OCCUPATIONAL GROUP	15-44	45-49	50-54	55-59	60-64	65+
NOC 1243 Medical Secretaries	60%	40%	0%	0%	0%	0%
NOC 2263 Inspectors in Public and Environmental Health and Occupational Health and Safety	0%	33%	33%	0%	0%	33%
NOC 4151 Psychologists	100%	0%	0%	0%	0%	0%
NOC 4152 Social Workers	47%	18%	24%	12%	0%	0%
NOC 4153 Family, Marriage and Other Related Counsellors	25%	25%	0%	33%	17%	0%
NOC 4167 Recreation, Sports and Fitness Program Supervisors and Consultants	100%	0%	0%	0%	0%	0%
NOC 4212 Community and Social Service Workers	70%	6%	12%	6%	0%	6%
<b>TOTAL</b>	<b>53%</b>	<b>16%</b>	<b>13%</b>	<b>10%</b>	<b>3%</b>	<b>5%</b>

Table 4.6

## 4.4. PROFILE OF THE HEALTHCARE PROVIDERS IN THE DISTRICT OF RAINY RIVER IDN .....

Rainy River's traditional healthcare sector employs approximately 755 individuals. In addition, 375 people work in the non-traditional healthcare sector. Together, they account for 10.9 percent of total employment in the District of Rainy River IDN. The sector is dominated by women who account for 86.1 percent and 72.3 percent of employment in the traditional and non-traditional healthcare sectors, respectively. Men account for 11.9 percent of healthcare providers in the traditional sector and 24.7 percent in the non-traditional healthcare sector of the District of Rainy River IDN.

Registered nurses account for 31.8 percent of total employment. Licensed practical nurses represent 7.9 percent of the employed workers. Together, the nursing related occupations represent 39.7 percent of employment in Rainy River's healthcare sector. Assisting occupations in health care account for 27.15 percent of employment. The nursing and assisting occupations in health care account for 66.8 percent of total employment in Rainy River's healthcare sector. Medical technologists and technicians account for 8.6 percent of employment followed by paramedics (7.9%), therapy and assessment professionals (4.6%) and physicians (4.6%). The above occupations account for 92.5 percent of employment in Rainy River's healthcare sector (Figure 4.7).

## Occupational Structure of Rainy River's Healthcare Sector

Selected Occupational Groups (%)

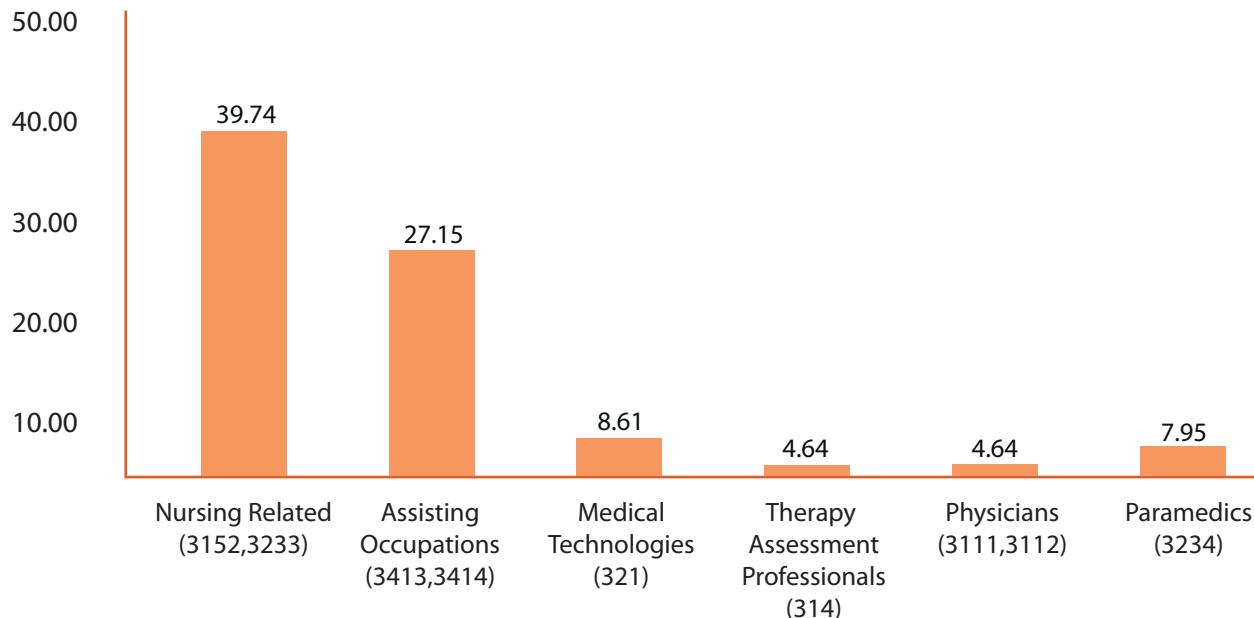


Figure 4.7

Rainy River's non-traditional healthcare sector is dominated by community and social service workers who account for 57.3 percent of total employment followed by family, marriage and other counsellors (20.0%) and social workers (14.7%). Together, the above three occupational groups comprise 92.0 percent of employed workers in the non-traditional healthcare sector.

The majority or 92.7 percent of healthcare providers in Rainy River are wage earners. The rest or 7.3 percent are self-employed. However, there is a significant variation in self-employment among different occupations. For example, all specialists, chiropractors and Dietitians are self-employed, 50.0 percent of family physicians and Audiologists are self-employed. The non-traditional healthcare occupations are dominated by wage earners who account for 97.4 percent of employment in that sector.

Figure 4.8 shows employment by ethnic origin in Rainy River's healthcare sector. It shows that the majority or 86.4 percent of healthcare providers in the traditional sector are of English origin. 8.3 percent are Aboriginal followed by non-English, French or Aboriginal origin (4.0%) and Francophone (1.4%). 44.1 percent of workers in the non-traditional sector are of English origin. Aboriginal workers comprise 50.7 percent of the workers followed by non-English, French or Aboriginal (5.2%).

### Ethnic Origin in Rainy River's Healthcare Sector (%)

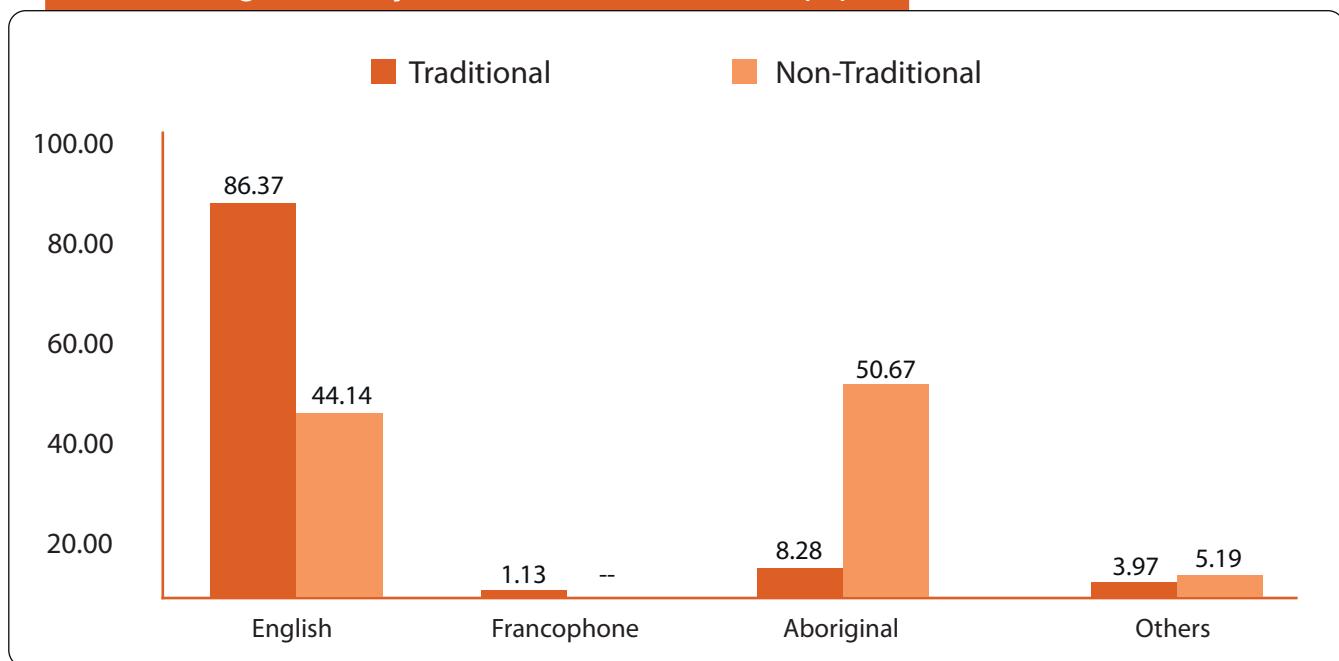


Figure 4.8

Table 4.7 shows the age distribution of healthcare workers in Rainy River. It shows that 53.0 percent of healthcare workers were between 15 and 44 years of age in 2005. This is the group that will not be retiring during the next 10 years. The group of workers who were between the ages of 45 and 49 in 2005 accounted for 14.0 percent of employment. They will be approaching retirement during the next ten years. The group of healthcare workers who were 50 years of age and over in 2005 comprised 32.0 percent of the employed workforce in Rainy River. This group that will be retiring during the next ten years includes 47.0 percent of paramedics followed by nursing related workers (41.0%), medical technologists (36.0%), physicians (29.0%) and assisting occupations (24.0%).

### Age Distribution of Healthcare Workers in Rainy River (2005)

SELECTED OCCUPATIONAL GROUP	15-44	45-49	50-54	55-59	60-64	65+
Nursing Related (3152, 3233)	43%	16%	30%	5%	3%	3%
Assisting Occupations (3413, 3414)	64%	12%	7%	7%	5%	5%
Medical Technologies (321)	45%	18%	18%	18%	0%	0%
Therapy Assessment Professionals (314)	100%	0%	0%	0%	0%	0%
Physicians (3111, 3112)	29%	43%	0%	0%	0%	29%
Paramedics (3234)	40%	13%	0%	27%	20%	0%
<b>TOTAL</b>	<b>53%</b>	<b>14%</b>	<b>15%</b>	<b>9%</b>	<b>5%</b>	<b>4%</b>

Table 4.7

Table 4.8 shows the age distribution of healthcare providers in the non-traditional healthcare sector of the District of Rainy River IDN. It can be seen that 50.0 percent of healthcare workers in the non-traditional healthcare sector were between 15 and 44 years of age in 2005. This group will not be retiring during the next 10 years. The group of workers between the ages of 45 and 49 in 2005 comprised 22.0 percent of employment in that sector. During the next ten years they will be approaching retirement. The group of workers who were 50 years of age and over in 2005 comprised 28.0 percent of the non-traditional healthcare sector's employment and will be retiring during the next ten years.

Age Distribution of Healthcare Workers in the Non-Traditional Sector (2005)						
NON-TRADITIONAL HEALTHCARE CAREERS	15-44	45-49	50-54	55-59	60-64	65+
NOC 4151 Psychologists	100%	0%	0%	0%	0%	0%
NOC 4152 Social Workers	33%	50%	17%	0%	0%	0%
NOC 4153 Family, Marriage and Other Related Counsellors	47%	13%	20%	20%	0%	0%
NOC 4167 Recreation, Sports and Fitness Program Supervisors and Consultants	0%	0%	0%	0%	0%	0%
NOC 4212 Community and Social Service Workers	53%	18%	16%	9%	4%	0%
<b>TOTAL</b>	<b>50%</b>	<b>22%</b>	<b>16%</b>	<b>9%</b>	<b>3%</b>	<b>0%</b>

Table 4.8

## 4.5. PROFILE OF THE HEALTHCARE PROVIDERS IN THE DISTRICT OF KENORA IDN

Approximately 1,275 persons work in the traditional healthcare sector in the District of Kenora IDN. An additional 725 work in the non-traditional healthcare sector. Together, they comprised 9.3 percent of total employment in Kenora in 2005. Kenora's healthcare sector is dominated by women who account for 78.4 percent of employment in the traditional and 72.4 percent of employment in the non-traditional healthcare sectors.

Registered nurses represent 31.0 percent of total employment in Kenora's healthcare sector. Licensed practical nurses represent 4.3 percent of the workers. Together, the nursing related occupations account for 35.3 percent of employment in Kenora's healthcare sector. Assisting occupations in health care account for 20.4 percent of employment. This group includes nurse aides, orderlies and patient service associates and other assisting occupations in support of healthcare services. Together, the nursing and assisting occupations in health care account for 55.7 percent of total employment in Kenora's healthcare sector. Paramedics account for 7.1 percent of employment, followed by therapy and assessment professionals (6.7%), physicians (3.5%) and medical technologists and technicians (3.1%). The above occupations account for 76.1 percent of employment in Kenora's traditional healthcare sector (Figure 4.9).

## Occupational Structure of Kenora's Healthcare Sector

Selected Occupational Groups (%)

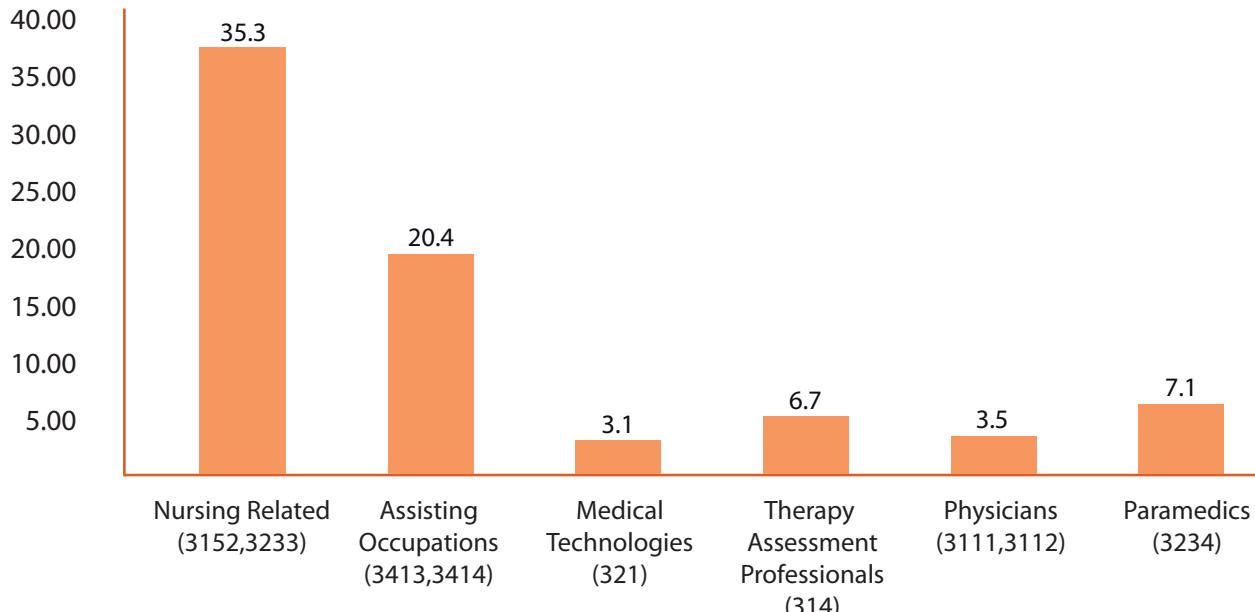


Figure 4.9

The non-traditional sector is dominated by community and social service workers who account for 55.2 percent of total employment followed by social workers (21.4%) and family, marriage and other counsellors (15.9%).

The majority or 90.8 percent of healthcare providers in Kenora are wage earners. The rest or 9.2 percent are self-employed. However, there is a significant variation in self-employment among different occupations. For example, all specialists, optometrists and chiropractors are self-employed. Approximately 90 percent of dentists, 66.7 percent of general practitioners, 40 percent of those working in other technical occupations and 25 percent of physiotherapists are self-employed. All workers in the non-traditional healthcare occupations are wage earners.

Figure 4.10 shows employment by ethnic origin in Kenora's healthcare sector. As shown in Figure 4.10, the majority or 85.0 percent of healthcare providers are of English origin. Approximately 8.0 percent are of non-English, French or Aboriginal origin followed by 7.0 percent Aboriginal and 1.0 percent Francophone. 55.0 percent of workers in the non-traditional sector are of English origin. Aboriginal workers comprise 41.0 percent of healthcare providers followed by Francophone (3.0%) and non-English, French or Aboriginal (1.0%).

## Ethnic Origin in Kenora's Healthcare Sector

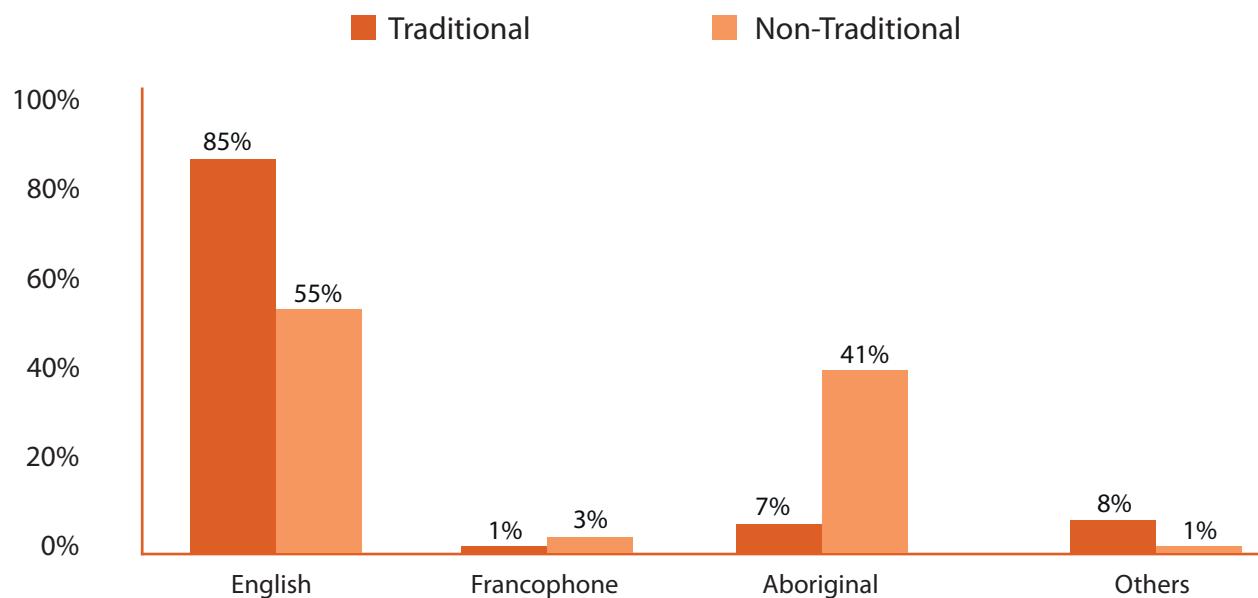


Figure 4.10

Table 4.9 shows the age distribution of healthcare providers in the District of Kenora IDN. It can be seen that 58.0 percent of workers were between 15 and 44 years of age in 2005. This is the group that will not be retiring during the next 10 years. The group of workers who were between the ages of 45 and 49 accounted for approximately 9.0 percent of employment in 2005. This group will be approaching retirement during the next ten years. The group of healthcare workers who were 50 years of age and over in 2005 comprised approximately 33.0 percent of workers in the healthcare sector. This group that will be retiring during the next ten years includes 44.0 percent of physicians followed by nursing-related workers (35%), medical technologists (28.0%), assisting occupations (22.0%), therapy assessment professionals (18.0%) and paramedics (18.0%).

### Age Distribution of Healthcare Workers in the District of Kenora IDN (2005)

SELECTED OCCUPATIONAL GROUP	15-44	45-49	50-54	55-59	60-64	65+
Nursing Related (3152, 3233)	52%	11%	16%	12%	7%	2%
Assisting Occupations (3413, 3414)	53%	11%	18%	11%	4%	4%
Medical Technologies (321)	54%	0%	31%	0%	15%	0%
Therapy Assessment Professionals (314)	100%	0%	0%	0%	0%	0%
Physicians (3111, 3112)	71%	0%	29%	0%	0%	0%
Paramedics (3234)	79%	11%	11%	0%	0%	0%
<b>TOTAL</b>	<b>58%</b>	<b>9%</b>	<b>16%</b>	<b>8%</b>	<b>5%</b>	<b>4%</b>

Table 4.9

Table 4.10 shows the age distribution of healthcare providers in the non-traditional sector of Kenora's economy. It can be seen that approximately 59.0 percent of workers in the non-traditional healthcare sector were between 15 and 44 years of age in 2005. This age group will not be retiring during the next 10 years. The group of providers between the ages of 45 and 49 in 2005 accounted for approximately 17.0 percent of employment.

