Northwest Community Studies

Ignace and Area Health Services

InterGroup

CONSULTANTS

Prepared for the Nuclear Waste Management Organization

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Prepared By:	Kennadie Chaudhary and Jennifer Olson	**Date:**	July 27, 2022
Technical Review By:	Nancy LeBlond	**Date:**	July 27, 2022
Quality Assurance Review By:	Graham Smith and Mitch Braun	**Date:**	July 28, 2022
Approved By:	Kristin Kent Drewes	**Date:**	August 11, 2022
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ACRONYMS AND ABBREVIATIONS

Term	Details
APM	Adaptive Phased Management
IAWG	Ignace and Area Working Group
Ignace or the Township	Township of Ignace
MBCHCH	Mary Berglund Community Health Centre Hub
MMIWG	Missing and Murdered Indigenous Women and Girls
NWMO	Nuclear Waste Management Organization
The Project	APM Project

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1.0 INTRODUCTION

1.1 BACKGROUND AND CONTEXT

Since 2010, the Township of Ignace (the Township or Ignace) has been involved in a process of learning about the Nuclear Waste Management Organization's (NWMO) Adaptive Phased Management (APM) Project (the Project) for the long-term management of Canada's used nuclear fuel. The two remaining siting areas in the process are the Ignace Area and the South Bruce Area. The NWMO plans to complete all preliminary assessment work and to select one siting area to host the APM Project by 2023. Preliminary studies suggest that the Project can be implemented safely in the Ignace area for a repository that will contain and isolate used nuclear fuel from people and the environment for the long timeframes required.

Studies have been ongoing since 2010; however, further studies are required to fully assess the potential socio-economic impacts of the APM Project. Building on previous work and engagement completed to date, the NWMO and the Township of Ignace are working together to prepare a suite of community studies that will be shared. The list of socio-economic community studies is included in Appendix A. The information acquired through these studies is expected to help the Township of Ignace leadership and residents make informed decisions about whether the Project is a good fit for their community, and if they are willing to consider hosting it and under what circumstances and terms.

Community studies will ultimately inform the Project hosting agreement between the NWMO and the Township of Ignace. As well, they will provide pertinent information for agreements with the City of Dryden and potentially other regional agreements.

A glossary of terms used throughout this report can be found in Appendix F.

Note to Reader

This and other community studies are preliminary and strategic in nature, all intended to identify possible consequences (e.g., health services and infrastructure) in the Township of Ignace, and other Local and Regional Study Area communities. Using information about the APM Project known at this point in time, these community studies will describe a range of possible consequences that are the subject of specific and separate studies. For each possible consequence, potential options and strategies will be offered to leverage opportunities and/or mitigate possible negative consequences/effects.

It is important to note that these community studies (developed collaboratively by NWMO and the Township of Ignace) being investigated at this time are not the formal or final baseline or effects studies that will be part of the Impact Assessment as conducted under the regulatory process for the APM Project governed by the Impact Assessment Agency of Canada. Effects assessment will be undertaken at a later date following the conclusion of the siting process, and the initiation of the formal regulatory process.

Community studies will ultimately inform the APM Project hosting agreement between the NWMO and the Township as Ignace. As well, they will provide pertinent information for agreements with the City of Dryden and potentially other regional agreements. The study will:

a) Explore in more detail the questions, aspirations and topics of interest expressed by the community through the Township of Ignace project visioning process;

b) Assist the NWMO and the Township of Ignace in developing and identifying possible programs and commitments that ensure the Project will be implemented in a manner that fosters the well-being of the Township of Ignace and communities in the Ignace area and the region;

c) Advance learning and understanding on topics of interest to communities in the Ignace area and the region; and

d) Provide the community with information it has requested to help them make an informed decision in the case of the Township of Ignace and continue to inform dialogue with communities in the Ignace area and region prior to the conclusion of the site selection process in 2023.

The NWMO is committed to working collaboratively to ensure questions, concerns, and aspirations are captured and addressed through continuous engagement and dialogue.

The NWMO will independently engage with Wabigoon Lake Ojibway Nation and other Indigenous communities to understand how they wish to evaluate the potential negative effects and benefits that the Project may bring to their communities.

1.1.1 Land Acknowledgement

It is acknowledged that the lands and communities discussed in this report are primarily situated on the traditional territory of the Anishinaabe people of Treaty 3, and the Métis Nation.

1.1.2 Ignace Project Vision

Through learning about the Project, Ignace residents undertook a Project visioning process to identify the community's priorities and objectives for the Project if it is sited in northwestern Ontario. This process included priorities for the Project in five key well-being areas: People, Economics and Finance, Infrastructure, Community and Culture, and Natural Environment. The Ignace and Area Health Services study was scoped to reflect the following Project priorities related to the People, Infrastructure, and Community and Culture pillars (InterGroup 2020):

- Develop strategies to support and retain the population across all age groups, and in particular youth;
- Develop strategies to attract and retain workers in the community;
- Coordinate and integrate infrastructure planning to maintain, improve, and expand existing infrastructure to support the population; and
- Support Ignace community members through enhancements to social services and programming.

1.2 PURPOSE AND SCOPE

The Ignace and Area Health Services study is one of multiple community studies being completed for the Township of Ignace and NWMO. The overall objective is to assess the potential impact of the Project on community health services and options to mitigate Project-related consequences. This includes identification of options for both the incremental expansion of community health services and infrastructure if required, and the mitigation of potential changes of concern to communities. This scope of work will examine the Project-related implications for health care access and consideration of vulnerable sub-groups within the Township of Ignace and in other Local Study Area communities. Both physical and mental health issues will be considered with links to other scopes of work associated with social determinants of health.

1.3 SPATIAL BOUNDARIES

The primary focus for the Ignace and Area Health Services study is identified as the Township of Ignace, including consideration of where residents access services, whether in Ignace or in other communities. Consideration was also given to those who access services in Ignace but reside in neighbouring communities.

Other communities included in the study area who will be considered depending on the potential magnitude of APM Project-related consequences include the City of Dryden, the

Municipality of Machin, the Local Services Board of Wabigoon, the Municipality of Sioux Lookout, and unincorporated communities along Highway 17, including Dinorwic, the Local Services Board of Melgund (including Dyment and Borups Corner), and Upsala; and along Highway 599, including Valora and Silver Dollar (Map 1.3-1).

The Ignace and Area Health Services study will also give consideration to the administrative boundaries that define service provision, including the North West Local Health Integration Network, Kenora District Services Board, and the Ontario Provincial Police Dryden detachment area, with the understanding that health care in Ontario is currently undergoing an administrative transformation from local health integration networks to health teams.