During the next ten years they will be approaching retirement. The group of workers who were 50 years of age and over in 2005 comprised approximately 24.0 percent of the non-traditional healthcare sector's employment. This group will be retiring during the next ten years.

Age Distribution of Workers in the Non-Traditional Healthcare Sector (2005)						
NON-TRADITIONAL HEALTHCARE CAREERS	15-44	45-49	50-54	55-59	60-64	65+
NOC 2263 Inspectors in Public and Environmental Health and Occupational Health and Safety	100%	0%	0%	0%	0%	0%
NOC 4151 Psychologists	0%	0%	0%	0%	0%	0%
NOC 4152 Social Workers	56%	22%	9%	6%	6%	0%
NOC 4153 Family, Marriage and Other Related Counsellors	54%	8%	23%	15%	0%	0%
NOC 4167 Recreation, Sports and Fitness Program Supervisors and Consultants	100%	0%	0%	0%	0%	0%
NOC 4212 Community and Social Service Workers	58%	17%	11%	9%	5%	0%
<b>TOTAL</b>	<b>59%</b>	<b>17%</b>	<b>11%</b>	<b>8%</b>	<b>3%</b>	<b>1%</b>

Table 4.10

## 4.6. PROFILE OF THE HEALTHCARE PROVIDERS IN THE NORTHERN IDN .....

Approximately 385 people work in the traditional healthcare sector in Northern IDN. An additional 515 individuals work in the non-traditional healthcare sectors in that region. Together, they represent 12.9 percent of total employment in that region. The majority or 72.2 percent of healthcare providers in the traditional sector are women. Women account for 63.1 percent of employment in the non-traditional sector.

Registered nurses represent 23.4 percent of total employment in Northern IDN's healthcare sector. Licensed practical nurses represent 7.8 percent of workers. Together, the nursing related occupations account for 31.2 percent of employment in Northern IDN's healthcare sector. Assisting occupations in healthcare account for 23.4 percent of employment. This group includes nurse aides, orderlies and patient service associates and other assisting occupations in support of healthcare services. Together, the nursing and assisting occupations in health care account for 54.6 percent of total employment in Northern IDN's healthcare sector. Medical technologists and technicians account for 15.6 percent of total employment followed by paramedics (7.8%), physicians (5.2%) and therapy and assessment professionals (2.6%). Together, the above occupations account for 85.8 percent of employment in Northern IDN's healthcare sector (Figure 4.11).

## Occupational Structure of Northern IDN's Healthcare Sector

Selected Occupational Groups (%)

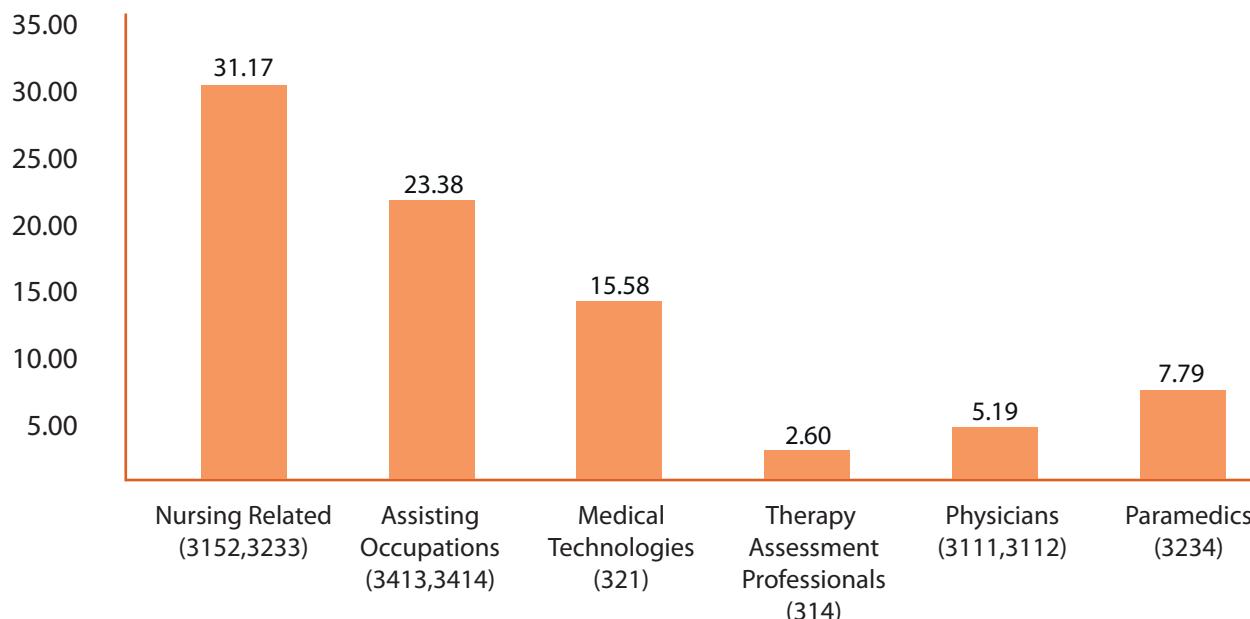


Figure 4.11

The non-traditional healthcare sector in Northern IDN is dominated by community and social service workers who account for 66.0 percent of total employment in that sector followed by social workers (14.6%) and family, marriage and other counsellors (12.6%).

The majority or 92.2 percent of healthcare workers are wage earners. The rest or 7.8 percent are self-employed. There is a significant variation in self-employment among different occupations. For example, all specialists and general practitioners and 50.0 percent of medical sonographers are self-employed. The non-traditional healthcare sector is dominated by wage earners. Only 13.3 percent of social workers are self-employed. All other workers in the non-traditional healthcare occupations are wage earners.

Figure 4.12 shows employment by ethnic origin in Northern IDN's healthcare sector. The majority or 61.0 percent of healthcare workers in the traditional healthcare sector are of English origin. Approximately 19.0 percent are Aboriginal, 14.0 percent are of non-English, French or Aboriginal origin and 5.0 percent are Francophone. The non-traditional healthcare sector is dominated by Aboriginal workers who account for 73.0 percent of all employment in that sector. Approximately 22.0 percent of workers in the non-traditional sector are of English origin followed by non-English, French or Aboriginal workers (5.0%).

## Ethnic Origin in Northern IDN's Healthcare Sector

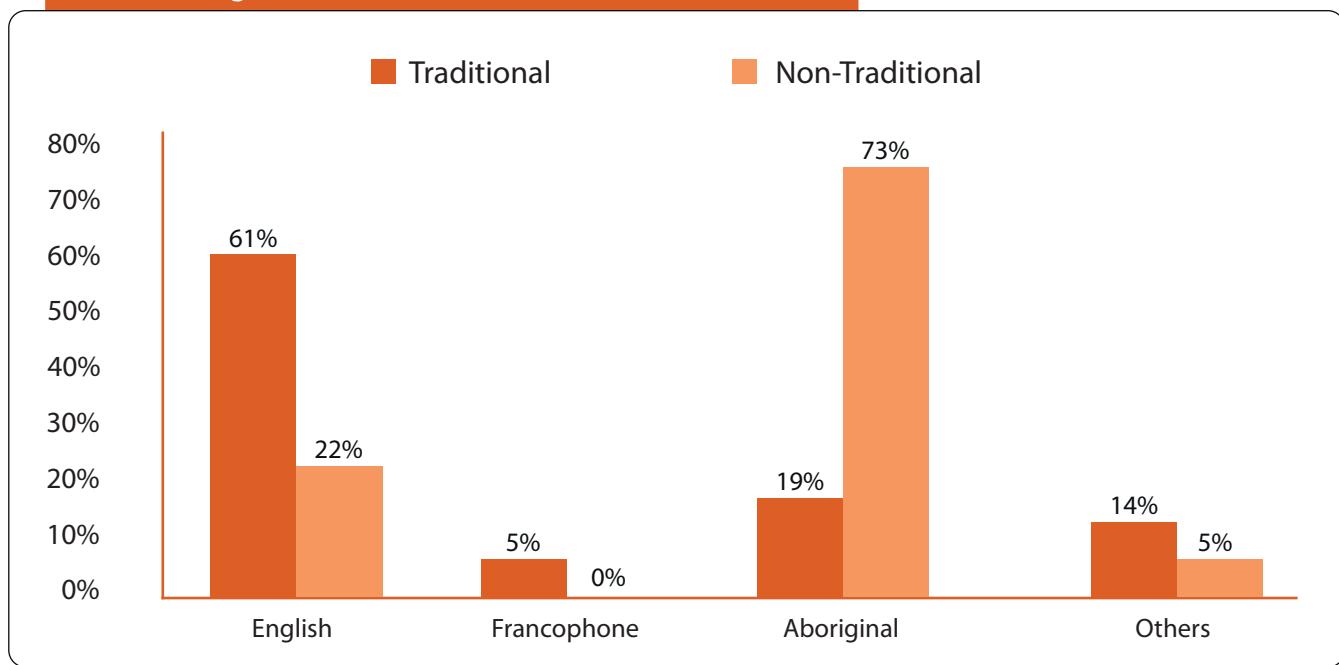


Figure 4.12

Table 4.11 shows the age distribution of healthcare providers in Northern IDN. It can be seen that 58.0 percent of healthcare workers were between 15 and 44 years of age in 2005. This is the group that will not be retiring during the next 10 years. The group of workers who were between the ages of 45 and 49 accounted for 16.0 percent of the workforce in 2005. This group will be approaching retirement during the next ten years. The group of healthcare workers who were 50 years of age and over in 2005 comprised 26.0 percent of the workforce in the healthcare sector. This group that will be retiring during the next ten years includes all physicians followed by nursing-related workers (46.0%) and assisting occupations (27.0%).

Age Distribution of Healthcare Workers in Northern IDN (2005)						
SELECTED OCCUPATIONAL GROUP	15-44	45-49	50-54	55-59	60-64	65+
Nursing Related (3152, 3233)	46%	8%	23%	15%	8%	0%
Assisting Occupations (3413, 3414)	64%	9%	18%	9%	0%	0%
Medical Technologies (321)	71%	29%	0%	0%	0%	0%
Therapy Assessment Professionals (314)	100%	0%	0%	0%	0%	0%
Physicians (3111, 3112)	0%	0%	0%	0%	0%	100%
Paramedics (3234)	71%	29%	0%	0%	0%	0%
<b>TOTAL</b>	<b>58%</b>	<b>16%</b>	<b>13%</b>	<b>8%</b>	<b>3%</b>	<b>3%</b>

Table 4.11

Table 4.12 shows the age distribution of healthcare workers in the non-traditional sector of Northern IDN's economy. It can be seen that 61.0 percent of workers in the non-traditional healthcare sector were between 15 and 44 years of age in 2005. This group will not be retiring during the next 10 years. The group of workers between the ages of 45 and 49 comprised 9.0 percent of employment in 2005. During the next ten years this group will be approaching retirement. The group of workers who were 50 years of age and over in 2005 comprised 31.0 percent of the non-traditional healthcare sector's employment. They will be retiring during the next ten years.

Age Distribution of Healthcare Workers in the Non-Traditional Sector (2005)						
NON-TRADITIONAL HEALTH CARE CAREERS	15-44	45-49	50-54	55-59	60-64	65+
NOC 1243 Medical Secretaries	100%	0%	0%	0%	0%	0%
NOC 4151 Psychologists	100%	0%	0%	0%	0%	0%
NOC 4152 Social Workers	86%	0%	0%	0%	14%	0%
NOC 4153 Family, Marriage and Other Related Counsellors	23%	15%	31%	15%	0%	15%
NOC 4167 Recreation, Sports and Fitness Program Supervisors and Consultants	100%	0%	0%	0%	0%	0%
NOC 4212 Community and Social Service Workers	59%	10%	17%	6%	6%	3%
<b>TOTAL</b>	<b>61%</b>	<b>9%</b>	<b>15%</b>	<b>6%</b>	<b>6%</b>	<b>4%</b>

Table 4.12





## 5.1. SURVEY: DESIGN AND OBJECTIVES

This part of the study provides information on healthcare providers as well as service users (patients, residents and clients) in Northwestern Ontario. The information provided in this part is based on a survey of healthcare providers in the region. The survey has been designed to collect the following type of information:

- Number of patients and their demographic characteristics;
- Allocation of healthcare resources among patients by age;
- Expected change in the total number of patients during the next 10 years;
- The turnover rate among healthcare providers.

Our study team developed a survey questionnaire designed to obtain the above information from healthcare providers in Northwestern Ontario. A simple, short survey format was selected to maximize the response rate. The questionnaire was sent to the steering committee for review and comments.

Our study team received a list of 93 LHIN-funded health service providers in Northwestern Ontario. A survey (see Appendix J) along with an introductory letter from North West Local Health Integration Network were sent to all institutions on the list. Respondents were asked to email the completed survey directly to the study team. This was followed by emails and telephone calls. At least six attempts were made to contact each organization. However, our team was unable to contact 10 of the organizations on the list.

Table 5.1.2 shows the number of surveys received and the percentage completion by each jurisdiction. It can be seen that an overall completion rate of 48.2 percent was achieved. This is very high compared to other similar studies and suggests that our population estimates reported in this part of the study are very accurate. In the case of institutions in Thunder Bay IDN, the completion rate equals 78.3 percent. A relatively low completion rate was achieved in Northern IDN. This is probably related to the small size of healthcare providers in Northern communities as well as the lack of dedicated personnel to deal with such matters.

Healthcare Providers' Survey				
REGIONS	HEALTHCARE PROVIDERS CONTACTED	SURVEYS COMPLETED	PERCENTAGE COMPLETION	
City of Thunder Bay IDN	23	18	78.26	
District of District of Thunder Bay IDN	13	3	23.08	
District of Kenora IDN <sup>15</sup>	21	14	66.67	
District of Rainy River IDN	5	3	60.00	
Northern IDN	21	2	9.52	
Northwestern Ontario	83	40	48.19	

Table 5.1.2

<sup>15</sup> We note that one of the surveys received from a provider in the District of Kenora IDN was incomplete and had to be discarded. Therefore, our survey analysis is based on 39 surveys.

## 5.1.1 SURVEY ANALYSIS

Table 5.1.3 classifies healthcare providers in the survey by the number of service users (patients, residents and clients) they usually serve in a typical week.

Healthcare Providers by Number of Patients/Clients			
NUMBER OF SERVICE USERS PER WEEK	AVERAGE NUMBER OF USERS PER WEEK	FREQUENCY	PERCENTAGE
1 to 49	22.13	8	20.5
50 to 249	111.64	14	35.9
250 to 999	523.21	14	35.9
1000+	2,414.67	3	7.7
<b>TOTAL</b>	<b>418.18</b>	<b>39</b>	<b>100.0</b>

Table 5.1.3

Table 5.1.3 shows that 20.5 percent of the healthcare providers in Northwestern Ontario are relatively small servicing an average of 22.1 service users per week. Approximately 35.9 percent are medium size serving an average of 111.6 users per week. A similar percentage of healthcare providers are relatively large serving approximately 523.2 service users per week. Only 7.7 percent of healthcare providers are very large serving an average of 2,414.7 service users per week.

Table 5.1.4 shows that 44.5 percent of patients, residents or clients are men and the rest or 55.5 percent are women.

Percentage of Patients by Gender in Northwestern Ontario	
PATIENTS	PERCENTAGE
Men	44.47
Women	55.53
<b>TOTAL</b>	<b>100.00</b>

Table 5.1.4

Table 5.1.5 classifies service users to those who are Francophone, Aboriginal or others. It shows that 2.3 percent of service users are Francophone, 28.7 percent are Aboriginal and the rest or 68.8 percent are non-Francophone or Aboriginal. The share of the Francophone patients is slightly below their population share. Many institutions do not have a formal mechanism to identify Francophone patients which can explain a relatively lower share of Francophone patients compared to their population share. The share of the Aboriginal patients is larger than their population share in Northwestern Ontario.

Percentage of Patients by Ethnic Origin	
ETHNIC ORIGIN	PERCENTAGE
Francophone	2.32
Aboriginal	28.70
Others	68.84
<b>TOTAL</b>	<b>100.00</b>

Table 5.1.5

Table 5.1.6 shows the percentage age distribution of service users in Northwestern Ontario. It shows that 28.4 percent of patients are 65 years of age and older. Approximately 19.0 percent are between 51 and 64 years of age. Together, 47.4 percent of patients, residents and clients in Northwestern Ontario are over 51 years of age. This is approximately identical to the percentage of population who are 50 years of age and older in Northwestern Ontario.

#### Percentage Age Distribution of Service Users in Northwestern Ontario

AGE CATEGORY	PERCENTAGE
0 to 15	8.28
16 to 30	14.69
31 to 40	13.81
41 to 50	15.56
51 to 64	18.98
65+	28.44
<b>TOTAL</b>	<b>100.00</b>

Table 5.1.6

Table 5.1.7 shows the allocation of healthcare resources among service users of different ages. It shows that the percentage of resources allocated to users increases significantly with their age. More than 31.7 percent of all resources are dedicated to those who are 65 years of age and older. Approximately 19.2 percent of resources are dedicated to those between the ages of 51 and 64. In other words, service users aged 51 and older consume almost 51.0 percent of all healthcare resources in Northwestern Ontario.

Two factors affect the amount of resources used by different age groups. First, an aging population increases the number of people in higher age categories and thus increases the quantity of healthcare demanded by older age groups. The second factor relates to the intensity of demand by older patients. There exists a direct relationship between age and quantity of healthcare demanded. As we saw before, the amount of expenditure per capita increases significantly by age.

#### Allocation of Healthcare Resources by Age

AGE CATEGORY OF SERVICE USERS	% RESOURCES USED
0 to 15	7.33
16 to 30	12.39
31 to 40	13.98
41 to 50	15.32
51 to 64	19.23
65+	31.73
<b>TOTAL</b>	<b>100.00</b>

Table 5.1.7

Table 5.1.7 confirms that as population ages, their demand for healthcare services increases. This is also reflected in the expected growth of demand for healthcare services shown in Table 5.1.8. Healthcare providers expect demand for their services to increase by 31.3 percent during the next 10 years. This expectation is consistent with the aging of Northwestern Ontario's population.

### Expected Growth in the Number of Patients, Residents and Clients

FORECASTING PERIOD	EXPECTED GROWTH (%)
1 Year	4.84
5 Years	16.64
10 Years	31.34

Table 5.1.8

Table 5.1.9 shows the average number of medical and non-medical employees in Northwestern Ontario's healthcare sector classified by the number of patients, residents or clients they serve per week. It shows that small institutions have an average of 2.4 non-medical staff. The medium size organizations that serve between 50 and 249 users per week have an average of approximately 11.8 medical and 39.6 non-medical staff. Large institutions that serve between 250 and 999 service users per week employ an average of 72.3 medical-related and 51.9 non-medical related employees. The very large institutions that serve more than 1000 service users per week employ 993.0 medical-related and 588.3 non-medical-related employees.

### Average Number of Employees by Number of Patients

NUMBER OF PATIENTS PER WEEK	AVERAGE NUMBER OF EMPLOYEES		
	MEDICAL-RELATED	NON-MEDICAL	TOTAL
1 to 49	0	2.4	2.40
50 to 249	11.78	39.61	51.39
250 to 999	72.27	51.92	124.19
1000+	993.00	588.33	1,581.33

Table 5.1.9

Table 5.1.10 shows the ethnic origin of healthcare providers in Northwestern Ontario. It shows that 3.8 percent are Francophone. Approximately 6.1 percent are Aboriginal and the rest or 85.8 percent are non-Francophone or Aboriginal. The percentage of Francophone employees is relatively similar to their share of the regional population. However, the percentage of Aboriginal employees is much smaller than their population share.

### Healthcare Workers by Ethnic Origin

ETHNIC ORIGIN OF STAFF	PERCENTAGE
Francophone	3.83
Aboriginal	6.12
Others	85.85
<b>TOTAL</b>	<b>100.00</b>

Table 5.1.10

Table 5.1.11 shows that 30 percent of institutions have a formal mechanism to track or identify Francophone or French speaking patients or staff. The rest or 70.0 percent of organizations do not have a formal identification

mechanism. In addition, 2.9 percent of healthcare workers in Northwestern Ontario can speak French. This can be below the true estimate of the percentage of providers who can communicate in French because 70.0 percent of institutions do not have a formal mechanism to identify French speaking staff.

Presence of a Mechanism to Identify Francophone Patients or Employees	
MECHANISM TO IDENTIFY FRANCOPHONE	PERCENTAGE
Patients, Residents and/or Clients	30.0
Staff	30.0

Table 5.1.11

Table 5.1.12 shows the number of medical-related professionals who have left various Northwestern Ontario's healthcare institutions prior to their retirement. It shows that 1,130 medical-related professionals left their respective institutions during the past five years. Nurses account for the largest number of turnovers followed by personal support workers and doctors.