Map 1.3-1: Study Area Map

1.4 TEMPORAL BOUNDARIES

The temporal boundaries for the Ignace and Area Health Services study are:

- Pre-construction (2024 to 2032), which begins following the siting decision and the first opportunity for the Township of Ignace and NWMO to start planning, includes construction of the Centre of Expertise in Ignace, and ends with the end of site preparation and beginning of Project construction;
- Construction (2033 to 2042), which begins with the start of construction at the Revell Site and ends when operations start in 2043; and
- Operations (2043 to 2088), which begins with the end of construction and continues through to monitoring. Since the lifespan of the Project is long, the Ignace and Area Health Services study is primarily focused on the first few years of operations as it represents the window when population changes and their potential effects will likely be felt.

1.5 LINKAGES TO OTHER STUDIES

The Ignace and Area Health Services study is closely linked to other community studies that consider the changes of the Project to Ignace and other communities in the Local Study Area, including:

- Growing the Population Study for changes in population, which are a main driver of change related to health care;
- Community and Culture study for an understanding of social services; and
- Municipal Infrastructure study in connection with the Mary Berglund Community Health Care Hub (MBCHCH).

These studies should be considered in conjunction with the Ignace and Area Health Services study for a full appreciation and understanding of the implications associated with community health protection.

2.0 METHODOLOGY

2.1 GENERAL APPROACH

The general approach for this Ignace and Area Health Services study involves four steps:

1. **Existing Conditions**: Gathering information and data to characterize existing conditions and trends without the Project.
2. **Community Engagement**: Engaging with the Ignace and Area Working Group (IAWG) at key intervals to confirm findings, test assumptions, and conclusions;
3. **Change Analysis**: Completing a change analysis that summarizes the potential changes because of the Project through population projections, the findings of other community studies, and the experiences of other communities that have experienced changes in health service demand because of large infrastructure projects; and
4. **Options Assessment**: Describing potential options to maximize the opportunities relating to community health services and risks to vulnerable populations the Project presents and minimizing negative effects and constraints and providing a preliminary assessment of those options.

2.2 DATA COLLECTION / INFORMATION SOURCES

2.2.1 Knowledge Holder Interviews

Interviews were conducted with knowledge holders who not only have expertise in areas relevant to the People and Health, Community and Culture, Local and Regional Economics and Finance, Infrastructure, and Tourism community studies but also understand the context of the Local Study Area communities or the region. The selection of knowledge holders was undertaken through an iterative process among the Township of Ignace, the NWMO, and the consulting team. Interviews were scheduled by NWMO staff who were also responsible for taking notes to ensure consistency across the Knowledge Holder Interviews. An NWMO staff member participated in the interviews to answer questions about the Project and go through the consent protocol. Members of the consulting team developed detailed questions and conducted the interviews. Appendix B provides a list of organizations the knowledge holders represent and a summary of what we heard is provided in Section 3.4.

Key information provided from Knowledge Holder Interviews relevant to the Ignace and Area Health Services study includes:

- Existing health services in Ignace and other communities in the Local Study Area;
- Barriers to accessing health services;
- Contributing factors to key health areas of concern;
- Identification of vulnerable population groups which need to be considered during Project planning; and
- Options to protect community health.

2.2.2 Ignace and Area Working Group

To support the baseline and community studies work, the Ignace and Area Working Group (IAWG) was established and membership consists of representatives from the Township of Ignace and other municipalities and communities, service providers, businesses, civil society, and other local and regional interests. Metis Nation Ontario and Wabigoon Lake Ojibway Nation representatives have also attended IAWG sessions as observers. The Township of Ignace and NWMO have prepared reports noting the IAWG's input.

The IAWG provided community knowledge throughout the community studies to ensure local perspectives were considered. Ignace and Area Working Group meetings relevant to the Ignace and Area Health Services study are:

- August 2021 (IAWG 2021a): IAWG reviewed the scope of work for the People and Health, Community and Culture, and the Economics and Finance studies.
- October 2021 (IAWG 2021b): IAWG reviewed the objectives and study areas for each of the community studies.
- December 2021 (IAWG 2021c): IAWG reviewed key steps and schedules for each community studies and answered questions regarding vulnerable population groups in Ignace and other communities in the Local Study Area.
- March 2022 (IAWG 2022a): IAWG reviewed the baseline for the Ignace and Area Health Services study with updated population projections for Ignace and the other communities in the Local Study Area.
- May 2022 (IAWG 2022b): IAWG reviewed the change analysis for the Ignace and Area Health Services study inclusive of options for consideration relative to the study's objectives.

2.2.3 Other Key Information and Data Sources

Key information and data sources used in the Ignace and Area Health Services study include:

- Statistical sources, including information from IntelliHealth Ontario (which contains administrative and clinical data), and Statistics Canada;
- Project-related documents, including the Ignace Project Vision Report (InterGroup 2020), the Lifecycle Cost Estimate Update Cost Summary Report (NWMO 2021a), and NWMO Project planning parameters (NWMO 2021b);
- Planning documents, including strategic plans (MBCHCH 2020; NOSM 2020) and community safety and well-being plans (NWMO n.d.; Township of Ignace 2021; MNP 2021); and
- Documents related to health and health care access for large infrastructure or resource extraction projects.

2.2.4 Limitations

Limitations to the data sources used to characterize the existing environment and support the change analysis include the small size of communities in the Local Study Area, input into defining vulnerable populations, and adequate primary data to support the description of the Indigenous identity population in Ignace. These limitations are described below.

The population of communities in the Local Study Area is small. To maintain confidentiality, five-year rates are used for some statistics and data are often not available disaggregated by demographics (e.g., Indigenous identity).

Defining vulnerable populations is an iterative process with potentially affected communities, including leadership, residents, and service providers. Vulnerable populations were defined for the purpose of this study using secondary data, interview results, and feedback from the IAWG. As baseline work continues and more interactions occur with residents, service providers, and community leadership, the definition of vulnerable populations is expected to become more refined to support a future impact assessment.

The proportion of residents who identify as Indigenous in Ignace has grown to comprise about 20% of the population (Statistics Canada 2017). Indigenous peoples have their own story to tell about accessing health care services and the systemic issues they face that may cause them to disproportionately experience the negative changes caused by the Project while not having equitable access to the benefits. An Indigenous organization in Dryden participated in the knowledge holder interviews. The limited participation of Indigenous organizations in the interview program means that this study cannot speak with greater specificity on existing conditions related to health care access for individuals who identify as Indigenous living in Ignace. The National Inquiry into Missing and Murdered Indigenous Women and Girls (MMIWG) states (2019b):

> Indigenous Peoples – First Nations, Inuit, and Metis, including 2SLGBTQQIA people – are the experts in caring for and healing themselves, and that health and wellness services are most effective when they are designed and delivered by the Indigenous Peoples they are supposed to serve, in a manner consistent with and grounded in the practices, world views, cultures, languages, and values of the diverse Inuit, Metis, and First Nations communities they serve.

As noted in the Note to Reader, the NWMO is engaging or will engage with Wabigoon Lake Ojibway Nation and other Indigenous communities regarding how they would like to assess potential adverse changes and benefits.

2.3 ASSESSMENT

To complete the assessment in the Ignace and Area Health Services study, analysis of existing conditions and trends without the Project and characterization of the potential changes because of the Project were completed. Existing conditions and change analysis were accomplished through analysis of primary and secondary data sources for key themes, including vulnerable populations for inclusion in the analysis, availability of health care services in Ignace and other communities in the Local Study Area, gaps in services, and barriers to accessing them.

The consulting team then used information supplied by the NWMO about the Project to understand the Project features that could interact with access to health care services, and/or present potential risks for vulnerable populations. Project features were then considered against the existing environment to understand the nature and extent of possible consequences.

Options were then developed to address Project-related changes to maximize benefits and opportunities and minimize constraints and negative consequences.

3.0 EXISTING CONDITIONS

The existing conditions provide a list of health services available in the Township of Ignace (Section 3.1.1), and in the other Local Study Area communities (Section 3.1.2). The health care journey for residents of Ignace is described in Section 3.2 through the health barriers and gaps they face within the Township and where they seek health care services outside of the Township. Vulnerable populations identified in the Local Study Area are described in Section 3.3, a summary of insights from knowledge holders in Section 3.4, and the key health areas of concern are described in Section 3.5.

The priority health areas for Ignace, according to the Ignace Community Well-Being and Safety Plan (2021), are support for seniors, accessibility, and mental health. In Ignace, 24% of the population was over 65 years of age in 2016 (Statistics Canada 2017). Aging-in-place requires access to medical services, a challenge faced by the senior population in Ignace where there is no long-term care home, a gap in infrastructure the Township is in the process of addressing. Further, accessibility within the physical environment is crucial and identified as a priority in the community (Township of Ignace 2021). Mental health challenges were identified as pronounced in youth, seniors, and Indigenous populations in Ignace, where added pressures of poverty, discrimination, cultural barriers, lack of extra curricular activities, isolation, and boredom continue to impact mental health status (Township of Ignace 2021). Mental health challenges, coupled with substance use and limited access to services in northwestern Ontario is a growing concern for the region (Township of Ignace 2021).

3.1 COMMUNITY HEALTH SERVICES

3.1.1 Health Services in the Township of Ignace

In Ignace, the main health care provider is the Mary Berglund Community Health Centre Hub (MBCHCH), which provides services by MBCHCH directly and through other tenants at the centre. Services provided by MBCHCH are considered direct services, while services provided at MBCHCH by other providers are considered indirect services.

MBCHCH is located at the corner of Highway 17 and ON-599. The health centre employs roughly 20 staff, including one Nurse Practitioner and five locum physicians. The centre is open Monday to Friday from 8:00 am to 4:00 pm. MBCHCH provides health care services both locally and regionally and is currently operating at capacity in a leased space built in 1981.

As of January 2022, there are 1,452 active clients with MBCHCH. MBCHCH provides care to Ignace residents and residents of other communities, including Dryden, Thunder Bay, Upsala, and Savant Lake. MBCHCH also serves a large seasonal population in the summer, with clients from other provinces and the United States. Table 3.1-1 displays the services offered at the MBCHCH.

Table 3.1-1: Services Offered at the Mary Berglund Community Health Centre Hub

Service Provided Directly by MBCHCH
Physician services, including five regular locum physicians, onsite or via telemedicine
Telemedicine with nurses, physicians, specialists, and psychiatrists
Cancer screening, including a Breast Screening Van
Foot care
Diabetes health
Well baby
Chronic disease management
Physiotherapy
Memory clinic
Health promotion, including group fitness, screening, and wellness clinics
Mental health
Laboratory for specimen collection
Eye van
Senior services, including home visits, nutritional assessment, and Lifeline
Rehabilitation and therapy, through telemedicine and weekly on-site visits
In-home palliative care
Service Provided at MBCHCH by Other Providers
Mental health and addictions, provided by Dryden Regional Health Centre, including a clinical psychologist (on-site and telemedicine) and community mental health and Indigenous support worker
Ignace medical pharmacy, provided by Guardian
Public health services provided by Northwestern Health Unit, including 1 Registered Nurse and the following services: student nutrition program, parenting and new parents, needle distribution, and speech and hearing
Dental screening, provided by the Ontario Healthy Smiles Program

At MBCHCH, funding for services and programs either comes from the Ministry of Health, Ministry of Infrastructure, or through donations (MBCHCH n.d.). Primary care services, for example, are funded by the Ministry of Health. Community programming such as the food bank and community garden are funded by donations. Funding received is currently based on client visits and the services provided and comes through the Local Health Integration Network. Ontario is currently undergoing a major transformation in health care as Local Health Integration Networks shift to Ontario Health Teams. Funding models under the Ontario Health Teams structure have not been established yet.

The following needs at MBCHCH were identified (EPI Research 2022):

- More physical space;
- Longer hours of operation;
- Emergency care;
- Long-term beds, including addictions treatment;
- Holistic wellness services;
- More mental health services;
- More senior care services; and
- Services such as x-rays, magnetic resonance imaging, and pre-natal care.

MBCHCH requires more space and staff to expand their services. Further, the cost to rent their current space is unaffordable.

Table 3.1-2 displays other health services offered in the Township not provided by or at MBCHCH.

Table 3.1-2: Other Community Health Services in the Township of Ignace

Other Services Provided in Township of Ignace
Emergency ambulance provided by Kenora District Services Board.
Mental health services for children and youth under 16 years old, provided by FIREFLY Dryden.
Ontario Provincial Police.
ParaMed home health care services.
Speech and hearing for infants and children, North Words provided by the Northwestern Health Unit.

3.1.2 Health Services in Other Local Study Area Communities

This section describes other community health services not provided by or at MBCHCH in the Local Study Area. This includes services within the Dryden Health Hub and Northwestern Health Unit. The Dryden Health Hub includes the Township of Ignace, City of Dryden, Municipality of Machin, and Wabigoon Lake Ojibway Nation. The Northwestern Health Unit includes communities in the Kenora and Rainy River Census Divisions and the Unorganized Kenora and Rainy River areas. The Northwestern Health Unit serves over 60 communities and an estimated 83,000 people. Health services available in Sioux Lookout are also included in this inventory as part of the Local Study Area. Table 3.1-3 displays the services available at the main health centres in Dryden, Municipality of Machin, Wabigoon Lake Ojibway Nation, and Sioux Lookout. Table 3.1-4 displays an inventory of other health services available in the Local Study Area, including the Township of Ignace, City of Dryden, Municipality of Machin, Local Services Board of Wabigoon, and Sioux Lookout.