Turnover Rate of Medical-Related professionals in Northwestern Ontario		
PROFESSIONALS	NUMBER OF WORKERS WHO LEFT PRIOR TO RETIREMENT	PERCENTAGE
Doctors	66	5.84
Nurses	521	46.11
Medical Technicians	37	3.27
Personal Support Workers	284	25.13
Social Workers	51	4.51
Physiotherapists	24	2.12
Others	147	13.01
<b>TOTAL</b>	<b>1,130</b>	<b>100.00</b>

Table 5.1.12

Using the information provided in Table 5.1.12 along with the number of medical-related employees in each institution, we estimate the turnover rate of medical-related professionals to equal 17.6 percent during the past five years or 3.5 percent per year. We note that it is entirely likely that medical professionals left one institution for another one in Northwestern Ontario.

## 5.2. FOCUS GROUP: DESIGN AND OBJECTIVES .....

Focus group discussions were conducted to validate the information from Statistics Canada and get more information than a short survey would provide. A total of 23 organizations were identified by the North West Local Health Integration Network. The list represented a cross-section of services, staff sizes, and districts.

### 5.2.1 FOCUS GROUP DISCUSSION QUESTIONS

Prior to the focus groups, a discussion with the steering committee and a few of the focus group participants took place to formulate questions that investigate issues in human resources that would add meaningful information to the final report.

## 5.2.2 FOCUS GROUP PARTICIPATION

Focus group invitees received the discussion questions prior to the meeting, and participants were asked to bring information in the form of Tables regarding their staffing levels and vacancies. Table 5.2.1 shows that a total of 16 organizations were able to participate either in person or via video conference for a two hour discussion. These represented a broad range of organizations that provide a cross-section of services including: Acute Care, Post-Acute Care, Long Term Care, Mental Health Care, Home Care, Community Social Services, and Substance Abuse from very small and specialized services to the largest healthcare employer in the region. Representation was made by Human Resources Executives/Managers, Executive Directors and CEOs.

Focus Group Participant Sessions and IDN Representation					
IDN	GROUP 1	GROUP 2	GROUP 3	GROUP 4	TOTAL
City of Thunder Bay	5	2	1		8
District of Thunder Bay		2			3
Northern					0
Kenora			4		4
Rainy River				2	2
<b>TOTAL</b>	<b>5</b>	<b>4</b>	<b>5</b>	<b>2</b>	<b>16</b>

Table 5.2.1

Following the session, participant comments were circulated to the participating organizations for any additional comments that were not captured by the Focus Group discussions.

## 5.2.3 MAIN DISCUSSION POINTS

The following is a summary of the discussions that took place during all four Focus Groups. They are grouped by subject matter.

### RECRUITMENT CHALLENGES

Human Resource professionals across the region identified challenges in recruiting and retaining staff throughout the region that included: limited applicants, remoteness of work locations, financial compensation, work/life balance, and lack of recruiting resources.

### RECRUITMENT CHALLENGES: OCCUPATIONS

With a broad range of services, all districts reported predicted shortfalls in all areas of healthcare. The ones noted during the focus group included: Senior Management, Supervisory, and Leadership Positions, Dietitians, Physicians, Psychiatrists and Adolescent Psychiatrists, Personal Support Workers, a Bariatric Surgeon, Medical Laboratory Technicians, Specialists in Fetal Alcohol Spectrum Disorder (FASD), and Information Technologists. In surveys to the Focus Group participants, in addition to the ones noted, there are current vacancies and significant vacancies in the next 5 and 10 years for: Registered Nurses, Registered Practical Nurses, Nurse Practitioners, and Physiotherapists.

## **RECRUITMENT CHALLENGES: QUALIFIED APPLICANTS**

Small and rural communities face unique challenges in recruiting health professionals: the further away from major centres, the fewer applicants there are for positions. With shortages across Canada, the market is very competitive. If the position requires specialization, that limits the applicant pool even more.

## **RECRUITMENT CHALLENGES: TYPE OF WORK AVAILABLE**

Because of specialized care and the size of communities, there are many part-time positions that are hard to fill. With other options for work in healthcare, workers prefer full-time permanent positions.

## **RECRUITMENT CHALLENGES: WORK/LIFE BALANCE**

Many participants articulated that new graduates are seeking employment where they do not have to compromise their personal time. In small and rural locations, on-call requirements will increase significantly when other colleagues are away on vacation, leave, short-term illness, or leave without ample notice for replacement. Facilities with round-the-clock care noted that overtime for regular staff is a regular occurrence, and there are shortages of casual staff who are willing to fill in during undesirable times (nights, evenings, weekends, and holidays). Healthcare employers are not able to give guarantees to new recruits that demands on their time will remain constant over an extended period of time.

## **RECRUITMENT CHALLENGES: FINANCIAL**

There is not a harmonized salary grid across the healthcare system. Non-hospital healthcare providers cannot compete with hospital salaries and benefits. As a result, they either do not get applicants or newly established and trained staff use the position as a stepping stone to one in a bigger centre for better compensation. In addition, the Community Support Services and community Mental Health service providers cannot offer the same benefits, relocation bonuses or signing bonuses. A suggestion from one group was to offer universal benefits that are more portable to make the first step of joining a smaller organization more appealing. In some cases, the public disclosure of salaries is a disincentive, adversely affecting the recruitment of leadership positions.

## **RECRUITMENT CHALLENGES: EXPERTISE IN RECRUITMENT**

Recruitment requires specialized skills, time, and resources, but only a few providers in Northwestern Ontario are equipped with dedicated recruitment staff. Many rely on existing staff (Human Resources, Management, Executive Director, Vice-President) to do recruiting, but with other priorities and responsibilities their efforts may be compromised. It was noted that a good recruiter has training and experience and is well resourced. There are only a few instances where this is occurring or developing with Northwestern Ontario.

## **RECRUITMENT METHODS**

Many organizations use newspaper advertisements to post jobs, and smaller organizations feel that it is necessary and costly. However, most are also using online resources that include career sites hosted by: HealthForceOntario, Human Resources and Skills Development Canada, Ontario Hospital Association, colleges and universities, and in some cases, Kijiji, Career Builder and Workopolis. Larger organizations are experimenting with social networking sites to feed recruitment, but admit that they have not fully adopted this approach. Developing partnerships with Lakehead University and Confederation College for internships, placements, job fairs, and presentations are integral to the recruitment process.

## **FRENCH LANGUAGE SERVICES**

The requirements for French Language Service (FLS) within Northwestern Ontario vary greatly. Most participants feel that they are providing FLS in their area that is appropriate for the demand. The City of Thunder Bay IDN and the District IDN are required to have designated FLS and other districts are not. In the District IDN, up to forty per cent (40%) of the population speaks French, and service providers reported that they felt able to offer adequate FLS. The exception to this was the Thunder Bay Regional Health Sciences Centre: in an effort to address a shortfall in FLS, they identified 250 positions that require FLS and have worked toward filling that gap and have, to date, hired 40 staff with FLS capabilities.

Tracking staff language abilities varied between facilities. A few participants noted that they record all of the languages that their staff can speak including Finnish, Italian, and Ukrainian. A shortage of American Sign Language interpreters for medical appointment has resulted in wait times of four (4) to six (6) weeks for services.

## **ABORIGINAL SERVICES**

Participants noted that in most cases, language for Aboriginal clients is not an issue as most speak English. Most were aware of resources available to them to provide First Nation languages on demand and most had the information available to front-line staff. Larger organizations have hired Aboriginal staff to provide language and cultural activities to improve patient care.

Cultural differences pose more of an issue with healthcare providers and the need for training in this area was identified. In addition, it was suggested that course curriculum in health care include courses in Aboriginal culture.

Seeking qualified Aboriginal staff is ongoing at most of the organizations with recruitment efforts favouring Aboriginal applicants. Healthcare organizations are working with all levels of education providers to gain the interest of students of all ages.

## **RETIREMENT**

The average age of retirement was not universal with the age of retirement ranging from 55 to 70 years old. Factors affecting the age of retirement include: health, benefits, pension, and physical demands of the position. With the age of the current workforce, one participant noted that looming retirements will, "be crippling if we don't get on top of it." Most organizations noted that they are not prepared for the impact and some have only recently started to address it.

Opportunity for change in roles and responsibilities will be created by these retirements. It will be easier to make organizational shift in support staff and management than in front-line delivery where positions are unionized and there are mandated services.

The concern that was raised most often was the imminent retirement of senior management, leaders, and supervisors. Participants expressed that without more leadership training and succession planning, the system would be in jeopardy.

## **FORECASTING**

Forecasting human resources varied: some had made forecasts, but others had not forecasted at all. Some organizations are starting to address the shortages, especially in leadership areas and have developed succession plans and are looking for upcoming leaders from within the organization. Others have identified shortfalls in FLS services and are hiring new staff with this skill. One organization attempts to hire qualifying applicants even when there is not a position posted as vacancies come up continuously. Some community-based providers expressed that in their efforts to recruit for today takes precedent over identification of future needs.

## **CHANGES IN SCOPE OF PRACTICE AND FOCUS ON INTER-PROFESSIONAL CARE TEAMS**

Additions to the system, Nurse Practitioner (NP), Physician Assistant (PA), and Personal Support Worker (PSW), in the last few years have altered the delivery of health care. As the Position of Physician Assistant is not fully integrated into any of the Districts, there were not a lot of comments from the Focus Groups. Nurse Practitioners, however, are highly valued and it was noted that their role in health care is still evolving. Vacancies exist for Nurse Practitioners and they will continue to migrate as more desirable locations are available, but as it is a newer profession, retirement will not be an issue in the next five to ten year.

The occupation that generated the most comments was the Personal Support Worker. Currently, PSWs are registering, if they choose to, and the scope of their work is more defined. In addition, organizations where RPNs and RNs are starting to supervise the work of PSWs, the roles and responsibilities of all involved are not clearly defined. All PSWs do not have the same training so skills and abilities vary from person to person and finding qualified, motivated PSWs is difficult. Heard often at the Focus Groups is that there is a shortage of PSWs and this gap is widening quickly as the current PSWs are aging as is the population.

## **TECHNOLOGY-ENABLED CARE**

Throughout the Districts, technology such as Ontario Telemedicine Network (OTN) is being embraced and used to its capacity. It has cut down the amount of time and money spent on travel between communities, facilitates staff training, and has opened up counseling services to rural communities. However, with the opening up of services, there is an increased demand and more pressure on the caregivers. Furthermore, does not reduce the amount of hands-on care that is required, it just shifts it to where the patient is located.

## **LEGISLATED SHORT-TERM LEAVE**

Small health service providers were asked to comment on short-term leaves including parental leaves and compassionate care leaves. Most noted that a leave of absence for any reason increases the stress on their organization. One participant noted that with many of their employees that are getting closer to retirement age are caring for aging parents. In addition, new hires are more likely to start a family. They are constantly facing the challenge of filling short-term positions with no promise of full-time permanent work. Some facilities use locums constantly to fill the gap. In another community, a leave of absence resulted in the need to move the clients to a larger centre for care. When the employee is ready to return to work, there may not be anyone to care for. Another facility noted that ten per cent of their staff were on leave at any given time.

One employer noted that they could not facilitate non-legislated leaves of absence requests, i.e. extended vacations and learning opportunities. In some cases, it has lead to the employee resigning their position in a rural community creating another vacancy that is hard to fill.

## **OPPORTUNITIES FOR COLLABORATION**

There is opportunity for crossover and sharing of resources within the healthcare system. There is also an opportunity to share information systems, recruitment tools and rewards packages to improve recruitment of new people and maintain statistics on current healthcare workers throughout Northwestern Ontario. Participants identified opportunities to share resources, co-locate resources and develop common applicant and talent pools and integrated recruitment strategies. Participants also identified cost-neutral opportunities for collaboration, including sharing of best practice, knowledge exchange and communities of practice.

## **OTHER HUMAN RESOURCES ISSUES**

There were a number of issues related to human resources that were also identified:

- As new mines open up throughout the north, those communities will need to increase their health care capacity.
- Housing in most areas is limited, hindering recruitment.
- Suitable jobs for spouses are not readily available.
- Volunteers provide a large support system and are also aging and will reduce in numbers dramatically in the next ten years.
- In smaller communities, private retirement homes don't exist.

## **BECOMING MORE STRATEGIC**

Sharing recruitment and training resources was noted by several of the focus groups. Where senior administrators "wear multiple hats" and recruitment is one of them, other responsibilities compete for priority.

Looking outside of the healthcare system for solutions should be done. An example of this is applying LEAN to healthcare to reduce steps taken during client visit which reduces time per patient and creates efficiencies in the system.

Finally, with so much emphasis on recruitment, there is a need for examining retention strategies to ensure that after all the effort to get staff, they stay for extended periods of time.

## **WHAT SHOULD BE ADDRESSED IN THE NEXT 5 AND 10 YEARS?**

The Focus Groups had many recommendations, which are as follows:

1. Provide Leadership Training: All groups agreed that there is an urgent need to provide in-depth training in leadership by an accredited organization that is willing to customize programs.
2. Training Collaboration: Sharing of training resources and the use of OTN in all areas of health care should be implemented to create cost and time efficiencies.
3. Balance Compensation: Equal pay across organizations and sectors would reduce "poaching" within the region.
4. Harmonize Pension Plan: Work toward having health care organizations use a common pension plan that would be portable so moving to new locations, either in or out of rural locations, would not be detrimental to one's pension.

5. Integrate Administrative Services: Amalgamation of services that include: Dietary (planning and purchasing), Human Resources (payroll), and Information Technology (including common software and systems) may create efficiencies in administration and reporting.
6. Focus on upcoming areas of health care that will have issues: Complex care and Mental Health issues will increase with an aging population and are already underserviced.
7. Support Recruitment: There is a need for recruiter and tools to hire more people. A solution put forward in one discussion was to pool resources and share recruitment staff and applicants.
8. Expand Placement Programs: Rural communities identified that placements have ended in successful recruitments so expanding their ability to facilitate more placements would be beneficial.
9. Utilize New Professions: Nurse Practitioners are integrated into the system, but there are still vacancies and the Physician Assistant should create efficiencies as more graduate from the program.
10. Enhance Educational Programs: Current and future healthcare program curriculum should include: behavioural therapy, Aboriginal cultural awareness, leadership, critical thinking, and confidence building.
11. Increase ability to hire foreign trained workers: The barriers that exist to hiring foreign trained workers need to be re-examined and changed. Small and rural organizations don't have the resources or time to navigate the process.
12. Focus on Youth: Continue promoting health care professions to younger populations (job fairs, and classroom visits) and target Francophone and Aboriginal populations.

## **SKILLS AND RESOURCES REQUIRED FOR CHANGE**

With "a perfect storm brewing", health care providers expressed a need to work together to solve the human resources issues that they will face in the next ten (10) years. Good leadership, strategic thinking and creative problem solving will be required. There was an acknowledgement that an increase in financial resources to meet the need is unrealistic. One participant noted that to support the change, investments in information technology will be needed. Another noted that the involvement of Human Resources professionals will be required to develop solutions.

### **5.2.4 TABLES: RETIREMENT PREDICTORS AND VACANCIES**

Tables for questions six (6) and seven (7) were provided (see Appendix K). Seven (7) were completed and returned, but because data would not be broadly representative of the population, it is not included in the report. However, the data that was collected was reviewed, and it reflected the comments of the Focus Group participants. One participant noted that while completing the exercise, she was alarmed at the number of retirements that they would be facing in the next five and ten years.

The first requested a breakdown of occupations by NOC codes: 3111 Specialist Physicians, 3124 Allied primary health practitioner, and 3125 Other Professional occupations in health diagnosing and treating. Participants were instructed to note the number of staff by code and by the following age groups: (15-44, 45-55, 55-60, and 61+). Table 1 confirmed that twenty percent (20%) of healthcare professionals are 55 or older and most likely to be retiring within the next 10 years.

Table 2 and Table 3 required participants to note vacancies that they had in healthcare related professions, frontline and support staff in one of three categories: current vacancies, vacancies expected in the next five years, and expected in the next ten years. Table 2 (NOC 3111 and NOC 3124) noted that current vacancies are of concern, but in they may double in the next five (5) years and triple in ten (10) years.

Table 3 examined other categories of healthcare workers such as Registered Nurses, General Practitioners, Dieticians, Medical Laboratory Technologist, as well as non-traditional healthcare providers including: Psychologists and Community and Social Workers. It demonstrated that there were current vacancies, but they would be ten times larger in five (5) years with the current workforce. In ten (10) years, the impact will lessen by half that amount.

As mentioned in the Focus Groups, participants noted that other supporting roles in healthcare such as administrators, supervisors, executive directors, and managers will be retiring within the next five (5) and ten (10) years. In addition, support staff such as administrative assistants, laundry, maintenance, and dietary would be in a similar situation.





## ■ ■ ■ 6.1. DEMAND FOR HEALTHCARE WORKERS IN NORTHWESTERN ONTARIO REGIONS .....

The main objective of the present study has been to analyze and forecast the specific health human resource demands within each of the five integrated district networks in Northwestern Ontario during 2010-2025. The resulting future demands study will be used by the North Superior Workforce Planning Board (NSWPB), the Northwest Training and Adjustment Board (NTAB), and the North West Local Health Integration Network (LHIN) to provide reliable projections to employment service providers for planning and programming service delivery in healthcare. In addition, information may be shared with post-secondary institutions for their consideration in assessing and implementing career courses and curriculum.

The availability of healthcare professionals directly impacts the well-being of those who live in Northwestern Ontario. In general, the future demand for healthcare occupations is comprised of two separate components: first, there is a need to replace those workers who retire over the forecast period. This constitutes the retirement-replacement, or retirement load component of the future demand for healthcare workers. The second component considers the new workers who will have to be hired over the forecast period to address the growing demand for healthcare services caused by demographic changes, i.e. population growth and aging of the population. This constitutes the growth component of total demand for healthcare providers. In addition, the replacement of those practitioners who leave the labour force or move before retirement needs to be taken into consideration.

The retirement load is estimated using detailed data on the occupational distribution of healthcare workers by age in various Northwestern Ontario regions. The occupational distribution of healthcare workers is analyzed in Part IV of this study. The growth component of demand is estimated based on detailed population projections and demand estimates presented in Parts II and III of this study.

The retirement load is defined as the number of workers who retire during the period under consideration. We also define retirement rate as the percentage of workers in each occupation who retire during a given period.

The retirement load component of the total demand for healthcare workers in each occupation is estimated based on the assumption that healthcare professionals are retiring at an average age of 65. Our focus group participants suggested that this assumption is on the conservative side arguing that many professionals retire prior to 65 while some work beyond that age.

### **6.1.1 ESTIMATION OF THE RETIREMENT LOAD IN NORTHWESTERN ONTARIO**

Using the 2006 Census, we can estimate the number of healthcare providers who retire in the timeframe under consideration. Our forecasting period is from 2010 to 2015, 2020 and 2025. It has to be noted that any long-term projection into the future is inevitably accompanied by some element of uncertainty that increases as the forecasting time horizon lengthens.

Appendix G provides detailed data on retirement load estimates for various healthcare occupations in Northwestern Ontario and its sub-regions. Focusing on the retirements that have already occurred, 445 or 6.0 percent of healthcare workers who were working in 2005 would likely have retired by 2010. They include 50.0 percent of optometrists, 33.3 percent of dental technologists, 25.0 percent of specialist physicians, 22.2 percent of opticians and 21.2 percent of general practitioners. These are relatively high retirement rates assuming they left at 65 years of age<sup>16</sup>. Within the relatively large nursing category, registered nurses lost 140 or 5.5 percent of their workforce and practical nurses lost 30 or 6.1 percent of their workforce.

<sup>16</sup> We assume that those who retired between 2005 and 2010 have already been replaced by new healthcare providers in the region.

These are relatively moderate retirement rates for nurses assuming they retire at 65. If employers faced heavier rates of retirement, the problem is probably related to the retention of staff rather than age-related retirement.

Looking into the future, Figure 6.1 shows the total number of retirements expected during 2010-2025.