Table 3.1-3: Health Centres and Associated Services in Other Local Study Area Communities

Dryden Regional Health Centre 41-bed hospital	**Paawidigong First Nations Forum** Located in Dryden, serves Wabigoon Lake Ojibway Nation and other First Nations	**Points North Family Health Team**	**Wabigoon Lake Ojibway Nation Health Centre**	**Sioux Lookout Meno Ya Win Health Centre** 60-bed hospital and 20-bed extended care
Family physicians Anesthetists Ear-nose-throat Emergency physicians General surgeons Mental health and addictions Nurse practitioners Orthopedic surgery Pediatrics Plastic surgery Psychotherapy Registered Dieticians Registered Nurses and Registered Practical Nurses Rehabilitation Rheumatology	Community care nurse Diabetes nurse Counselling	Family physician Nurse Practitioner Phlebotomist Registered Nurse Disease management and prevention Health promotion Mental health counselling Nutritional counselling Diabetes program Heart health Family planning	Chiropody Nurse Practitioner Registered Nurse	Ambulance and emergency Assault care and treatment Diabetes care Cancer care Diagnostic imaging Dialysis and renal Heart and stroke Laboratory Mental health and addictions counselling Prenatal and maternity Rehabilitation Surgery Telemedicine Traditional program

Sources: Dryden Regional Health Centre n.d.a; Dryden Regional Health Centre n.d.b; Dryden Regional Health Centre n.d.c; Northwest Healthline 2021; Paawidigong First Nations Forum n.d.a; Paawidigong First Nations Forum n.d.b; Points North Family Health Team n.d.a; Points North Family Health Team n.d.b; Northwest Healthline 2020; Meno Ya Win Health Centre n.d.a; Meno Ya Win Health Centre n.d.b.

Table 3.1-4: Other Community Health Services in Other Local Study Area Communities

Community	Service
City of Dryden	Addictions treatment, Ontario addictions treatment centre
	Chiropractic
	Dental and dental surgery
	Family physicians; Dingwall Medical Clinic
	Foot care
	Massage therapy
	Occupational therapy
	Optometry
	Orthodontics
	Osteopathy
Sioux Lookout	Dental
	Massage therapy
	Mental health, provided by Nodin Mental Health Services
	Optometry, visiting from Dryden
	Orthodontics
	Osteopathy
	Physical therapy
	Women's health, Sunset Women's Aboriginal Circle, provided by Ontario Native Women's Association

Sources: Ontario Addictions Treatment Centre n.d.; McLeod Chiropractic n.d.; Kinizsi Dental n.d.; King Street Family Dental n.d.; Viva Dental n.d.a; Viva Dental n.d.b; Dingwall Medical Clinic n.d.; Northwest Healthline 2022a; Northwest Healthline 2022b; Northwest Healthline 2022c; Enhance Wellness n.d.; Dryden Area Family Health Team n.d.; Lockyer Optometry n.d.; Lyle Osteopathy n.d.; Old Mill Dental Clinic n.d.; Culham n.d.; Lubek n.d.; Drew Osteopathy n.d.; Sioux Lookout First Nations Health Authority n.d.

3.2 HEALTH CARE JOURNEY FOR IGNACE RESIDENTS

Residents of Ignace must travel to other communities to access some health care services. This often requires travelling to Dryden. Using health services outside of the Township is due to both lack of services and barriers to accessing health care within the community. In addition, factors

such as the aging population of Ignace, and expecting mothers who require services and facilities that are currently unavailable to them in their community must occupy space in facilities that they would otherwise not have to.

3.2.1 Barriers to Health Services Within Ignace

Barriers to health services for residents of Ignace include transportation, long wait times to see specialists, the hours of services, and lack of knowledge on how to navigate the health care system.

Transportation

Results from the Northwest Ontario Community and Baseline Studies Knowledge Holder Interview Program (2022) confirm that transportation is a barrier to accessing health services within the Township. According to Northwest Ontario Community Studies Knowledge Holder Interview Program participants, it can be challenging for Ignace residents to get to the health centre due to its location on Highways 17 and ON-599 and distance from the residential areas in town (Ignace 2021). The lack of public transit service in Ignace coupled with the lack of sidewalks surrounding MBCHCH means residents of Ignace often rely on access to a vehicle to reach the health centre. MBCHCH has a van used for outreach services, however it is not insured to transport clients to and from the centre. There are some community volunteer drivers, but they are unattached to a service or organization.

Access to Specialists

Access to specialists is a challenge for Ignace residents who often have to travel to other locations for a range of services, such as senior, mental health, and addictions services. Although some speciality services are available locally, others require all residents of the Local Study Area to travel further afield to locations such as Kenora, Thunder Bay, and beyond (discussed in further detail in Section 3.2.3).

Hours of Operation

The limited hours of health care services are a barrier, as there are no formal after-hours services provided in the community. Outside the hours of 8:00 am to 4:00 pm, Monday to Friday, residents of Ignace and other communities in the Local Study Area must travel to Dryden for health care services.

Patient Care Navigation

Lack of knowledge on how to navigate the health care system is also a barrier for some residents, particularly when they must navigate complex health systems with little or no money (Township of Ignace 2021). The MBCHCH Strategic Plan 2020-2025 confirms that continuing to support the healthcare journey of residents is a priority area (MBCHCH 2020).

3.2.2 Gaps in Health Services in Ignace

Despite the existing services in the Township shown in Tables 3.1-1 and 3.1-2, residents of Ignace must still travel to other communities to access specialized services. Results of the Northwest Ontario Community and Baseline Studies Knowledge Holder Interview Program (2022) suggest that several factors contribute to the need for residents of Ignace and other communities in the Local Study Area to travel outside of the Township for other health care services. This section describes health services in the Ignace area that require improvement or expansion as well as health services that are not meeting Township needs or do not exist in the Township. Further, it describes where residents are going when they leave the Township for health care and what they are seeking when they go.

The health care services identified that require improvements or expansion in the Ignace area include (EPI Research 2022):

- Dental care;
- Dietician services;
- Discharge planning and referrals;
- Drug and alcohol treatment and counselling;
- Early childhood development supports;
- Equipment and aides for independent living;
- Mental health and therapy;
- In-home personal care;
- Preventive education;
- Occupational and speech therapy; and
- Patient care navigation.

Other services that are not meeting demands or do not exist in the Ignace area include (EPI Research 2022):

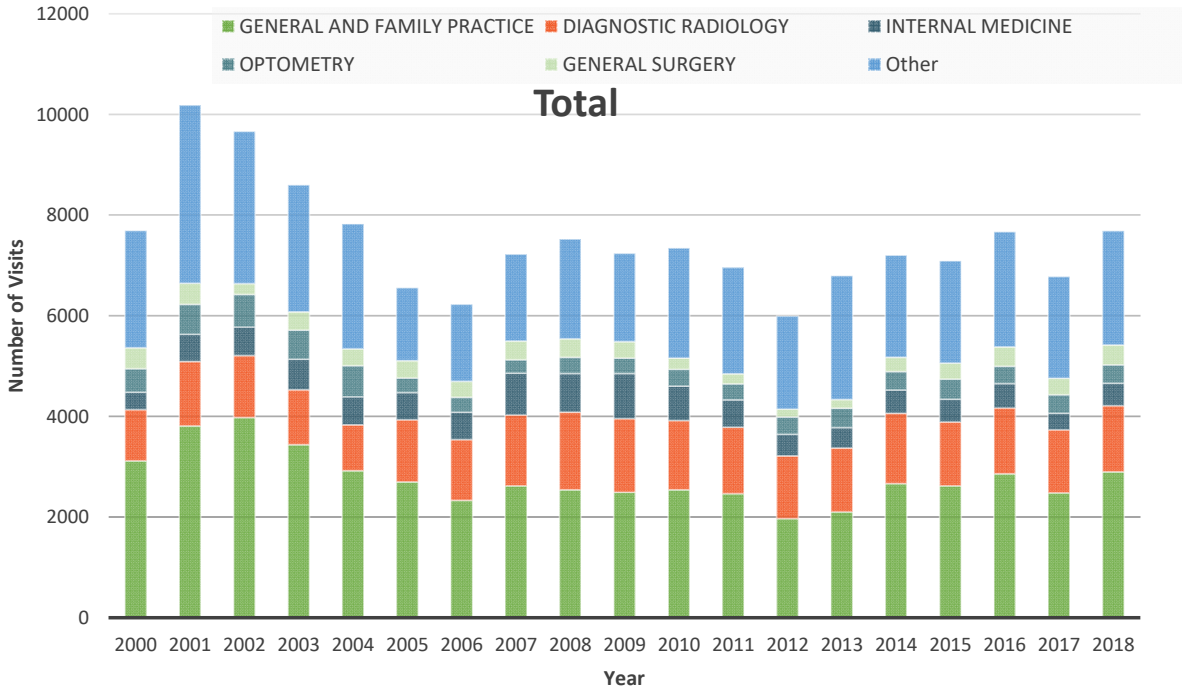
- Alzheimer's and dementia;
- Crisis response, on-call and after hours;
- In-home respite;
- Medical transportation within the community;
- Medical transportation outside the community;
- Psychiatric and behavioural support;

- Traditional health care/land-based healing and spiritual support not currently offered;
- Optometry – no full-time optometry services are available; and
- Outpatient rehabilitation – a physiotherapist from Thunder Bay provides service at MBCHCH 1.5 days per week but no in-home rehabilitation services are offered.

3.2.3 Using Health Care Services Outside Ignace

As shown in Figure 3.2-1, residents of Ignace are travelling outside of the Township for services such as general and family practice medicine, internal medicine, general surgery, diagnostic radiology, and optometry (IntelliHealth Ontario 2022c). Access to general and family practice medicine was the most common reason for health service visits outside of Ignace, followed by other services, diagnostic radiology, internal medicine, optometry, and general surgery. Travel for general and family practice medicine was largely to Dryden (see Appendix E), followed by other locations, Thunder Bay, Sioux Lookout, Kenora, and Machin (IntelliHealth Ontario 2022b).

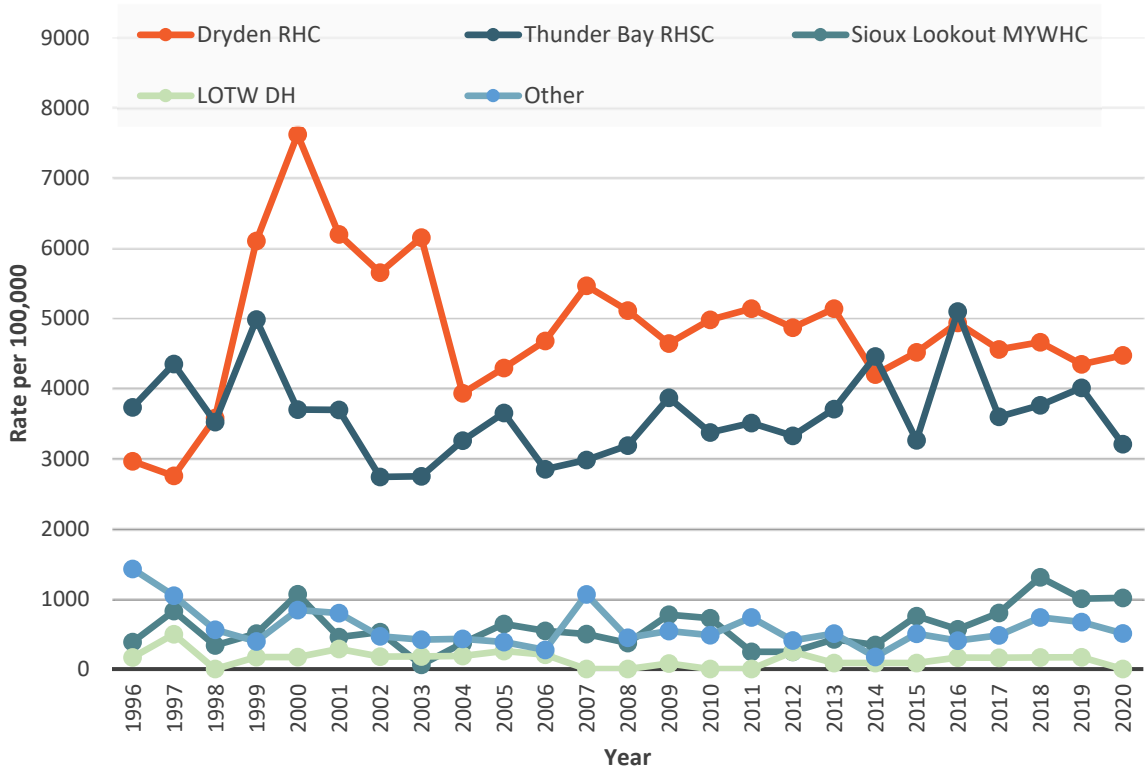
Figure 3.2-1: Health Services for which Residents of Ignace Travel Outside of the Township, 2000 to 2018



Source: IntelliHealth Ontario 2022a.
Note: 2019 numbers may be incomplete

For both in-patient hospital care and emergency visits, Ignace residents primarily go to Dryden Regional Health Centre in Dryden, followed by the Regional Health Sciences Centre in Thunder Bay, Sioux Lookout Meno Ya Win Health Centre, other locations, and Lake of the Woods District Hospital (IntelliHealth 2022a). As displayed in Figure 3.2-2, there has been little change in the location rates of in-patient hospital care for residents of Ignace. The most common reason for the hospitalization of Ignace residents is diseases of the circulatory system, which accounts for 14% of discharges from 2002 to 2021 (IntelliHealth 2022a). On average there are 150 discharges per year (IntelliHealth 2022a). Factors influencing health status and contact with health services accounts for 11% of the discharges (IntelliHealth 2022a). These factors can be attributed to patients who utilize hospital resources in-place of non-hospital resources that do not currently exist in the area, and patients who use hospital resources due to lack of knowledge of other options or how to navigate the health care system.

Figure 3.2-2: Locations of In-Patient Hospital Care for Residents of Ignace, 1996 to 2020



Source: IntelliHealth Ontario 2022b.