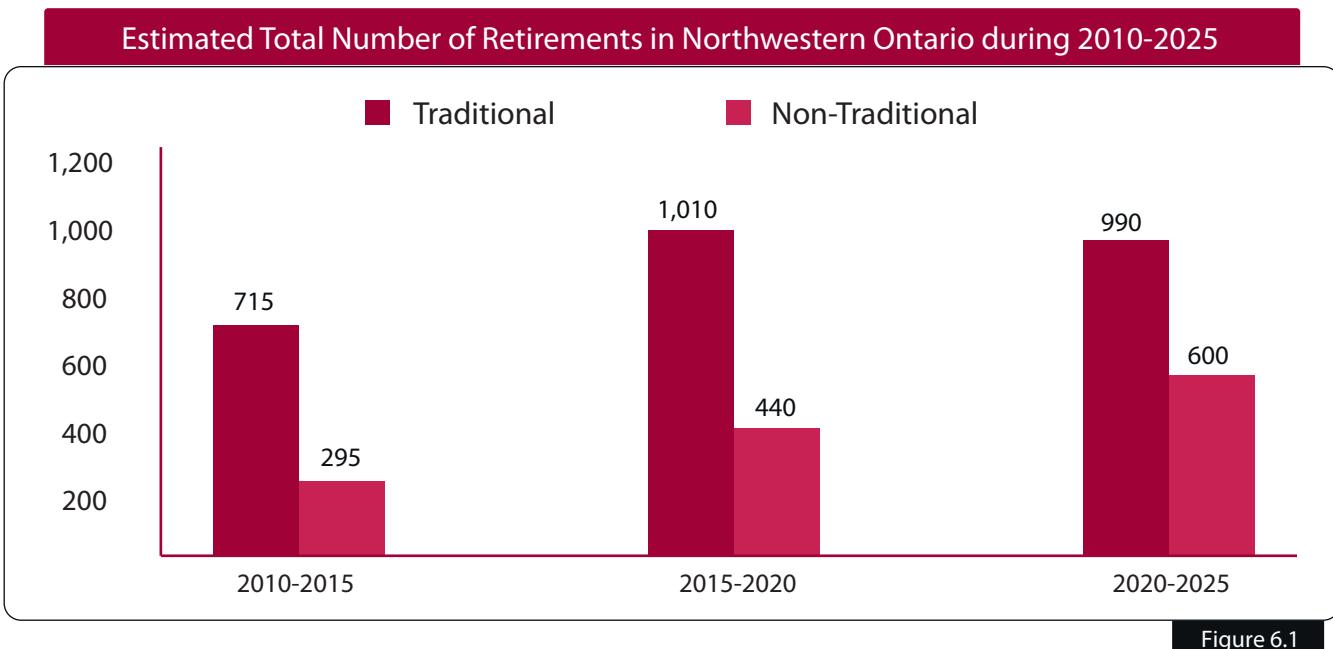


Figure 6.1

Approximately 725 or 9.7 percent of healthcare workers will retire during 2010-2015. Registered nurses (285) account for the largest number of retirees during that period followed by nurse aides, orderlies and patient service associates (125) and registered practical nurses (85). During 2010-2015, the occupations with the largest retirement rate include dental technologists and technicians (33.3%), chiropractors (30%), dentists (17.2%), registered practical nurses (17.2%) and medical radiation technologists (17.1%).

Focusing on the 2015-2020 period, a total of 1,010 or 13.5 percent of healthcare workers will be retiring during that period. The occupations with the largest retirement load include registered nurses (410), nurse aides, orderlies and patient service associates (130) and registered practical nurses (125). The occupations with the highest retirement rate during 2015-2020 include all veterinarians, optometrists (50%), medical technologists (30.0%), registered practical nurses (25.2%) and specialist physicians (22.2%).

Finally during 2020-2025, 990 or 13.3 percent of healthcare workers will be retiring. The occupations with the largest retirement load include registered nurses (385) and nurse aides, orderlies and patient service associates (210). The occupations with the highest retirement rate include all denturists, opticians (44.4%), dentists (20.7%) and pharmacists (19.5%). It appears that the nursing and related occupations are most vulnerable to shortages because of the large numbers needed as well as the length of the training program, the stress of the work and the need for 24-hour staffing.

Among the non-traditional healthcare occupations, 4.0 percent or 145 workers retired during 2005-2010. Community and social service workers (60) had the largest retirement load followed by social workers (35) and family, marriage and other counsellors (30).

Looking into the future, as Northwestern Ontario's population ages, the retirement rate increases from 4.0 percent during 2005-10 to 16.8 percent in period 2020-25. The occupations with the largest retirement load include community and social service workers followed by social workers and family, marriage and other counselors.

Table 6.1 shows the number of retirements in occupations that may be most susceptible to shortages as defined by those with a higher retirement rate than the overall average. It can be seen that the healthcare occupations most susceptible to shortage during 2010-2025 include specialist physicians, registered nurses, registered practical nurses, and nurse aides and orderlies.

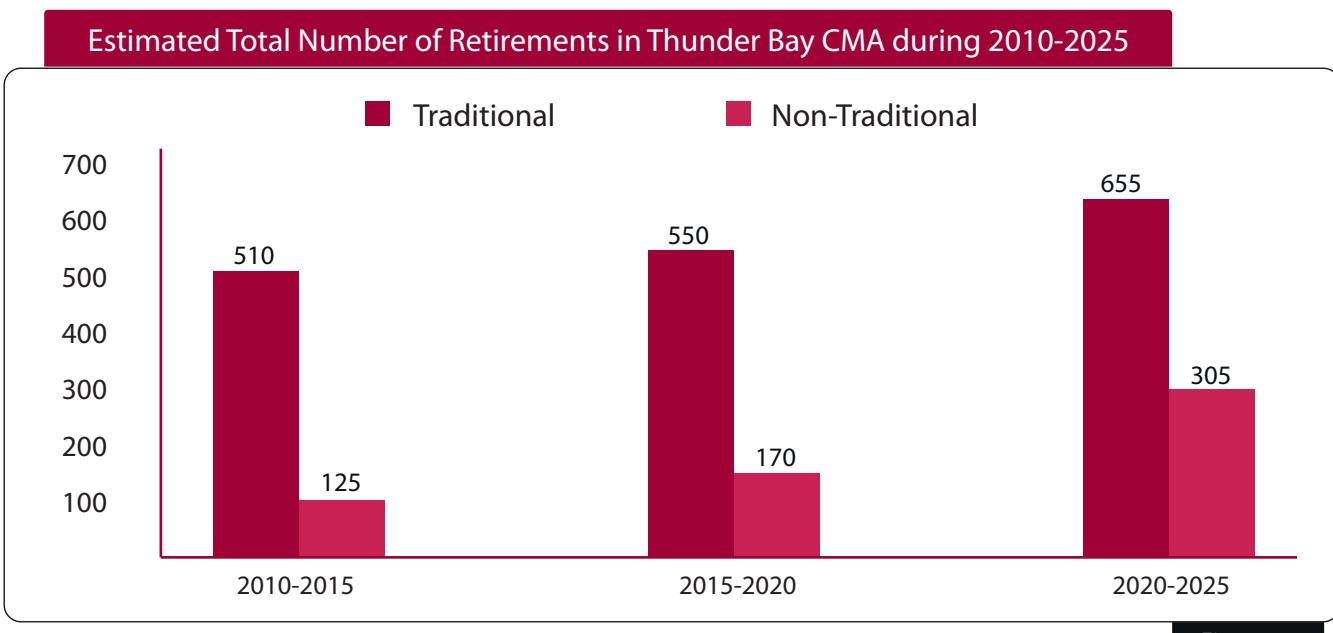
Focusing on non-traditional healthcare occupations, the ones most susceptible to shortage include social workers; inspectors in public and environmental health and occupational health and safety; psychologists; recreation, sports and fitness program supervisors and consultants, as well as medical secretaries.

Healthcare Occupations Susceptible to Future Shortages in Northwestern Ontario				
OCCUPATIONS WITH HIGHER THAN AVERAGE NO. OF RETIREMENTS	2010-2015	2015-2020	2020-2025	
NOC 3111 Specialist Physicians (Clinical Medicine, Laboratory Medicine, Surgery)	-	40	-	
NOC 3113 Dentists	25	25	30	
NOC 3114 Veterinarians	-	20	-	
NOC 3121 Optometrists	-	10	-	
NOC 3122 Chiropractors	15	10	-	
NOC 3131 Pharmacists	-	-	40	
NOC 3132 Dietitians and Nutritionists	-	10	10	
NOC 3141 Audiologists and Speech-Language Pathologists	10	-	-	
NOC 3142 Physiotherapists	30	-	-	
NOC 3152 Registered Nurses	285	410	385	
NOC 3211 Medical Laboratory Technologists and Pathologists' Assistants	25	35	25	
NOC 3212 Medical Laboratory Technicians	-	-	20	
NOC 3215 Medical Radiation Technologists	30	-	25	
NOC 3216 Medical Sonographers	10	10	10	
NOC 3219 Other Medical Technologists and Technicians (except Dental Health)	-	15	-	
NOC 3221 Denturists	-	-	10	
NOC 3222 Dental Hygienists and Dental Therapists	-	20	-	
NOC 3223 Dental Technologists, Technicians, and Laboratory Bench Workers	10	-	-	
NOC 3231 Opticians	-	-	20	
NOC 3233 Registered Practical Nurses	85	125	-	
NOC 3234 Paramedics	-	-	55	
NOC 3413 Nurse aides, Orderlies and Patient Service Associates	125	-	210	
NOC 3414 Other Assisting Occupations in Support of Health Services	-	-	-	
<b>TOTAL</b>	<b>650</b>	<b>730</b>	<b>840</b>	
NON-TRADITIONAL HEALTH CARE CAREERS				
	2010-2015	2015-2020	2020-2025	
NOC 1243 Medical Secretaries	15	-	25	
NOC 2263 Inspectors in Public and Environmental Health and Occupational Health and Safety	10	15	30	
NOC 4151 Psychologists	-	10	15	
NOC 4152 Social Workers	70	-	150	
NOC 4153 Family, Marriage and Other Related Counsellors	65	70	-	
NOC 4167 Recreation, Sports and Fitness Program Supervisors and Consultants	10	25	20	
<b>TOTAL</b>	<b>170</b>	<b>120</b>	<b>240</b>	

Table 6.1

## 6.1.2. ESTIMATION OF THE RETIREMENT LOAD IN THUNDER BAY CMA

Figure 6.2 shows the number of healthcare providers in Thunder Bay CMA who will retire during 2010-2025. Approximately 510 or 11.0 percent of healthcare providers will be retiring during 2010-2015. The retirement rate increases to 11.8 percent or 550 workers in 2015-2020 and to 14.1 percent or 655 workers in 2020-2025. Figure 6.2 shows that the total retirement load rises as the pool of workers age. Focusing on the non-traditional healthcare occupations, approximately 125 or 7.8 percent of healthcare workers will retire during 2010-2015. This percentage increases to 10.6 percent or 170 workers in 2015-2020 and 18.94 percent or 305 workers in 2020-2025.



The occupations with the highest number of retirements during 2010-2025 include registered nurses (680), registered practical nurses (155) and nurse aides and orderlies (295). The nursing-related occupations are the ones with the largest number of retirement-replacement needs. The occupations with the largest number of retirement-replacement needs in the non-traditional sector include community and social services (260) and social workers (145).

Table 6.2 shows the number of retirements in occupations that may be most susceptible to shortages. It can be seen that the healthcare occupations most susceptible to shortage during 2010-2025 include specialist physicians, general practitioners, registered nurses, registered practical nurses, and nurse aides and orderlies.

Focusing on the non-traditional healthcare occupations, the ones most susceptible to shortage include social workers; inspectors in public and environmental health and occupational health and safety; psychologists; recreation, sports and fitness program supervisors and consultants as well as medical secretaries.

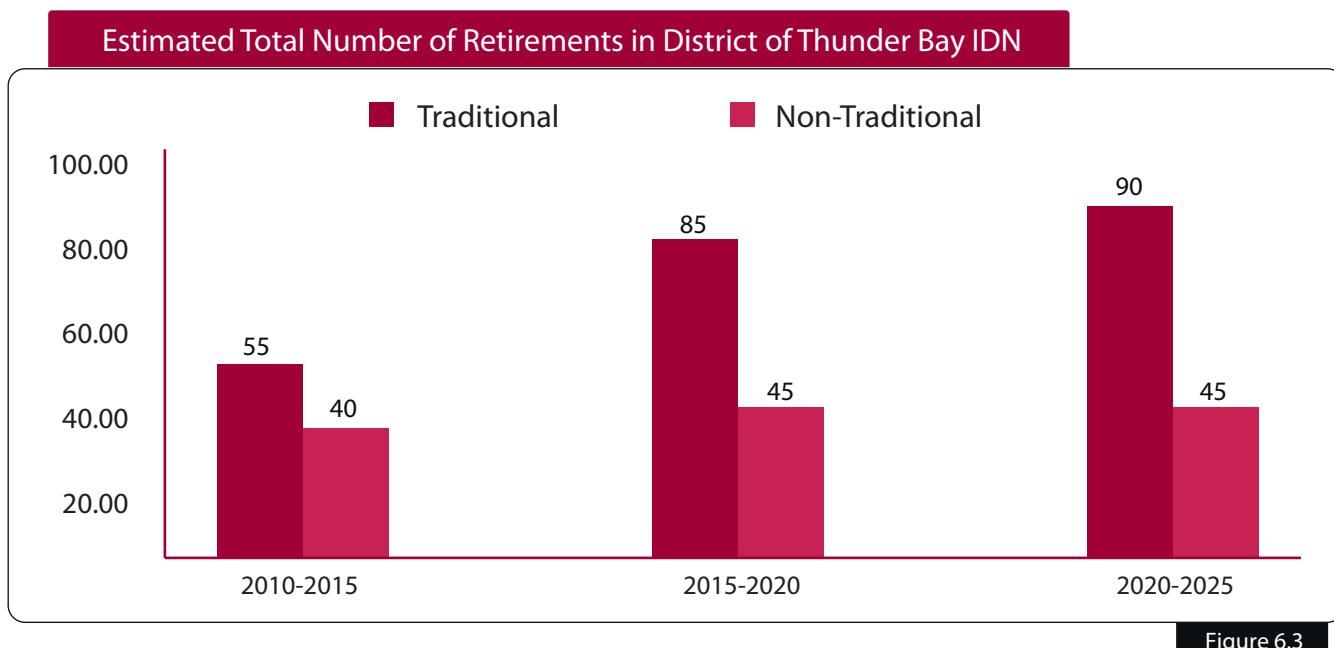
## Healthcare Occupations Susceptible to Future Shortages in Thunder Bay CMA

OCCUPATIONS WITH HIGHER THAN AVERAGE NO. OF RETIREMENTS	2010-2015	2015-2020	2020-2025
NOC 3111 Specialist Physicians (Clinical Medicine, Laboratory Medicine, Surgery)	35	-	-
NOC 3112 General Practitioners and Family Physicians	15	-	-
NOC 3113 Dentists	-	25	-
NOC 3114 Veterinarians	-	15	-
NOC 3121 Optometrists	-	10	-
NOC 3122 Chiropractors	15	-	-
NOC 3131 Pharmacists	15	35	-
NOC 3132 Dietitians and Nutritionists	-	10	-
NOC 3142 Physiotherapists	35	25	-
NOC 3143 Occupational Therapists	-	-	-
NOC 3152 Registered Nurses	200	220	260
NOC 3211 Medical Laboratory Technologists and Pathologists' Assistants	20	20	-
NOC 3212 Medical Laboratory Technicians	10	15	15
NOC 3214 Respiratory Therapists, Clinical Perfusionists and Cardio-Pulmonary Technologists	-	10	-
NOC 3215 Medical Radiation Technologists	30	-	-
NOC 3219 Other Medical Technologists and Technicians (except Dental Health)	-	10	-
NOC 3221 Denturists	-	-	10
NOC 3222 Dental Hygienists and Dental Therapists	-	10	-
NOC 3231 Opticians	-	-	20
NOC 3232 Midwives and Practitioners of Natural Healing	10	-	-
NOC 3233 Registered Practical Nurses	65	65	-
NOC 3234 Paramedics	-	-	30
NOC 3413 Nurse aides, Orderlies and Patient Service Associates	-	-	165
<b>TOTAL</b>	<b>400</b>	<b>460</b>	<b>560</b>
NON-TRADITIONAL HEALTH CARE CAREERS	2010-2015	2015-2020	2020-2025
NOC 1243 Medical Secretaries	10	10	20
NOC 2263 Inspectors in Public and Environmental Health and Occupational Health and Safety	10	10	15
NOC 4151 Psychologists	-	10	15
NOC 4152 Social Workers	40	-	-
NOC 4153 Family, Marriage and Other Related Counsellors	15	-	30
NOC 4167 Recreation, Sports and Fitness Program Supervisors and Consultants	-	25	15
<b>TOTAL NON-TRADITIONAL HEALTH CARE CAREERS</b>	<b>75</b>	<b>55</b>	<b>95</b>

Table 6.2

### 6.1.3. ESTIMATION OF THE RETIREMENT LOAD IN DISTRICT OF THUNDER BAY IDN

Figure 6.3 shows the number of healthcare providers in District of Thunder Bay IDN who will retire during 2010-2025. Approximately 55 or 9.2 percent of healthcare providers will be retiring during 2010-2015. The retirement rate increases to 14.3 percent or 85 workers in 2015-2020 and to 15.1 percent or 90 in 2020-2025. Focusing on the non-traditional occupations in healthcare, approximately 40 or 11.4 percent of healthcare workers will retire during 2010-2015. This percentage increases to 12.9 percent or 45 workers during 2015-2020 and 2020-2025.



The occupations with the highest retirement load include registered nurses, paramedics, nurse aides and orderlies, and medical radiation technologists. The largest number of retirements among non-traditional healthcare occupations include social workers, community and social services, family, marriage and other related counsellors.

Table 6.3 shows the number of retirements in occupations that may be most susceptible to shortages. It can be seen that the healthcare occupations most susceptible to shortage during 2010-2025 include registered nurses, medical laboratory technologists and pathologists' assistants, medical radiation technologists, registered practical nurses, paramedics and nurse aides and orderlies.

Focusing on the non-traditional healthcare occupations, the ones most susceptible to shortage include social workers, inspectors in public and environmental health and occupational health and safety, medical secretaries, and family, marriage and other related counsellors.

### Healthcare Occupations Susceptible to Future Shortages in District of Thunder Bay IDN

OCCUPATIONS WITH HIGHER THAN AVERAGE NO. OF RETIREMENTS	2010-2015	2015-2020	2020-2025
NOC 3114 Veterinarians	-	10	-
NOC 3122 Chiropractors	-	-	10
NOC 3152 Registered Nurses		45	
NOC 3211 Medical Laboratory Technologists and Pathologists' Assistants	10	-	-
NOC 3215 Medical Radiation Technologists	-	10	10
NOC 3223 Dental Technologists, Technicians, and Laboratory Bench Workers	10	-	-
NOC 3233 Registered Practical Nurses	10	-	10
NOC 3234 Paramedics	-	10	15
NOC 3411 Dental Assistants	-	-	10
NOC 3413 Nurse aides, Orderlies and Patient Service Associates	10	10	-
NOC 3414 Other Assisting Occupations in Support of Health Services	-	-	10
<b>TOTAL</b>	<b>40</b>	<b>85</b>	<b>65</b>
NON-TRADITIONAL HEALTH CARE CAREERS	2010-2015	2015-2020	2020-2025
NOC 1243 Medical Secretaries	-	-	10
NOC 2263 Inspectors in Public and Environmental Health and Occupational Health and Safety	-	10	10
NOC 4152 Social Workers	10	20	15
NOC 4153 Family, Marriage and Other Related Counsellors	20	-	15
<b>TOTAL NON-TRADITIONAL HEALTH CARE CAREERS</b>	<b>30</b>	<b>30</b>	<b>50</b>

Table 6.3

#### 6.1.4. ESTIMATION OF THE RETIREMENT LOAD IN THE DISTRICT OF KENORA IDN

Figure 6.4 shows the number of healthcare providers in the District of Kenora IDN who will retire during 2010-2025. Approximately 110 or 8.4 percent of healthcare workers will be retiring during 2010-2015. The retirement rate changes to 15.6 percent or 205 workers in 2015-2020 and to 9.1 percent or 120 workers in 2020-2025. Focusing on the non-traditional healthcare occupations, approximately 8.3 percent or 60 healthcare workers will retire during 2010-2015. This percentage increases to 11.0 percent or 80 in 2015-2020 and 16.5 percent or 120 practitioners in 2020-2025.