3.3 VULNERABLE POPULATIONS

Vulnerable populations are individuals who are at greater risk of coming to harm because of "disparities in physical, economic, and social status when compared with the dominant population" (Patrick et al 2018; Rukmana 2014). According to the National Collaborating Centre for Determinants of Health, "vulnerable populations are groups and communities at a higher risk for poor health as a result of the barriers they experience to social, economic, political and environmental resources, as well as limitations due to illness or disability" (NCCDH 2022). Social inequality and social disadvantage results when resources and access to opportunities and supports required are not evenly distributed. Equity means that all people can reach their full potential and should not be at a disadvantage from reaching it due to social position or other socially determined circumstances such as ability, age, culture, ethnicity, family characteristics, gender, language, race, religion, sex, social class, or socio-economic status (NCCDH 2013).

The process for identifying vulnerable populations is described in further detail in Appendix C and was an iterative process that included a review of secondary information, discussions with the IAWG, and reflections from the Knowledge Holder Interviews. The list of potential vulnerable populations was narrowed down to four key groups, which are described in Table 3.3-1. These groups are currently considered vulnerable populations in the Local Study Area and currently experience conditions such as limited mental health supports and the housing shortage in northwestern Ontario. More information on characterization of vulnerable populations in the context of Ignace and other communities in the Local Study Area the Local Study Area and supporting data can be found in Appendix C.

Table 3.3-1: Vulnerable Populations

Vulnerable Population	Rationale for Inclusions
Low socio-economic status	• Individuals who are below the low-income threshold must manage the added stress of financial instability to their everyday life and well-being. This may include but is not limited to youth, lone-parent households, and seniors. • Lower income means a larger portion of income must be spent on shelter costs, food, and clothes. • Reduced purchasing power when prices rise (e.g., from a growing economy) can result in shelter costs becoming unaffordable. This can also influence disposable income and lead to food insecurity and lack of means to afford other essential goods.
Individuals experiencing homelessness or are precariously housed	• Housing availability and the rising value of homes has been identified as a concern in communities in the Local Study Area and through the Northwest Ontario Community and Baseline Studies Knowledge Holder Interview Program (2022). • Increased housing costs may further exacerbate challenges in acquiring suitable, adequate, or affordable housing.
Individuals experiencing barriers to employment	• Years of experience required to enter the workforce can be a barrier for someone without formal work experience, or individuals who have been out of work for a long time, as employers are less inclined to hire those with gaps in work experience. • The transition to a structured work environment can be challenging for individuals who have been unemployed or underemployed as it may not be what an individual is accustomed to. • Life skills and self-reliance are essential and without them individuals may be unable to obtain employment or seek further education due to an inability to complete basic tasks (e.g., read, write, complete a resume).
Individuals experiencing mental health and/or addictions	• Economic instability can cause significant mental health problems (Government of Canada 2013). • Increases to disposable income can result in increased substance use (Northwest Ontario Community and Baseline Studies Knowledge Holder Interview Program 2022). • Increases to cost of living and housing can exacerbate mental health challenges. • Mental health and addictions services are already facing capacity constraints (Northwest Ontario Community and Baseline Studies Knowledge Holder Interview Program 2022).

3.4 WHAT WE HEARD

Summary of insights from the Northwest Ontario Community and Baseline Studies Knowledge Holder Interview Program (2022) related to community well-being, vulnerable populations, and health service gaps and capacity challenges in the northwest Ontario region include:

- Improvements in the health outcomes and well-being of individuals can be made by addressing the social determinants of health, including aiding people to acquire employment, adequate housing, and the ability to live independently.
- Vulnerable populations in the area include individuals who are homeless, low-income, living with addictions, and/or living with mental health challenges, as well as sub-groups of these populations such as seniors, youth, and Indigenous individuals.
- In-patient addictions treatment would be an immediate benefit to the Local Study Area and the northwest Ontario region and requires investment and infrastructure.
- Mental health services are limited and in high demand. It is difficult to provide these services in a timely manner. More support for psychiatry would benefit the area.
- Transportation is a barrier to health services throughout the region. Often transportation services are provided informally by community members and health providers such as case managers. An affordable public transit system would be beneficial.
- Demand for emergency and crisis-response has increased. Current response services do not have the appropriate capacity to meet the demand.
- Ignace has a high proportion of seniors who require senior services not currently available, such as long-term care.

3.5 AREAS OF CONCERN FOR HEALTH SERVICES

Gaps and capacity challenges in health services of the Local Study Area, as described in Section 3.2.2, point to four key areas of concern (see Table 3.5-1). The priorities for Ignace and Area health services include:

1. Access to health care;
2. Drug and alcohol treatment;
3. Mental health services; and
4. Senior care.

Table 3.5-1: Areas of Concern for Health Services in the Local Study Area

Area of Concern	Contributing Factors
Access to services	• Hours of operation limit access as MBCHCH is only funded for daytime hours. • Lack of transportation and associated costs to travel within or outside of the Township area for health services. • Difficult getting physicians and specialists to move to the area.
Drug and alcohol use	• Unemployment and underemployment. • Access to narcotic prescriptions. • Isolation and boredom. • Residential treatment services require travel.
Mental health	• Social stigma and small-town nature of the Township can cause individuals to feel uncomfortable or embarrassed about seeking help. • COVID-19 pandemic and world events. • Long waitlists due to regional healthcare challenges with lack of in-patient beds and specialists. • Isolation and boredom.
Seniors	• No senior housing or long-term care available. • Social isolation due to COVID-19 pandemic and lack of transportation/accessibility options in area.

Sources: MNP 2021; Township of Ignace 2021; EPI Research 2022.

3.5.1 Access to Services

Transportation for health services within Ignace is not formally offered. Mobility limitations can impact the independence and quality of life for seniors and other community members in a community such as Ignace, where there is no public transit, and critical services such as the health centre are in an area with no sidewalks. Medical transportation outside of the community is also a challenge. Although there is an ambulance base in the Township, funded by the Ministry of Health, there can be long wait times for emergency transportation from another community if the local ambulance is already out on a service call. Crisis response, particularly after daytime operating hours and on weekends, is also a challenge in Ignace. MBCHCH is not funded to

respond to crises and are reliant on police and emergency medical services for carrying out their own informal responses.

3.5.2 Drug and Alcohol Treatment

Drug and alcohol treatment services are a challenge in the Local Study Area. A full-time social worker, provided by Dryden Regional Health Centre, provides mental health and addictions counselling and case management services to clients through MBCHCH during day-time business hours. If an Ignace resident requires services after hours, they must travel to Dryden Regional Health Centre where regular travel for services is a significant time and financial commitment. The Northwest Ontario Community and Baseline Studies Knowledge Holder Interview Program (2022) confirmed this limited resource is a challenge, suggesting that it can be difficult to access counselling resources if an individual does not get along with the only available counsellor in town or knows that individual in their social and personal life (due to the small-town nature of the community).