## Estimated Total Number of Retirements in the District of Kenora IDN

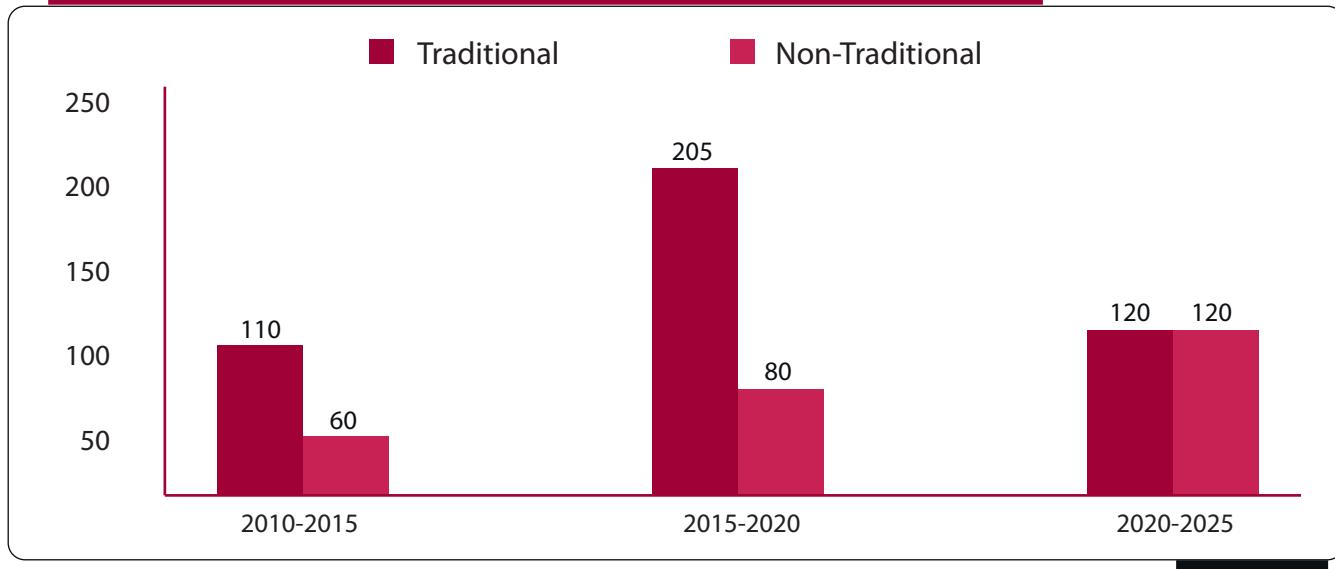


Figure 6.4

The occupations with the highest retirement load include registered nurses, dentists, pharmacists, registered practical nurses, and paramedics. The largest retirement load among non-traditional healthcare occupations include community and social service workers, social workers, family, marriage and other related counsellors.

Table 6.4 shows the number of retirements in occupations that may be most susceptible to shortages as defined by those with a higher retirement rate than the overall average. It can be seen that the healthcare occupations most susceptible to shortage during 2010-2025 include registered nurses, registered practical nurses, specialist physicians, chiropractors, medical laboratory technicians, medical radiation technologists, paramedics, and nurse aides and orderlies.

Focusing on the non-traditional healthcare occupations, the ones most susceptible to shortage include social workers, family, marriage and other related counsellors and community and social service workers.

## Healthcare Occupations Susceptible to Future Shortages in the District of Kenora IDN

<b>OCCUPATIONS WITH HIGHER THAN AVERAGE NO. OF RETIREMENTS</b>	<b>2010-2015</b>	<b>2015-2020</b>	<b>2020-2025</b>
NOC 3111 Specialist Physicians (Clinical Medicine, Laboratory Medicine, Surgery)	-	10	-
NOC 3113 Dentists	15	-	20
NOC 3122 Chiropractors	-	10	-
NOC 3131 Pharmacists	10	-	10
NOC 3152 Registered Nurses	45	-	50
NOC 3212 Medical Laboratory Technicians	-	10	-
NOC 3215 Medical Radiation Technologists	-	10	-
NOC 3222 Dental Hygienists and Dental Therapists	-	10	-
NOC 3233 Registered Practical Nurses	10	20	-
NOC 3234 Paramedics	-	-	10
NOC 3235 Other Technical Occupations in Therapy and Assessment	-	10	-
NOC 3413 Nurse aides, Orderlies and Patient Service Associates	30	40	30
NOC 3414 Other Assisting Occupations in Support of Health Services	-	10	-
<b>TOTAL</b>	<b>110</b>	<b>130</b>	<b>120</b>
<b>NON-TRADITIONAL HEALTH CARE CAREERS</b>	<b>2010-2015</b>	<b>2015-2020</b>	<b>2020-2025</b>
NOC 4152 Social Workers	-	-	35
NOC 4153 Family, Marriage and Other Related Counsellors	20	30	-
NOC 4167 Recreation, Sports and Fitness Program Supervisors and Consultants	-	-	-
NOC 4212 Community and Social Service Workers	35	45	70
<b>TOTAL</b>	<b>55</b>	<b>75</b>	<b>105</b>

Table 6.4

### 6.1.5. ESTIMATION OF THE RETIREMENT LOAD IN THE DISTRICT OF RAINY RIVER IDN

Figure 6.5 shows the number of healthcare providers in the District of Rainy River IDN who will retire during 2010-2025. Approximately 70 or 9.1 percent of healthcare providers will be retiring during 2010-2015. The retirement rate increased to 14.9 percent or 115 workers during 2015-2020 and to 14.3 percent or 110 workers during 2020-2025. Focusing on the non-traditional occupations, approximately 9.5 percent or 35 healthcare workers will retire during 2010-2015. This percentage rises to 16.2 percent or 60 workers in 2015-2020 and 21.6 percent or 80 workers in 2020-2025.

## Estimated Total Number of Retirements in the District of Rainy River IDN

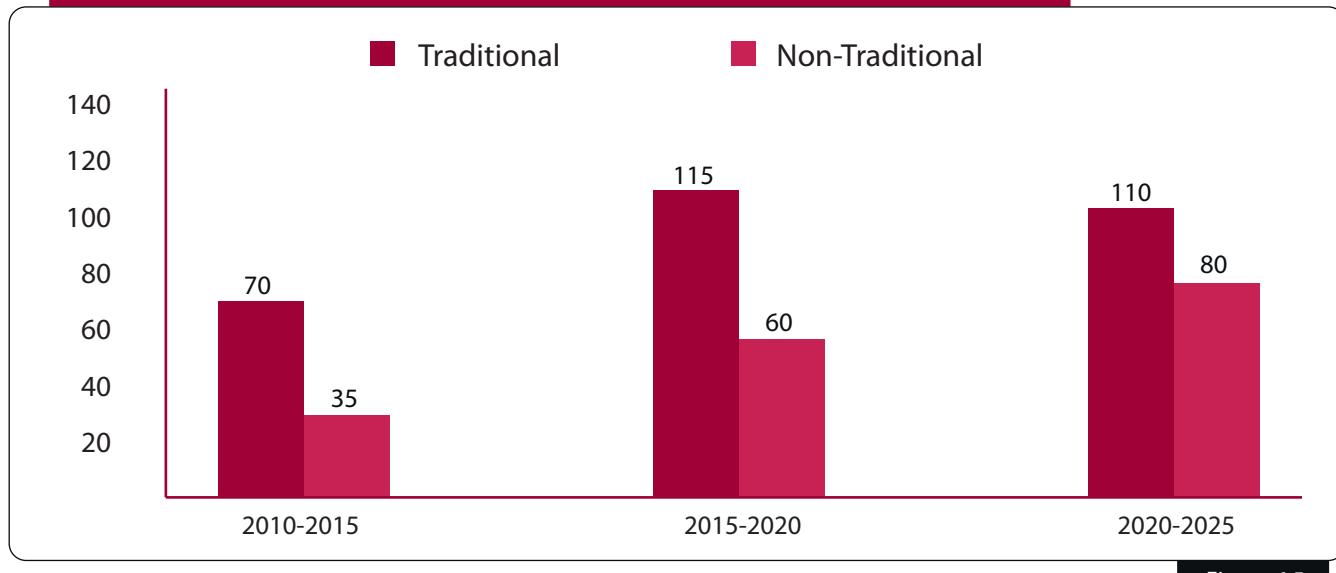


Figure 6.5

The occupations with the highest retirement load include registered nurses, specialist physicians, dentists, registered practical nurses, medical laboratory technicians, paramedics and nurse aides and orderlies. The largest retirement load among non-traditional healthcare occupations include community and social service workers, social workers, family, marriage and other related counsellors.

Table 6.5 shows the number of retirements in occupations that may be most susceptible to shortages. It can be seen that the healthcare occupations most susceptible to shortage during 2010-2025 include specialist physicians, registered nurses, medical laboratory technicians, registered practical nurses, paramedics, and nurse aides and orderlies.

Focusing on the non-traditional healthcare occupations, the ones most susceptible to shortage include social workers, family, marriage and other related counsellors and community and social service workers.

## Healthcare Occupations Susceptible to Future Shortages in the District of Rainy River IDN

OCCUPATIONS WITH HIGHER THAN AVERAGE NO. OF RETIREMENTS	2010-2015	2015-2020	2020-2025
NOC 3111 Specialist Physicians (Clinical Medicine, Laboratory Medicine, Surgery)	-	-	15
NOC 3113 Dentists	10	-	-
NOC 3152 Registered Nurses	-	55	50
NOC 3211 Medical Laboratory Technologists and Pathologists' Assistants	10	10	10
NOC 3233 Registered Practical Nurses	-	35	-
NOC 3234 Paramedics	20	-	10
NOC 3413 Nurse aides, Orderlies and Patient Service Associates	15	-	-
NOC 3414 Other Assisting Occupations in Support of Health Services	-	-	15
<b>TOTAL</b>	<b>55</b>	<b>100</b>	<b>100</b>
NON-TRADITIONAL HEALTH CARE CAREERS	2010-2015	2015-2020	2020-2025
NOC 4152 Social Workers	-	10	30
NOC 4153 Family, Marriage and Other Related Counsellors	15	15	10
NOC 4212 Community and Social Service Workers	20	35	40
<b>TOTAL</b>	<b>35</b>	<b>60</b>	<b>80</b>

Table 6.5

### 6.1.6. ESTIMATION OF THE RETIREMENT LOAD IN NORTHERN IDN

Figure 6.6 shows the number of healthcare providers in Northern IDN who will retire during 2010-2025. Approximately 30 or 7.8 percent of healthcare providers in Northern IDN will be retiring during 2010-2015. The retirement rate increases to 13.0 percent or 50 workers in 2015-2020 and to 15.6 percent or 60 in 2020-2025. Focusing on the non-traditional occupations, approximately 30 or 5.8 percent of healthcare workers will retire during 2010-2015. This percentage changes to 15.4 percent or 80 workers in 2015-2020 and 8.7 percent or 45 workers in 2020-2025.

Estimated Total Number of Retirements in Northern IDN

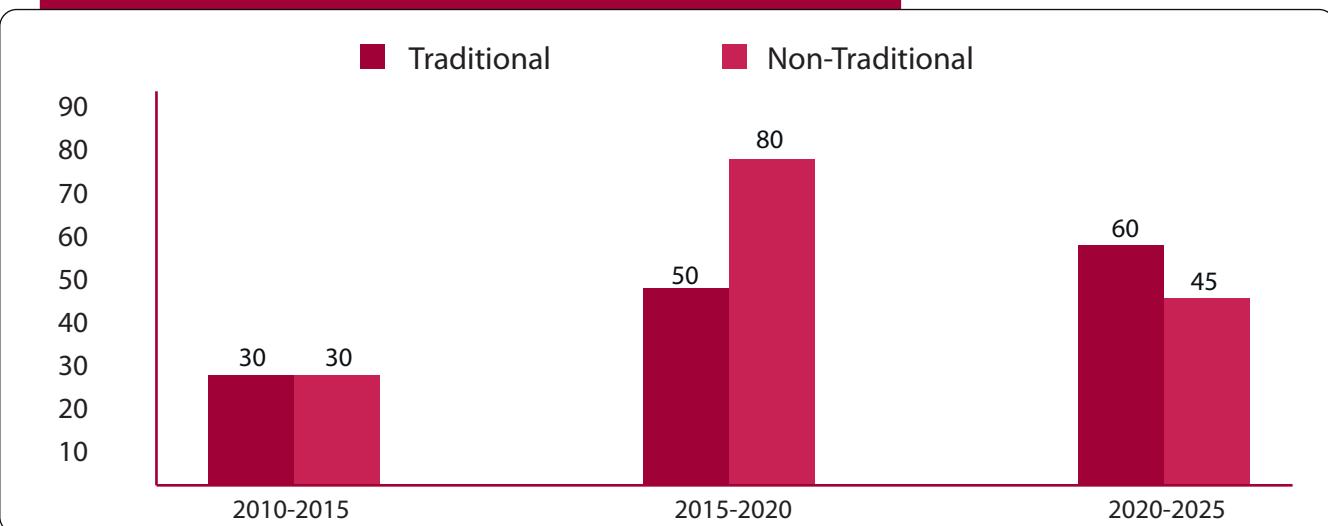


Figure 6.6

The occupations with the highest retirement load include registered nurses, specialist physicians, dentists, registered practical nurses, medical laboratory technicians, paramedics and nurse aides and orderlies. The largest number of retirements among non-traditional healthcare occupations includes community and social service workers, social workers, family, marriage and other related counsellors.

Table 6.6 shows the number of retirements in occupations that may be most susceptible to shortages as defined by those with a higher retirement rate than the overall average. It can be seen that the healthcare occupations most susceptible to shortage during 2010-2025 include pharmacists, registered nurses, medical laboratory technologists, medical sonographers, registered practical nurses, paramedics, and nurse aides and orderlies.

Focusing on the non-traditional healthcare occupations, the ones most susceptible to shortage include family, marriage and other related counsellors and community and social service workers.

<b>Healthcare Occupations Susceptible to Future Shortages in Northern IDN</b>				
<b>OCCUPATIONS WITH HIGHER THAN AVERAGE NO. OF RETIREMENTS</b>	<b>2010-2015</b>	<b>2015-2020</b>	<b>2020-2025</b>	
NOC 3131 Pharmacists	-	-	10	
NOC 3152 Registered Nurses	20	30	-	
NOC 3211 Medical Laboratory Technologists and Pathologists' Assistants	-	-	10	
NOC 3216 Medical Sonographers	-	-	10	
NOC 3233 Registered Practical Nurses	-	-	10	
NOC 3234 Paramedics	-	-	10	
NOC 3413 Nurse aides, Orderlies and Patient Service Associates	10	10	10	
NOC 3414 Other Assisting Occupations in Support of Health Services	-	10	-	
<b>TOTAL</b>	<b>30</b>	<b>50</b>	<b>60</b>	
<b>NON-TRADITIONAL HEALTH CARE CAREERS</b>	<b>2010-2015</b>	<b>2015-2020</b>	<b>2020-2025</b>	
NOC 4153 Family, Marriage and Other Related Counsellors	10	20	10	
NOC 4212 Community and Social Service Workers	20	60	35	
<b>TOTAL</b>	<b>30</b>	<b>80</b>	<b>45</b>	

Table 6.6

## 6.2. GROWTH COMPONENT OF DEMAND FOR HEALTHCARE OCCUPATIONS

The second component of demand comprises healthcare providers who will have to be hired in the future in response to growing demand for their services. Population growth or decline directly affects demand for healthcare services. In addition, aging of the population further increases demand for those services and thus more workers need to be hired to accommodate the rising demand. To estimate the impact of demographic changes on demand for healthcare workers, we need to make certain assumptions regarding the ratio of workers to patients, residents or clients in the future. One potential assumption would be to assume that the ratio of workers to patients, residents or clients remains constant over the forecast period.

In Part III of this study, we estimated the growth-demand component of the total demand for healthcare services under two assumptions regarding population change in Northwestern Ontario. Scenario I, which was our base scenario, assumed zero net migration during the forecast period. However, this assumption may be too conservative given the expected growth in the regional mining industry over the forecast period. Therefore, scenario II assumed a moderate population growth during the forecast period. Thus, we estimate the growth component of demand for healthcare services under these two population growth scenarios.

### 6.2.1. GROWTH-DEMAND COMPONENT FOR HEALTHCARE SERVICES IN NORTHWESTERN ONTARIO

Appendix G contains our basic data and estimates of demand for healthcare services in various regions in Northwestern Ontario. Figure 6.7 shows the total growth in demand for traditional and non-traditional healthcare workers under scenarios I and II in Northwestern Ontario.

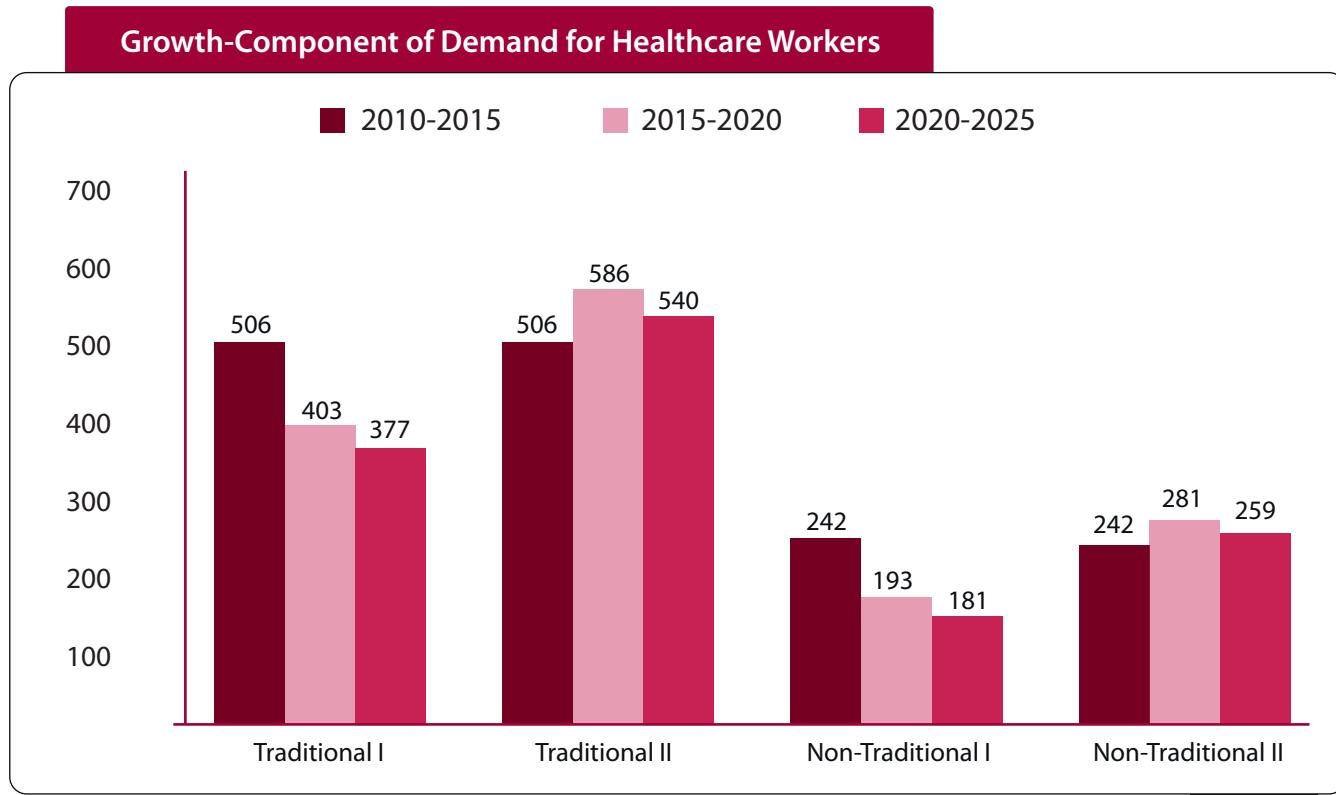


Figure 6.7

Under scenario I, the growth component of demand for healthcare providers in the traditional sector will equal 506 during 2010-2015, 403 during 2015-2020 and 377 during 2020-2025. Under scenario II, demand is expected to increase from 506 during 2010-2015 to 586 during 2015-2020 and 540 during 2020-2025. The top three occupations with the largest increase in demand during the forecast period are:

1. Registered nurses (437 to 554)
2. Nurse aides, orderlies and patient service associates (219 to 278)
3. Registered practical nurses (86 to 109)

In addition, demand for specialists rises by 33 or 41 under scenarios I and II, respectively. Demand for general practitioners increases by 28 to 36. Focusing on the non-traditional sector, under scenario I, demand is expected to increase by 242 during 2010-2015, 193 during 2015-2020 and 181 during 2020-2025. Under scenario II, demand is expected to increase by 281 during 2015-2020 and 259 during 2020-2025. The top three occupations with the most demand during the forecast period are:

1. Community and social service workers (335 to 425)
2. Social workers (136 to 172)
3. Family, marriage and other related counsellors (78 to 99)

### **6.2.2. GROWTH-DEMAND COMPONENT FOR HEALTHCARE SERVICES IN THUNDER BAY CMA**

Figure 6.8 shows the total growth in demand for traditional and non-traditional healthcare workers under scenarios I and II resulting from demographic changes in Thunder Bay CMA.

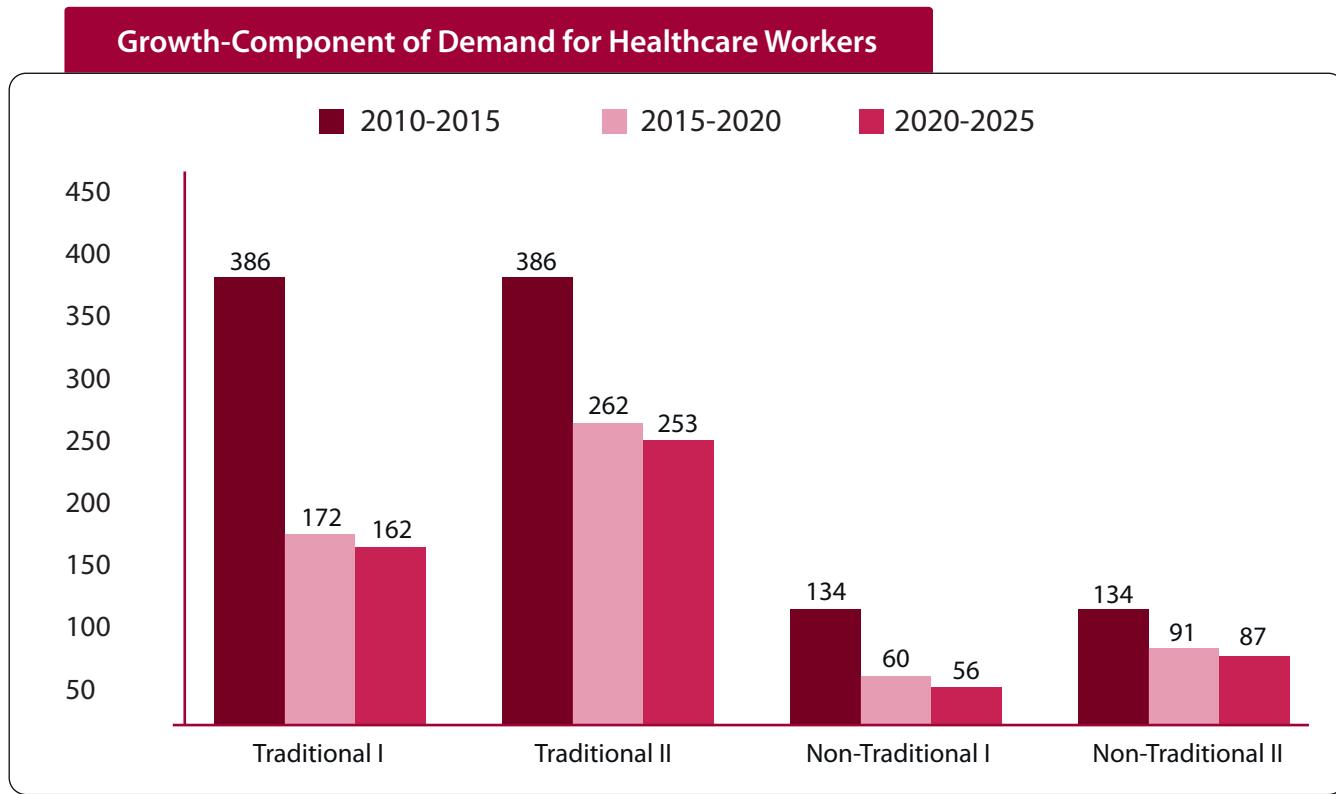


Figure 6.8 shows that under scenario I, the growth component of demand for healthcare workers in the traditional sector is expected to increase by 386 during 2010-2015, 172 during 2015-2020 and 162 during 2020-2025. Under scenario II, demand is expected to increase by 386 during 2010-2015, 262 during 2015-2020 and 253 during 2020-2025. The top three occupations with the most demand during the forecast period are:

1. Registered nurses (246 to 308)
2. Nurse aides, orderlies and patient service associates (125 to 156)
3. Registered practical nurses (53 to 67)

In addition, demand for specialists rises by 22 to 27 and demand for general practitioners increases by 15 to 18. Focusing on the non-traditional sector, demand under scenario I is expected to increase by 134 during 2010-2015, 60 during 2015-2020 and 56 during 2020-2025. Under scenario II, demand is expected to increase by 134 during 2010-2015, 91 during 2015-2020 and 87 during 2020-2025. The top three occupations with the most demand during the forecast period are:

1. Community and social service workers (128 to 161)
2. Social workers (63 to 79)
3. Family, marriage and other related counsellors (22 to 27)

### **6.2.3. GROWTH-DEMAND COMPONENT FOR HEALTHCARE SERVICES IN DISTRICT OF THUNDER BAY IDN**

Figure 6.9 shows the growth in demand for traditional and non-traditional healthcare workers under scenarios I and II in District of Thunder Bay IDN.

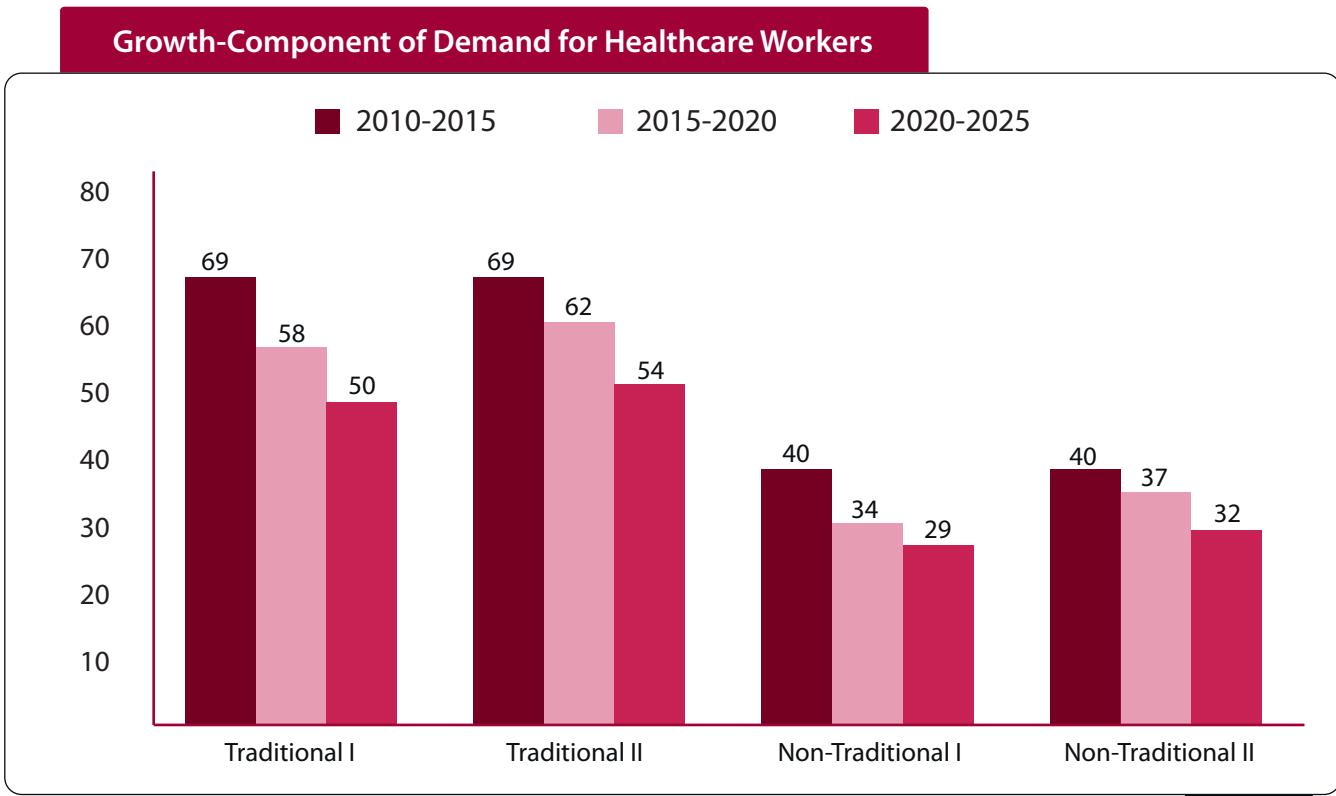


Figure 6.9

Figure 6.9 shows that under scenario I, the growth component of demand for healthcare providers in the traditional sector of District of Thunder Bay IDN is expected to increase by 69 during 2010-2015, 58 during 2015-2020 and 50 during 2020-2025. Under scenario II, demand is expected to increase by 69 during 2010-2015, 62 during 2015-2020 and 54 during 2020-2025. The top three occupations with the most demand during the forecast period are:

1. Registered nurses (62 to 65)
2. Medical radiation technologists (16 to 17)
3. Paramedics (15 to 16)

In addition, demand for specialists rises by about 4 to 5 and demand for general practitioners increases by about 10 to 11. Focusing on the non-traditional sector, the growth component of demand under scenario I is expected to increase by 40 during 2010-2015, 34 during 2015-2020 and 29 during 2020-2025. Under scenario II, demand is expected to increase by 40 during 2010-2015, 37 during 2015-2020 and 32 during 2020-2025. The top three occupations with the most demand during the forecast period are:

1. Community and social service workers (49 to 51)
2. Social workers (25 to 26)
3. Family, marriage and other related counsellors (18 to 19)

#### **6.2.4. GROWTH COMPONENT OF HEALTHCARE OCCUPATIONS IN THE DISTRICT OF KENORA IDN**

Figure 6.10 shows the total growth in demand for traditional and non-traditional healthcare workers under scenarios I and II resulting from demographic changes in the District of Kenora IDN.

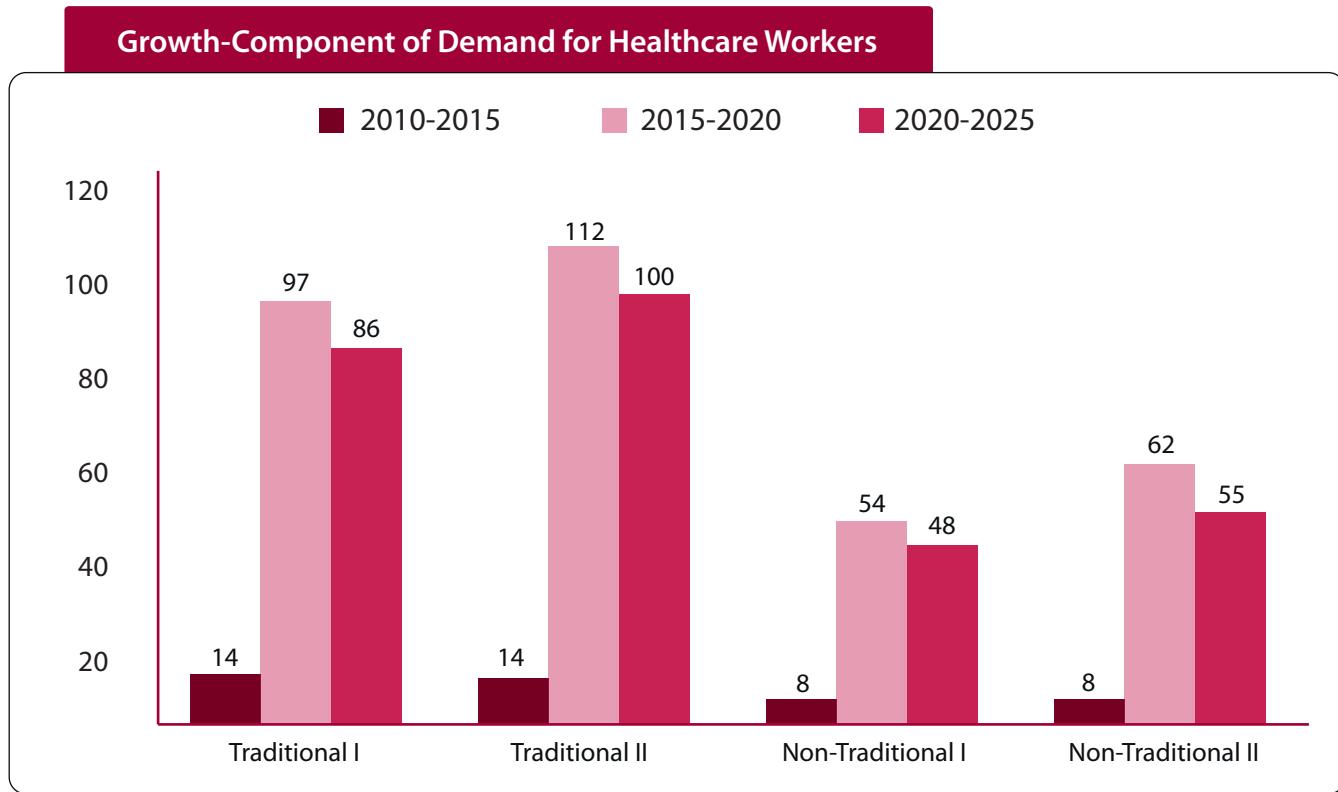


Figure 6.10

Figure 6.10 shows that under scenario I, the growth component of demand for healthcare providers in the traditional sector of the District of Kenora IDN is expected to increase by 14 during 2010-2015, 97 during 2015-2020 and 86 during 2020-2025. Under scenario II, demand is expected to increase by 14 during 2010-2015, 112 during 2015-2020 and 100 during 2020-2025. The top three occupations with the most demand during the forecast period are:

1. Registered nurses (60 to 69)
2. Nurse aides, orderlies and patient service associates (33 to 38)
3. Paramedics (14 to 16)

In addition, demand for specialists rises by about 2 and demand for general practitioners increases by 4. Focusing on the non-traditional sector, the growth component of demand under scenario I is expected to increase by 8 during 2010-2015, 54 during 2015-2020 and 48 during 2020-2025. Under scenario II, demand is expected to increase by 8 during 2010-2015, 62 during 2015-2020 and 55 during 2020-2025. The top three occupations with the largest increase in demand during the forecast period are:

1. Community and social service workers (61 to 70)
2. Social workers (24 to 28)
3. Family, marriage and other related counsellors (20 to 22)

#### **6.2.5. GROWTH COMPONENT OF HEALTHCARE SERVICES IN THE DISTRICT OF RAINY RIVER IDN**

Figure 6.11 shows the total growth in demand for traditional and non-traditional healthcare workers under scenarios I and II resulting from demographic changes in the District of Rainy River IDN.

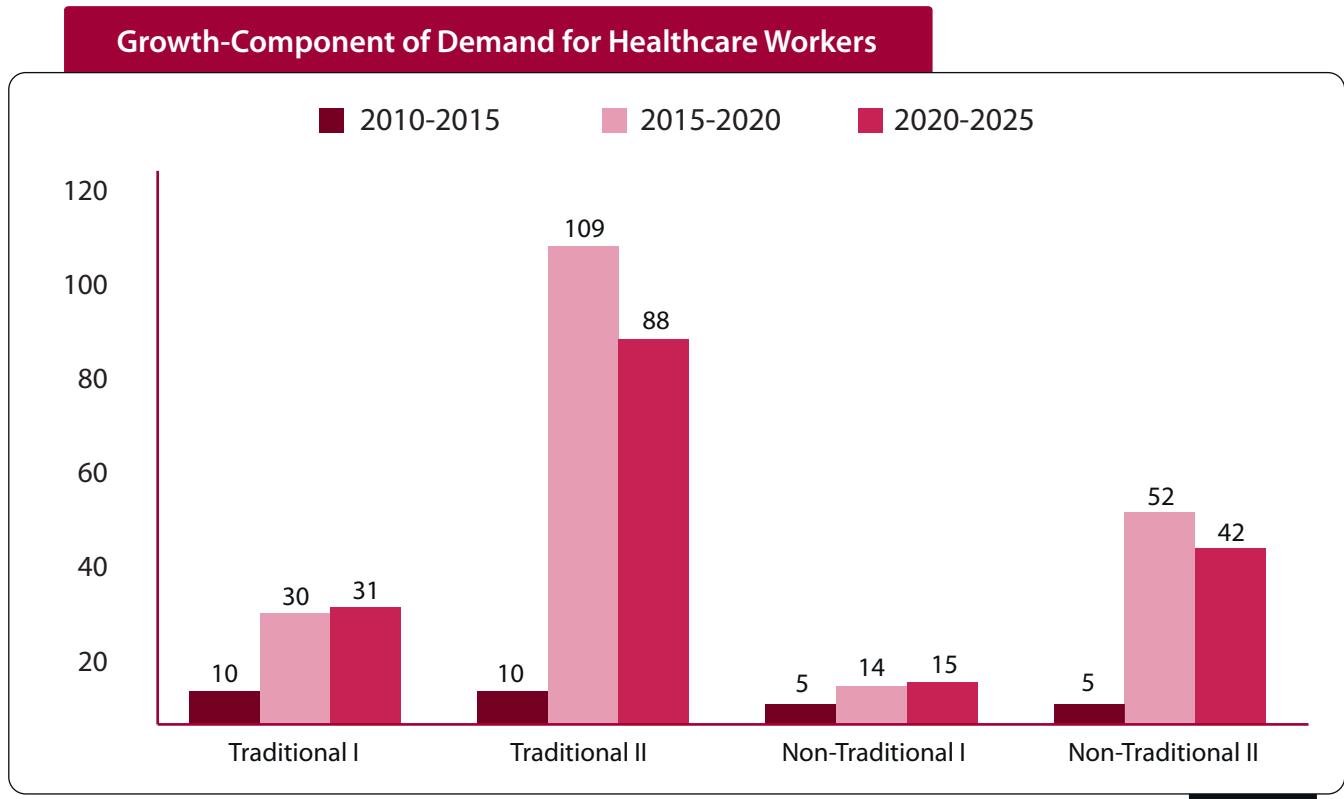


Figure 6.11

Figure 6.11 shows that under scenario I, the growth component of demand for healthcare providers in the traditional sector of the District of Rainy River IDN is expected to increase by 10 during 2010-2015, 30 during 2015-2020 and 31 during 2020-2025. Under scenario II, demand is expected to increase by 10 during 2010-2015, 109 during 2015-2020 and 88 during 2020-2025. The top three occupations with the largest increase in demand during the forecast period are:

1. Registered nurses (22 to 66)
2. Nurse aides, orderlies and patient service associates (15 to 44)
3. Paramedics (7 to 20)

In addition, demand for specialists rises by about 1 to 4 and demand for general practitioners increases by 2 to 5. Focusing on the non-traditional sector, the growth component of demand under scenario I is expected to increase by 5 during 2010-2015, 14 during 2015-2020 and 15 during 2020-2025. Under scenario II, demand is expected to increase by 5 during 2010-2015, 52 during 2015-2020 and 42 during 2020-2025. The top three occupations with the most increase in demand during the forecast period are:

1. Community and social service workers (21 to 60)
2. Family, marriage and other related counsellors (7 to 20)
3. Social workers (5 to 16)

#### **6.2.6. GROWTH COMPONENT OF HEALTHCARE SERVICES IN NORTHERN IDN**

Figure 6.12 shows the total growth in demand for traditional and non-traditional healthcare services in Northern IDN.