In general, access to addictions treatment is a regional challenge for northwestern Ontario. An Ontario Addictions and Treatment Centre is in Dryden; however, the Centre does not offer a detox location or residential treatment, offering only diabetes outreach and screening, needle exchange, and naloxone overdose response (Ontario Addiction Treatment Centres n.d.). Results from the Northwest Ontario Community and Baseline Studies Knowledge Holder Interview Program (2022) suggest that existing services are not meeting the needs of Dryden area residents. Northwest Ontario Community and Baseline Studies Knowledge Holder Interview Program (2022) participants urge that having detox beds and residential treatment for substance use would make an immediate difference for individuals seeking these services. Currently, individuals living with addictions who would like residential treatment must travel outside of the district to receive care in larger urban centres such as Thunder Bay and Winnipeg.

3.5.3 Mental Health Services

Access to mental health services is a challenge in the Local Study Area. In Ignace, counselling services are limited to daytime business hours. MBCHCH has a contracted psychologist who provides appointments in the community, as well as a contract for telepsychiatry once a month; however, results from the Northwest Ontario Community and Baseline Studies Knowledge Holder Interview Program (2022) indicate that these limited mental health services are not meeting the needs of residents. Further, access to youth counselling services is a concern as mental health challenges are anticipated with students adjusting to the transition back to face-to-face education following the COVID-19 pandemic. At present, school-based youth counselling through FIREFLY is also limited to the dates and times that visiting service providers are in the community.

Mental health programs in Dryden are increasingly in high demand, where it is an ongoing challenge to connect with individuals in a timely manner (Northwest Ontario Community and Baseline Studies Knowledge Holder Interview Program 2022). For example, the Dryden Native Friendship Centre's mental health program is at capacity, having only started the new program in 2020.

The lack of specialists in the northwestern Ontario region leads to long wait lists for individuals seeking help. Greater psychiatric and behavioural services would benefit the area and individuals who require that level of care, as currently this support is often provided externally through services such as video conferencing (Northwest Ontario Community and Baseline Studies Knowledge Holder Interview Program 2022).

3.5.4 Senior Care

Gaps in services for seniors (i.e., age 65 and up) in Ignace and other communities in the Local Study Area include in-home and independent living, as well as Alzheimer's and dementia care. Ignace, in particular, has a large proportion of seniors (24%) compared to the other Local Study Area communities (17%). Although MBCHCH has home and community care services provided by the Northwestern Health Unit, results from the Northwest Ontario Community and Baseline Studies Knowledge Holder Interview Program (2022) suggest its services, including personal care and independent living supports for individuals living with disabilities, need improvement due to capacity issues. In-home respite is not offered formally in the Township, where community members often take care of one another in an attempt to fill this gap. MBCHCH has the memory clinic, where assessments on Alzheimer's and dementia can be made, but there are no other formal supports in the community for these individuals. The Alzheimer Society in Dryden is the next closest service.

4.0 CHANGE ANALYSIS

The change analysis describes the features of the Project that will potentially change health care services accessed by Ignace residents in Ignace and other communities in the Local Study Area.

4.1 APM PROJECT CHARACTERISTICS RELEVANT TO IGNACE AND AREA HEALTH SERVICES

Employment created by the Project will drive population change in Ignace and other communities in the Local Study Area as in-migration will be required at each stage of the Project to meet the labour demand.

4.1.1 Project Workforce and Residency Assumptions

The broad types of employment anticipated that will drive population change within the area are presented in Table 4.1-1. These positions will include senior management, professional occupations, and technical occupations.

Table 4.1-1: Labour Projection by Project Phase

Phase	NWMO Staff	Surface Trades	Underground Trades	Total
Pre-construction	200	-	-	200
Construction	210	300	130	640
Operations	630	10	60	700

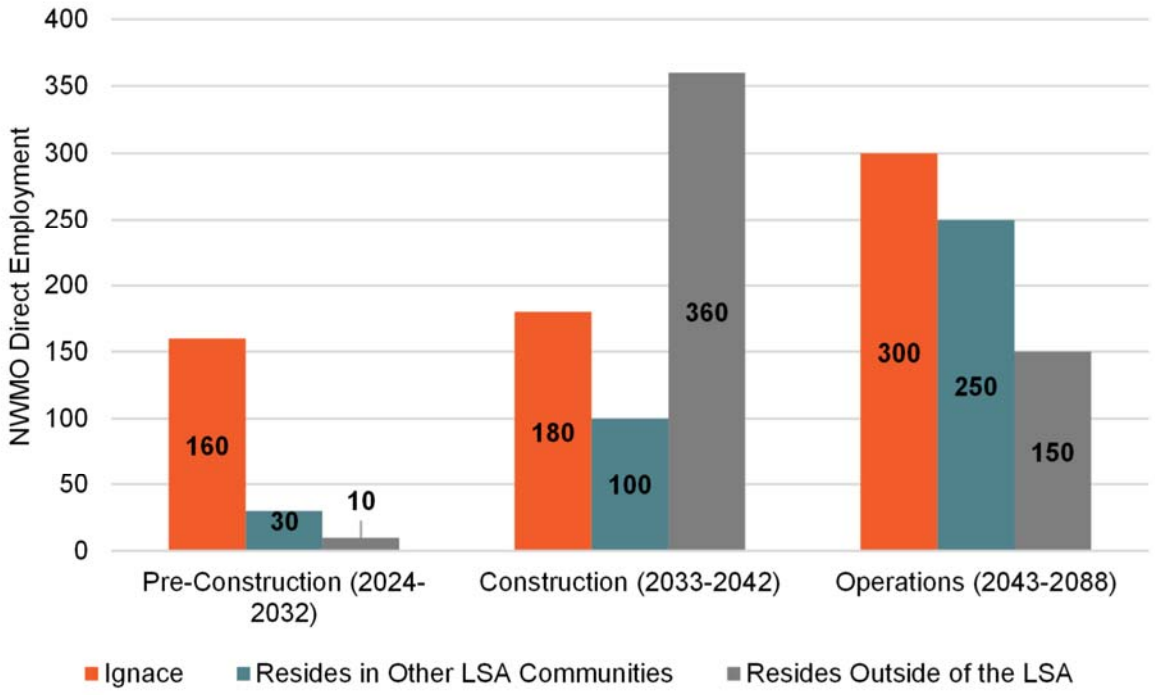
Source: NWMO 2021b.

Where the workforce resides is a key factor in determining potential population changes. The NWMO worked with the Township of Ignace to develop residency planning assumptions. These identify the desired number of direct employees to move to Ignace during each phase of the Project (Figure 4.1-1). The residency planning assumptions are (NWMO 2021b, 2022a):

- In the pre-construction phase, 160 of the 200 direct employees may reside in Ignace, 30 employees may reside in other communities in the Local Study Area, and 10 may reside outside of the Local Study Area;
- In the construction phase, the number of direct employees who reside in Ignace is expected to increase by 20 to 180, 70 more employees (100 total) may reside in other communities in the Local Study Area, and 360 employees will travel from communities outside the Local Study Area to work on rotation; and
- In the operations phase, 120 more direct employees are expected to resettle in Ignace bringing the total to 300 direct employees, and 150 more employees (250 total) may reside

in other communities in the Local Study Area, while another 150 will reside outside of the Local Study Area and may require some temporary accommodation proximal to the Project.