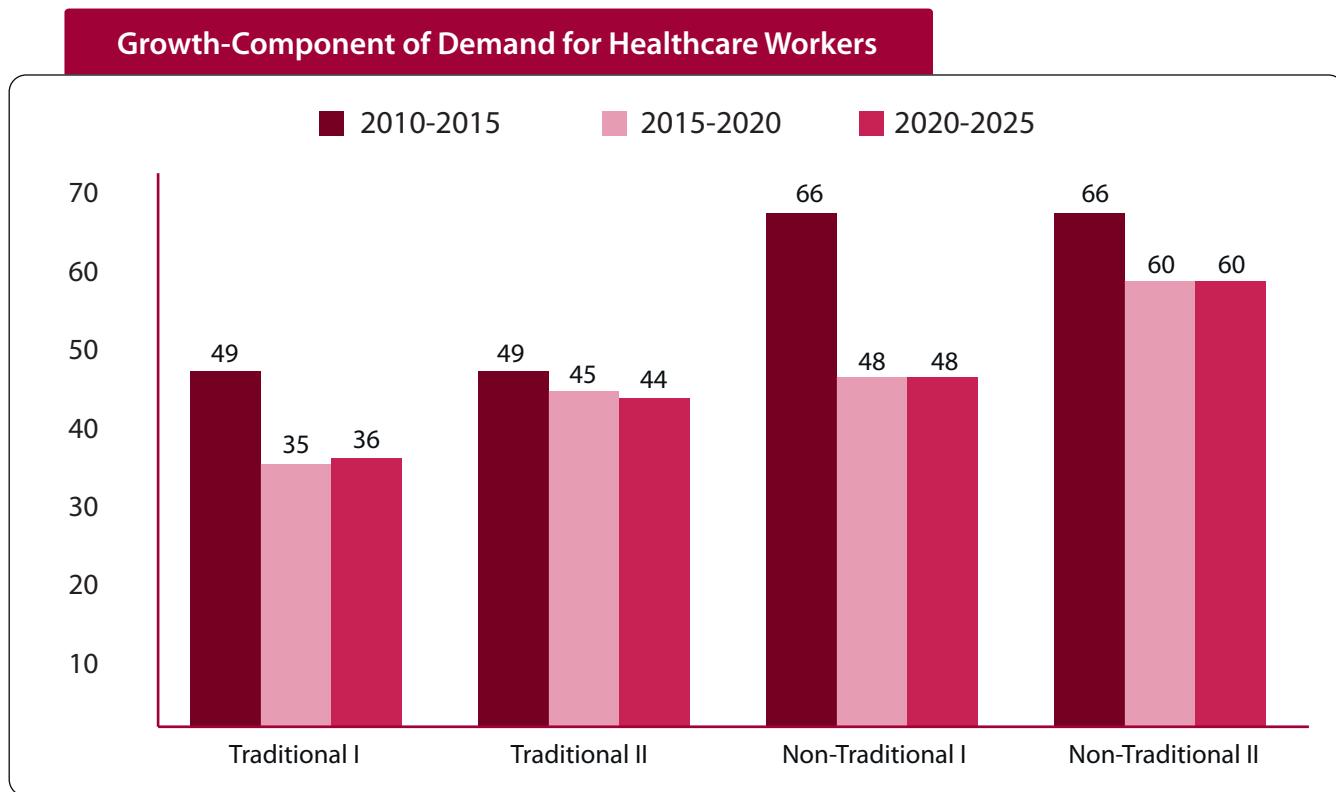


Figure 6.12

Figure 6.12 shows that under scenario I, the growth component of demand for healthcare providers in the traditional sector of Northern IDN is expected to increase by 49 during 2010-2015, 35 during 2015-2020 and 36 during 2020-2025. Under scenario II, demand is expected to increase by 49 during 2010-2015, 45 during 2015-2020 and 44 during 2020-2025. The occupations with the largest increase in demand during the forecast period are:

1. Registered nurses (30 to 34)
2. Nurse aides, orderlies and patient service associates (22 to 25)
3. Paramedics (11 to 13)
4. Registered practical nurses (11 to 13)

In addition, demand for specialists rises by 3 to 4 during the forecast period. Focusing on the non-traditional sector, the growth component of demand under scenario I is expected to increase by 66 during 2010-2015, 48 during 2015-2020 and 48 during 2020-2025. Under scenario II, demand is expected to increase by 66 during 2010-2015, 60 during 2015-2020 and 60 during 2020-2025. The top three occupations with the largest increase in demand during the forecast period are:

1. Community and social service workers (111 to 127)
2. Family, marriage and other related counsellors (20 to 23)
3. Social workers (22 to 25)

## 6.3: ESTIMATING THE NUMBER OF REQUIRED NEW ENTRANTS INTO THE HEALTHCARE SECTOR .....

Having estimated the retirement replacement and growth-demand components of the total demand for healthcare services, we now estimate the number of healthcare workers required in each occupation to accommodate the growing demand as well as expected retirement/replacement needs during the 2010-2025 period.

### 6.3.1. TOTAL NUMBER OF NEW ENTRANTS REQUIRED IN NORTHWESTERN ONTARIO

Figure 6.13 shows the total number of new entrants needed to replace those who retire as well as accommodating the growing demand for healthcare services caused by demographic changes in Northwestern Ontario. There is a need for 4,001 new entrants into the traditional and 1,951 into the non-traditional sectors during 2010-2025 if one assumes zero net migration. The expected number of new hires increases to 4,347 in the traditional and 2,117 in the non-traditional sectors under a moderate population growth assumption.

## Number of New Entrants Required in Northwestern Ontario

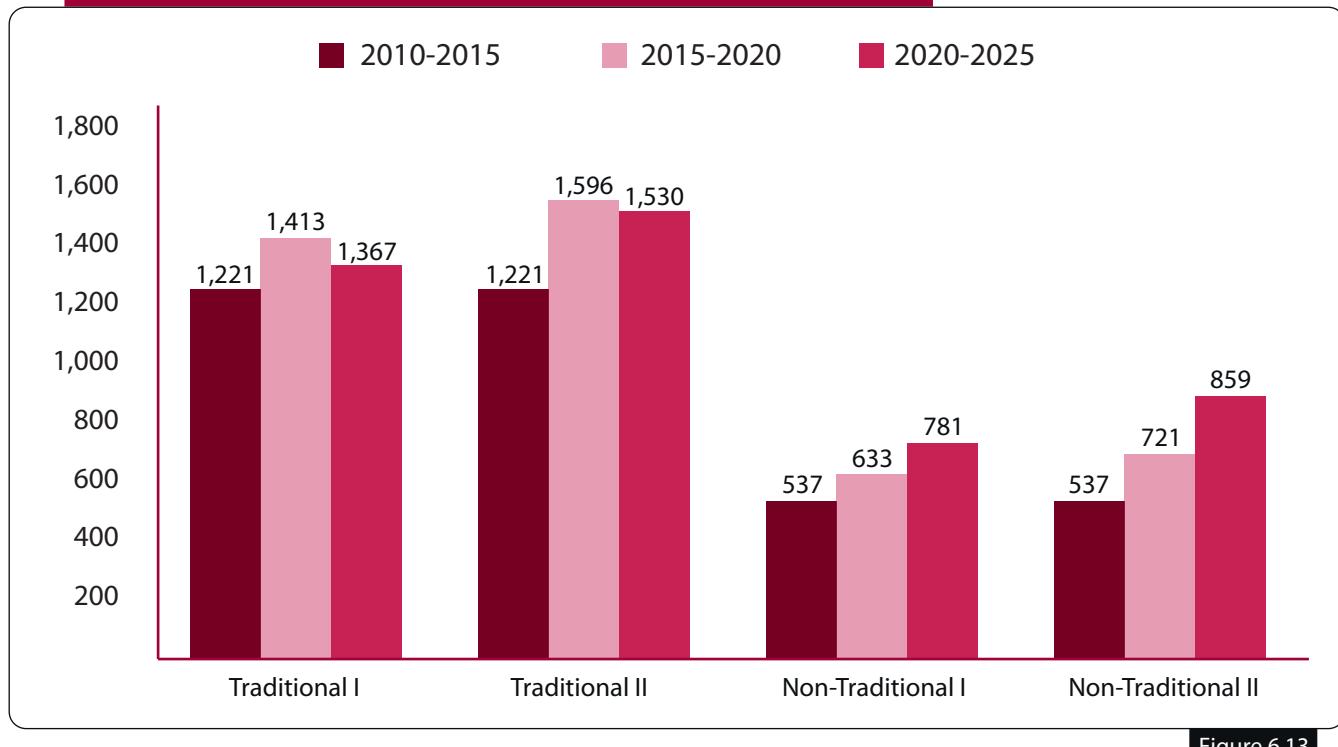


Figure 6.13

Tables 6.7 and 6.8 present the estimated total number of new entrants that will have to be hired to offset the retirement load as well as accommodating the growing demand for healthcare services in Northwestern Ontario during 2010-2025. The top 10 occupations in terms of the number of new entrants required to accommodate the expected future needs are:

1. Registered nurses (1,517 to 1,634)
2. Nurse aides, orderlies and patient service associates (684 to 743)
3. Registered practical nurses (326 to 349)
4. Other assisting occupations in support of health services (167 to 189)
5. Paramedics (153 to 169)
6. Pharmacists (114 to 124)
7. Medical laboratory technologists and pathologists' assistants (115 to 123)
8. Physiotherapists (110 to 120)
9. Dentists (106 to 113)
10. Medical Radiation Technologists (101 to 109).

In addition, there is a need for approximately 88 to 96 specialist physicians as well as 63 to 71 general practitioners. The nursing occupation remains most vulnerable to shortages because of the large numbers needed. At the same time, a shortage of even a small number of healthcare providers in technical specializations can interrupt healthcare delivery in Northwestern Ontario.

The top three non-traditional healthcare occupations in terms of new entrants required are:

1. Community and social service workers (975 to 1,065)
2. Social workers (441 to 477)
3. Family, marriage and other related counsellors (283 to 304)

### 6.3.2. TOTAL NUMBER OF NEW ENTRANTS REQUIRED IN THE CITY OF THUNDER BAY IDN

Figure 6.14 shows the total number of new entrants needed to replace those who retire as well as addressing the rising demand for healthcare services caused by demographic changes in Thunder Bay CMA. There will be a need for 2,435 new entrants in the traditional sector and 850 in the non-traditional sector during 2010-2025 if one assumes zero net migration. The expected number of new hires increases to 2,616 in traditional and 912 in the non-traditional sectors under a moderate population growth assumption.

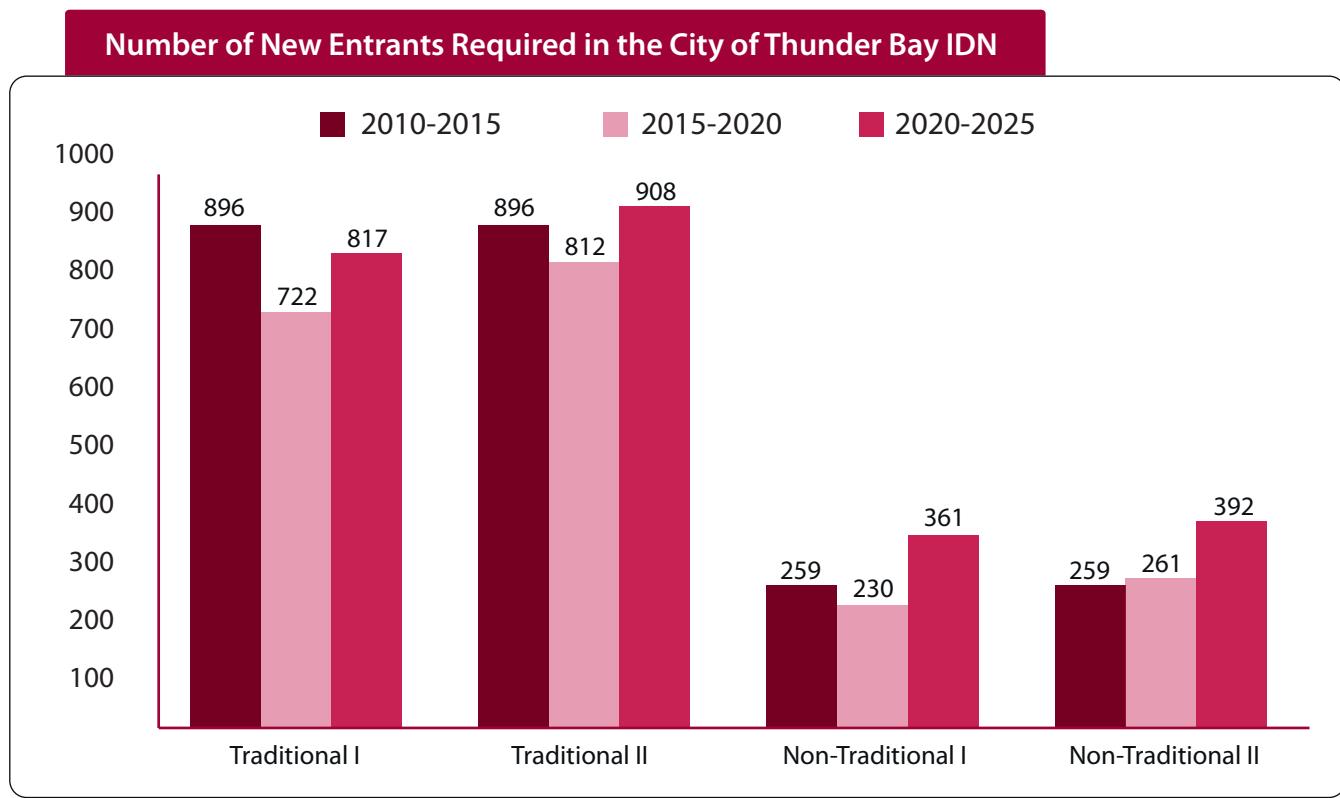


Figure 6.14

Tables 6.9 and 6.10 present the estimated total number of new entrants that have to be hired to offset the retirement load as well as satisfying the growing demand for healthcare services in Thunder Bay CMA during 2010-2025. The top 10 occupations in terms of the number of new entrants required to accommodate the expected future needs are:

1. Registered nurses (926 to 988)
2. Nurse aides, orderlies and patient service associates (420 to 451)
3. Registered practical nurses (208 to 222)
4. Other assisting occupations in support of health services (91 to 103)
5. Physiotherapists (93 to 99)

6. Pharmacists (77 to 81)
7. Specialist physicians (67 to 72)
8. Paramedics (58 to 62)
9. Medical Radiation Technologists (57 to 61).
10. Medical laboratory technologists and pathologists' assistants (56 to 60)

In addition, there is a need for about 40 to 43 general practitioners. Registered nurses remain at the top of the list of occupations in most demand followed by other nursing-related and assisting occupations.

The top three non-traditional healthcare occupations in terms of new entrants required are:

1. Community and social service workers (388 to 421)
2. Social workers (208 to 224)
3. Family, marriage and other related counsellors (77 to 82)

### **6.3.3. TOTAL NUMBER OF NEW ENTRANTS REQUIRED IN THE DISTRICT OF THUNDER BAY IDN**

Figure 6.15 shows the total number of new entrants needed to replace those who retire as well as accommodating the growing demand for healthcare services caused by demographic changes in District of Thunder Bay IDN. There is a need for 407 new entrants in the traditional sector and 234 in the non-traditional sector during 2010-2025 if one assumes zero population growth. The expected number of new hires increases to 415 in traditional and 239 in the non-traditional sectors under a moderate population growth assumption.

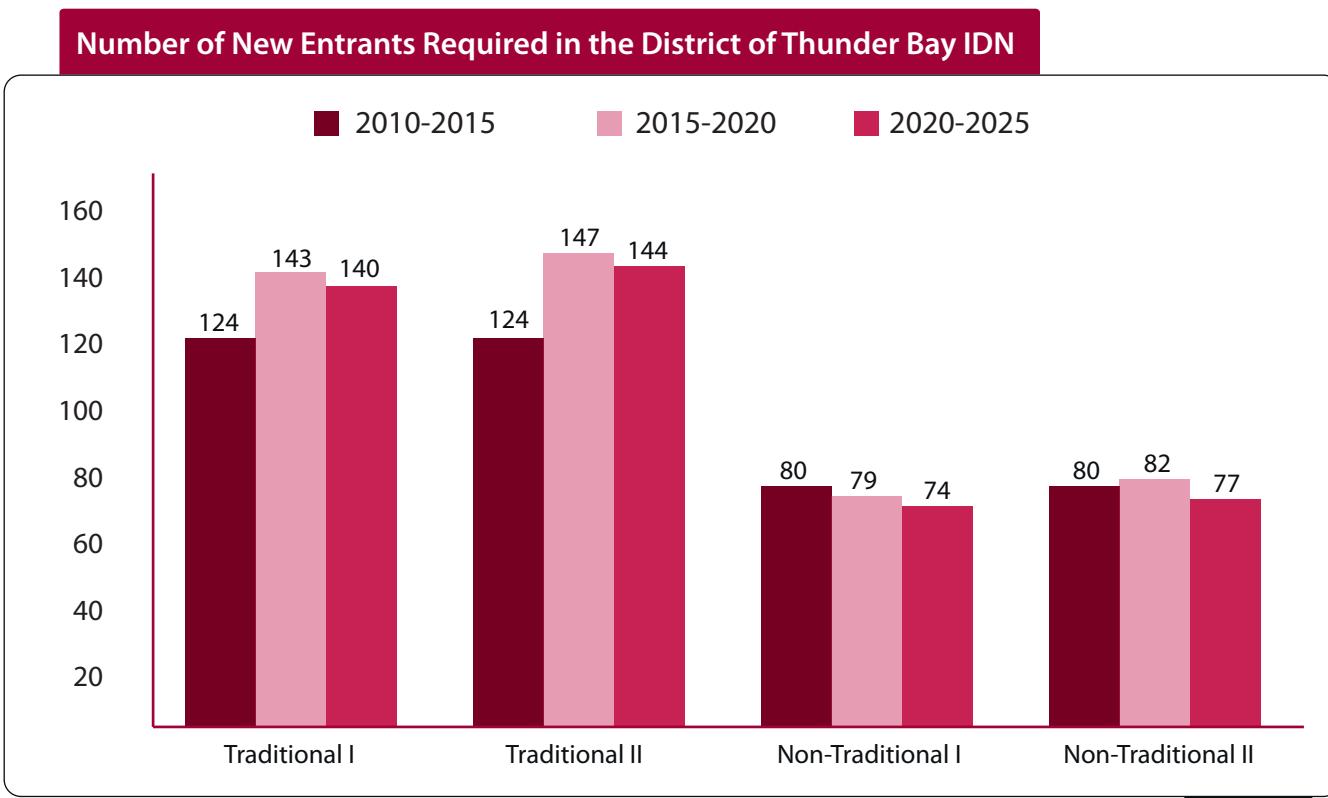


Figure 6.15

Tables 6.11 and 6.12 present the estimated total number of new entrants that will have to be hired to offset the retirement load as well as accommodating the growing demand for healthcare services in District of Thunder Bay IDN during 2010-2025. The top 10 occupations in terms of the number of new entrants required to accommodate the expected future needs are:

1. Registered nurses (147 to 150)
2. Paramedics (40 to 41)
3. Medical Radiation Technologists (36 to 37).
4. Nurse aides, orderlies and patient service associates (33 to 34)
5. Registered practical nurses (29)
6. Other assisting occupations in support of health services (23 to 24)
7. Chiropractors (16)
8. Medical laboratory technologists and pathologists' assistants (16)
9. Dental technologists (13)
10. Dental assistants (13)

In addition, there is a need for approximately 4 to 5 specialist physicians as well as 10 to 11 general practitioners. Registered nurses remains at the top of the list of occupations in most demand followed by paramedics and medical radiation technologists.

The top three non-traditional healthcare occupations in terms of new entrants required are:

1. Community and social service workers (89 to 91)
2. Social workers (70 to 71)
3. Family, marriage and other related counsellors (53 to 54)

#### **6.3.4. TOTAL NUMBER OF NEW ENTRANTS REQUIRED IN THE DISTRICT OF KENORA IDN**

Figure 6.16 shows the total number of new entrants needed to replace those who will retire as well as accommodating the growing demand for healthcare services caused by demographic changes in the District of Kenora IDN. There is a need for 632 new entrants in the traditional sector and 370 in the non-traditional sector during 2010-2025 if one assumes zero population growth. The expected number of new hires increases to 661 in traditional and 385 in the non-traditional sectors under a moderate population growth assumption.

## Number of New Entrants Required in the District of Kenora IDN

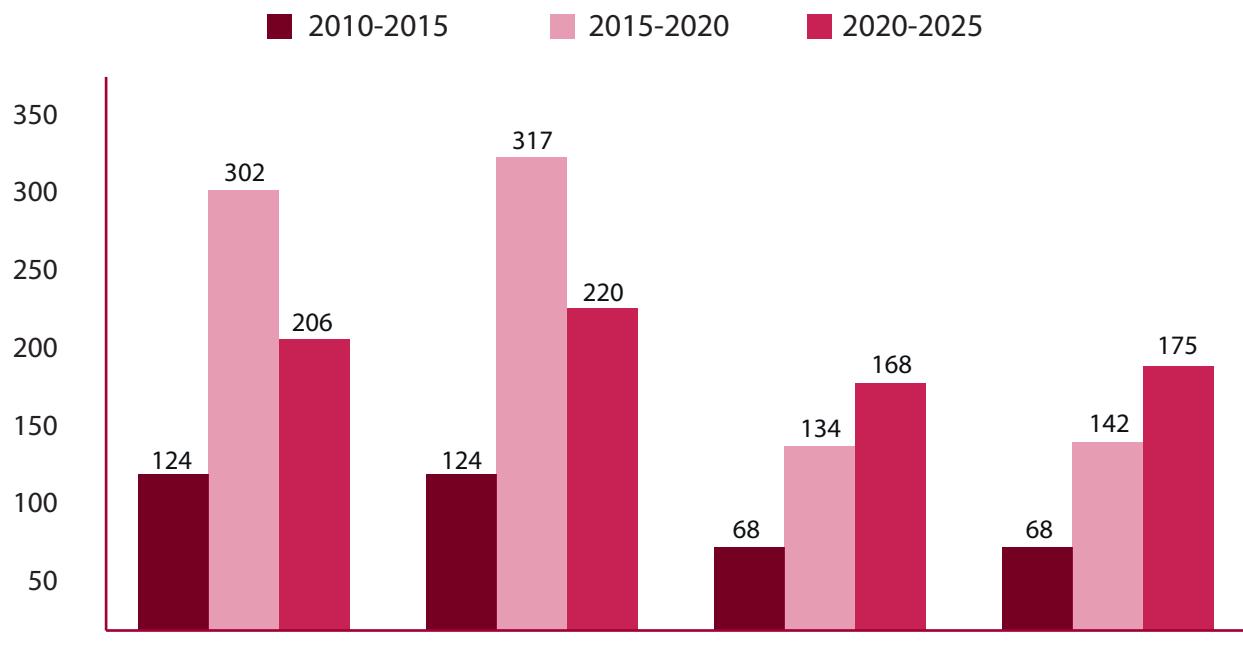


Figure 6.16

Tables 6.13 and 6.14 present the estimated total number of new entrants that have to be hired to offset the retirement load as well as accommodating the growing demand for healthcare services in the District of Kenora IDN during 2010-2025. The top 10 occupations in terms of the number of new entrants required to accommodate the expected future needs are:

1. Registered nurses (210 to 219)
2. Nurse aides, orderlies and patient service associates (133 to 138)
3. Pharmacists (44 to 46)
4. Registered practical nurses (38 to 39)
5. Paramedics (34 to 36)
6. Other assisting occupations in support of health services (18 to 19)
7. Other technical occupations in therapy and assessment (18 to 19)
8. Dental hygienists and dental therapists (15 to 16)
9. Medical laboratory technologists and pathologists' assistants (14)
10. Medical Radiation Technologists (13)

In addition, there is a need for 12 specialist physicians as well as 4 general practitioners. Registered nurses remain at the top of the list of occupations in most demand followed by nurse aides and pharmacists.

The top three non-traditional healthcare occupations in terms of new entrants required are:

1. Community and social service workers (211 to 220)
2. Social workers (84 to 88)
3. Family, marriage and other related counsellors (80 to 82)

### 6.3.5. TOTAL NUMBER OF NEW ENTRANTS REQUIRED IN THE DISTRICT OF RAINY RIVER IDN

Figure 6.17 shows the total number of new entrants needed to replace those who retire as well as addressing the growing demand for healthcare services caused by demographic changes in the District of Rainy River IDN. Assuming zero population growth, Figure 6.17 shows that there will be a need for a total of 366 new entrants in the traditional sector and 209 in the non-traditional sector during 2010-2025. The expected number of new hires increases to 502 in traditional and 274 in the non-traditional sectors under a moderate population growth assumption.

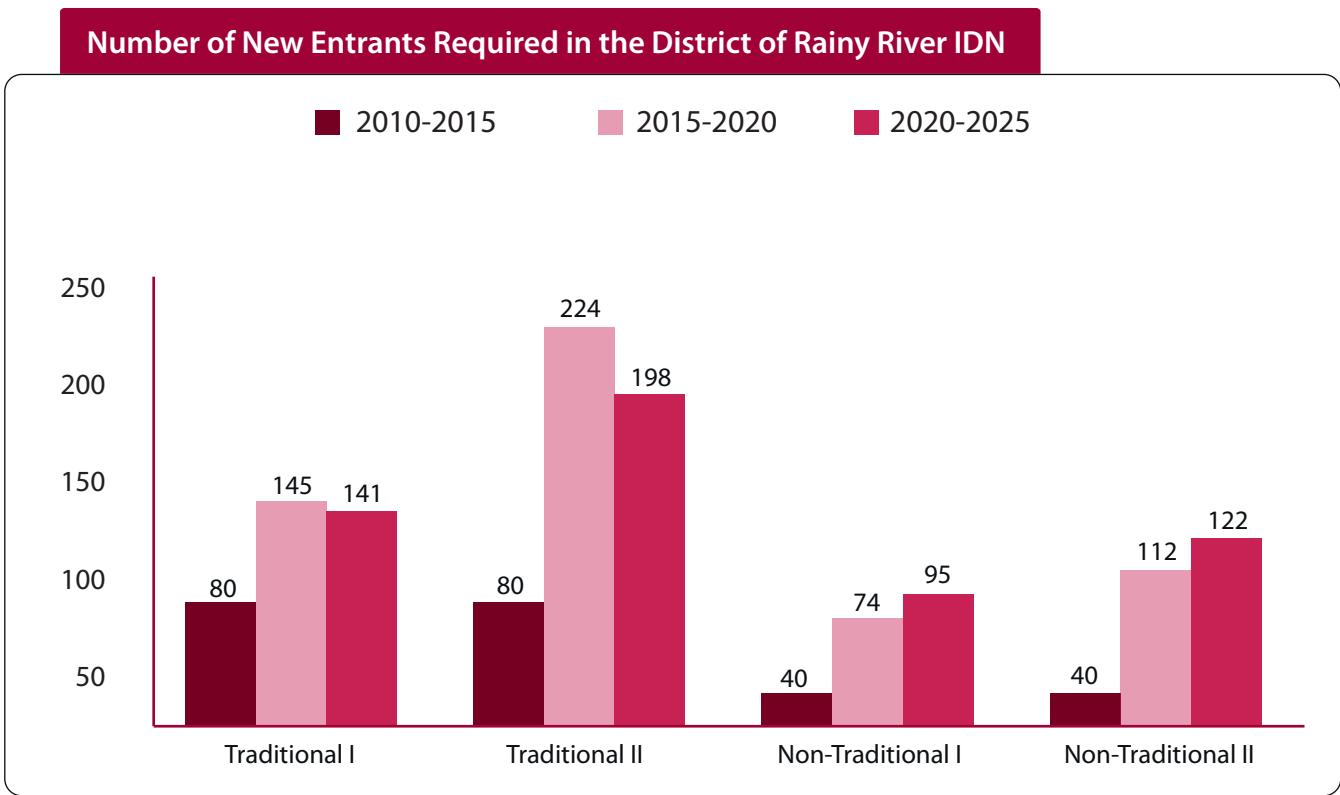


Figure 6.17

Tables 6.15 and 6.16 present the estimated total number of new entrants that have to be hired to offset the retirement load as well as satisfying the growing demand for healthcare services in the District of Rainy River IDN during 2010-2025. The top 10 occupations in terms of the number of new entrants required to accommodate the expected future needs are:

1. Registered nurses (142 to 186)
2. Nurse aides, orderlies and patient service associates (55 to 84)
3. Registered practical nurses (40 to 51)
4. Paramedics (37 to 50)
5. Registered practical nurses (38 to 39)
6. Medical laboratory technologists and pathologists' assistants (33 to 38)
7. Other assisting occupations in support of health services (19 to 27)
8. Specialist physicians (16 to 19)
9. Dentists (12 to 15)
10. General practitioners (2 to 5)

Registered nurses and nursing related occupations remain the top occupations in most demand in the District of Rainy River IDN.

The top three non-traditional healthcare occupations in terms of new entrants required are:

1. Community and social service workers (116 to 155)
2. Social workers (45 to 56)
3. Family, marriage and other related counsellors (47 to 60)

### 6.3.6. TOTAL NUMBER OF NEW ENTRANTS REQUIRED IN NORTHERN IDN

Figure 6.18 shows the total number of new entrants needed to replace those who retire as well as accommodating the growing demand for healthcare services caused by demographic changes in Northern IDN. There is a need for a total of 260 new entrants in the traditional sector and 317 in the non-traditional sector during 2010-2025 if one assumes zero population growth. The required number of new hires increases to 278 in traditional and 341 in the non-traditional sectors under a moderate population growth assumption.

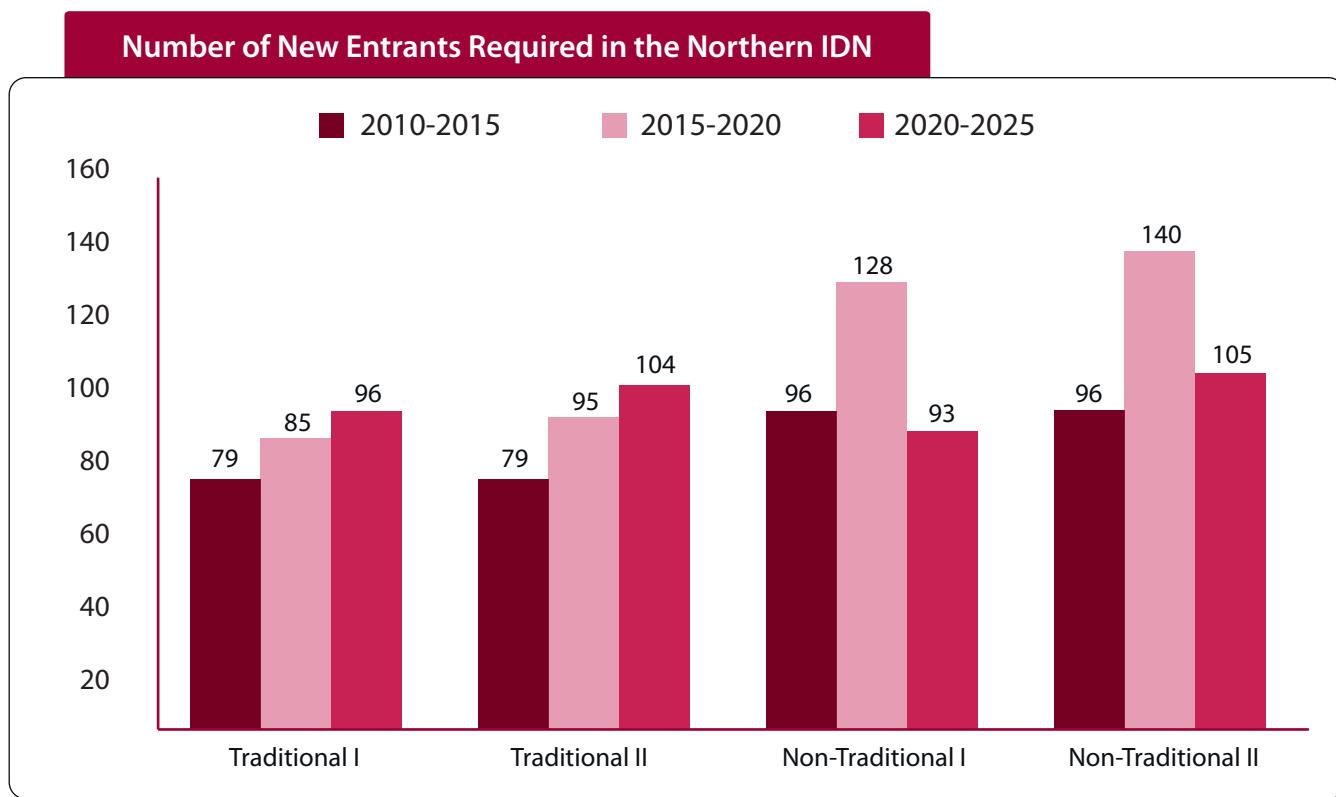


Figure 6.18

Tables 6.17 and 6.18 present the estimated total number of new entrants that have to be hired to offset the retirement load as well as addressing the rising demand for healthcare services in Northern IDN during 2010-2025. The top 10 occupations in terms of the number of new entrants required to accommodate the expected future needs are:

1. Registered nurses (80 to 84)
2. Nurse aides, orderlies and patient service associates (52 to 55)
3. Other assisting occupations in support of health services (22 to 24)

4. Registered practical nurses (21 to 23)
5. Paramedics (21 to 23)
6. Medical laboratory technologists and pathologists' assistants (16 to 17)
7. Medical sonographers (16 to 17)
8. Pharmacists (13 to 14)
9. Specialists (3 to 4)
10. Medical laboratory technicians (3 to 4)

Registered nurses and nursing related occupations remain the top occupations in most demand in Northern IDN. There is also a need for 3 to 4 dieticians, physiotherapists and medical radiation technologists during 2010-2025.

The top three non-traditional healthcare occupations in terms of new entrants required are:

1. Community and social service workers (226 to 242)
2. Family, marriage and other related counsellors (60 to 63)
3. Social workers (22 to 25)

#### ■ ■ ■ 6.4: IMPACT OF EARLY RETIREMENT OR EXIT.....

The above estimates of total expected demand for healthcare professionals do not include the effect of healthcare workers leaving or retiring prior to age 65 or the demand arising from new healthcare procedures or services. As we saw in Part V, the turnover rate among healthcare workers in Northwestern Ontario is approximately 3.5 percent per year. However, it is not clear if the movers stay in Northwestern Ontario or leave the region for other destinations. We have not adjusted the estimates to account for the above contingencies. Therefore, the estimates presented in this study should be considered conservative.





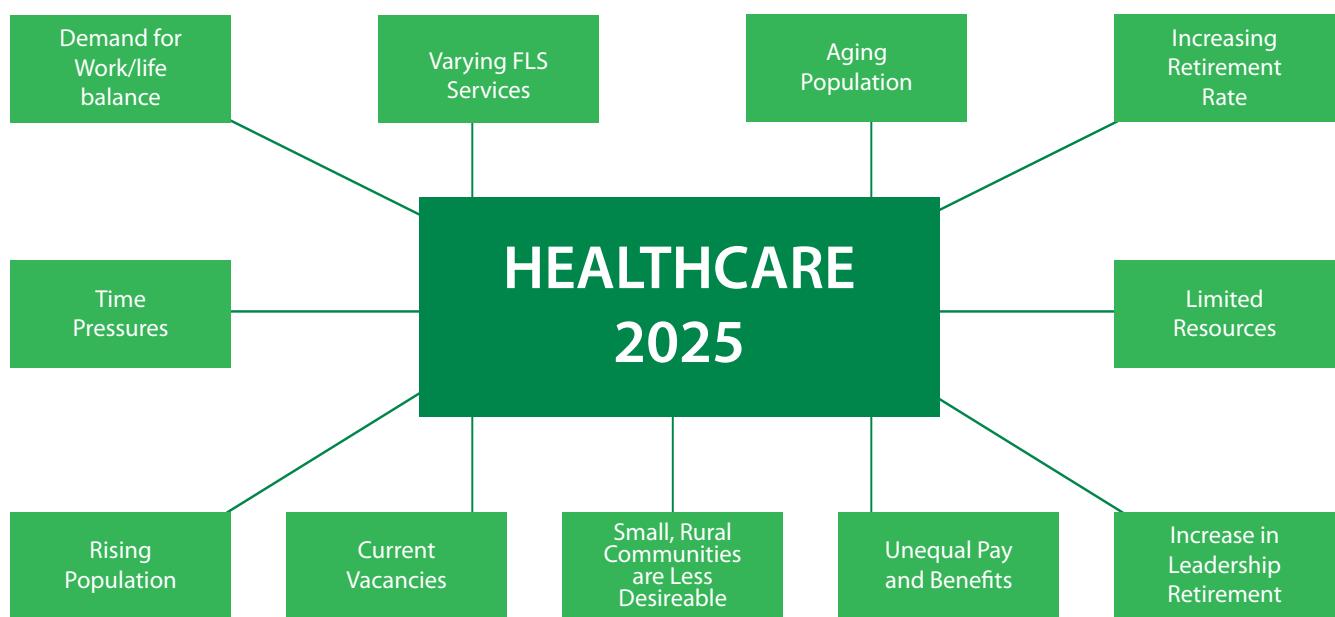


By examining the people who live and work in Northern Ontario, it is evident that the future of healthcare is of concern. Human Resource professionals in healthcare agree that the perfect storm is on the horizon. This study has identified the following three causative factors contributing to the "perfect storm". In the next ten years, there will be:

1. An aging population that will require more healthcare
2. An increase in the number of retirements due to the aging workforce
3. A rise in population due to natural increases and a predicted upturn in the economy

Add to that:

- Current vacancies are hard to fill in many facilities and locations
- Small, rural communities that are not as desirable to new graduates
- Unequal pay and benefits between hospital and non-hospital settings
- Retirement of leadership without adequate succession solutions
- Day-to-day pressures taking precedence over future planning
- Limited recruitment resources
- Physicians reducing their capacity in efforts to achieve a better balance between work and life
- Varying ability to provide French Language Services



The evidence suggests that pressures on the labour force in healthcare will increase over the next ten years. Here's what currently available numbers demonstrate in Northwestern Ontario:

- Traditional healthcare workers = 7,470
- Non-Traditional healthcare workers = 3,565
- 91.1% of healthcare workers are employees
- 8.9% are self-employed
- 81.8% of traditional healthcare workers are women

- 75.8% of non-traditional healthcare workers are women
- 81.7% of traditional healthcare workers are of English origin, 6.3% are Aboriginal, and 2.8% are Francophone
- 58.2% of non-traditional healthcare workers are of English origin

In the near future, 29 percent of the healthcare workforce who are 50 years of age or older will retire. The most notable are:

- 44% of physicians
- 35% of nurses (RNs and RPNS)
- 28% of medical technologists
- 25% of non-traditional healthcare workers (community social services)
- 22% of assisting occupations
- 18% of assessment professionals
- 18% of paramedics

## 7.1 HEALTHCARE PROFESSIONALS' RECOMMENDATIONS FOR PREPARING FOR THE STORM .....

Healthcare professionals throughout the region have identified a number of suggestions to help prepare for the oncoming storm.

### **EDUCATIONAL OPPORTUNITIES**

The feedback from participants shows that there needs to be more educational opportunities that support healthcare. Integration of cultural training that highlights Aboriginal and Francophone culture into the curriculum would be beneficial. Quality leadership training in the coming years is essential. More training in mental health and complex care was also identified as an area that will be needed as geriatric care increases. And finally, they need more capacity to expand placement opportunities as many new recruits come from those willing to relocate for educational purposes.

### **RECRUITMENT**

A Recruitment Centre that represents a health hub or district may streamline the recruitment process and give relief to Senior Administrators who have a number of other responsibilities. Not all facilities can dedicate staff to recruitment, and attendance at career fairs and events can be costly and time consuming.

Promotional efforts that highlight healthcare professions should target Aboriginal and Francophone populations to ensure that the workforce reflects the population. For short-term gains in French Language Services, targeting healthcare graduates that are Francophone or fully bi-lingual would be a good first step. Working with secondary school boards that service French speaking and Aboriginal populations to raise the awareness of the opportunities in healthcare may alleviate more help increase French speaking and Aboriginal personnel ratios in the long-run. Finally, working with colleges, universities, and post-secondary institutions was identified as an excellent recruitment tool and provided opportunities for new graduates to appreciate the benefits of living in smaller and rural communities.

## **HARMONIZATION OF WAGES AND BENEFITS**

Disparate wages between the hospital and non-hospital environments make it difficult for non-hospitals to retain staff. The same qualifications are required, but the pay at hospitals is much more attractive. Similarly, benefits for smaller organizations can't compete with the larger facilities. If they were comparative, people may stay longer. If they were portable, there may be ways to share staff and facilitate learning opportunities between organizations.

## **FIND ADMINISTRATIVE EFFICIENCIES**

It was suggested that smaller organizations could share some administrative functions and utilize common information technology to create efficiencies. Examples brought up by participants included using similar and/or shared human resources as well as financial database so that reporting and collaborating would be easier.

## **SUPPORT IMMIGRATION**

There are many talented healthcare professionals outside of Canada; however, the immigration process is too time consuming and complicated for many of the smaller and rural organizations to tackle. More effort needs to be made to find solutions to eliminate barriers and streamline accreditation of qualified medical professionals from other countries.

The issue of a shrinking labour force and increased demand for healthcare services needs to be addressed with short-term and long-term strategies put in place. When comparing the IDNs within the Northwestern Ontario, the Northern IDN has the least amount of healthcare personnel and the largest predicted increase in population at 23 percent. The healthcare issues that they face in the future will be monumental and needs to be addressed.

Along with many other healthcare programs to build up the labour force, Northwestern Ontario has taken on the challenge of creating a Northern School of Medicine. Additionally, investment is being made in research and innovation at the Thunder Bay Regional Research Institute where they employ a range of professionals from laboratory technicians to experimental scientists. Cancer Care Ontario has recently located offices in Thunder Bay creating even more opportunities in the healthcare field. Due to the scope of this study, these occupations were not included, and further investigation will be required to estimate their future recruitment needs.

Now, more than ever, potential students, recent graduates, and healthcare professionals need to know the opportunities that await them in the field of healthcare in Northwestern Ontario.

## TECHNICAL APPENDIX

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An exhaustive technical appendix providing a compilation of all tables found in this study can be accessed on North Superior Workforce Planning Board's website:

**[www.nswpb.ca/hhr](http://www.nswpb.ca/hhr)**