Figure 4.1-1: APM Project Residency Planning Assumptions, 2024 to 2088



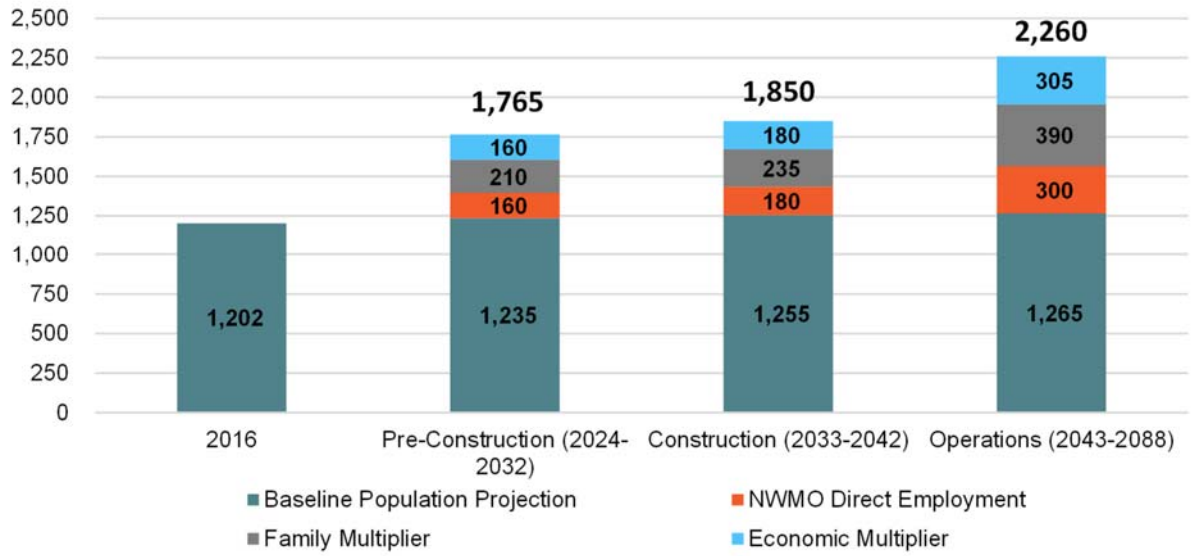
Source: NWMO 2022a.
Notes: Data limitations for Figure 4.1-1 are provided in Appendix D.

Direct employment accounts for a portion of the anticipated growth and is anticipated to be a catalyst for further increases in population associated with family members and others migrating to the area relative to those opportunities. Population projections are detailed in the Growing the Population study, with key results provided in Figure 4.1-2 and Figure 4.1-3. The population projections include the number of direct employees from the residency planning assumptions, along with consideration of potential associated family members, and possible induced in-migration to serve the growing community. A family multiplier of 2.3 was applied to direct NWMO employees to consider potential partners/family members that in-migrate concurrently.[1] An

[1] For the population projections with the Project, a family multiplier of 2.3 is used to reflect policy intended to attract young families into Ignace.

economic multiplier was then applied to direct NWMO employees and their family members.[2] The family multiplier was not applied to individuals anticipated to move to the Local Study Area to take advantage of economic opportunities to be conservative.

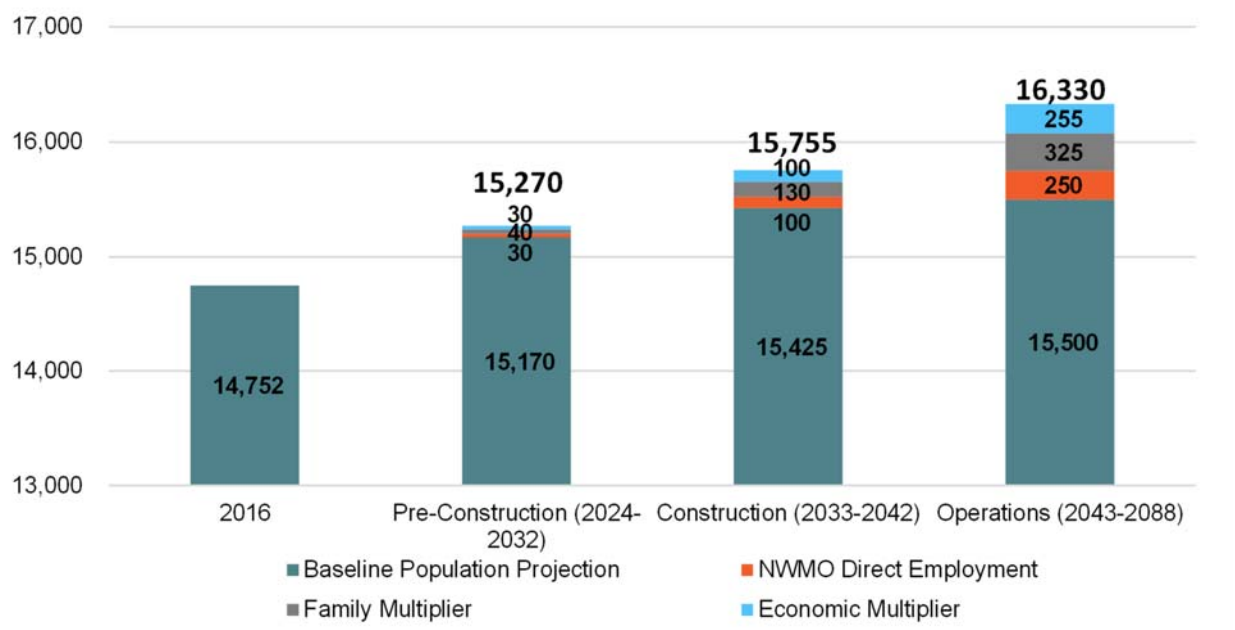
Figure 4.1-2: Ignace APM Planning Assumptions Population Projection, 2016 to 2046[1,2]



Notes:
1. The baseline population projection is based on the historical Kenora Census Division 25-year average annual growth rate from 1996 to 2021 (0.165% average annual growth). More details can be found in Appendix E of the Growing the Population Study.
2. The baseline projection using the Kenora Census Division historical growth rate was chosen because it reflects the current trend that the population in Ignace is beginning to gradually increase.

[2] The economic multiplier is based on estimates for the Kenora, Rainy River, and Thunder Bay CDs and could be higher or lower than the 1.44 industry average used in the analysis. Different factors could influence the economic multiplier selected, for example economic multipliers are typically smaller for smaller geographical areas and might suggest a downward adjustment could be appropriate. However, a large proportion of the jobs during pre-construction, construction, and operations are anticipated to be in the professional; scientific; and technical services industry which has a multiplier of 1.83 for the Kenora CD and could indicate an upward adjustment. The selection of the industry average was made to reflect a balance between these competing influences and given the absence of more specific publicly available information.

Figure 4.1-3: Other Local Study Area Communities APM Planning Assumptions Population Projection, 2016 to 2046[1,2]



Notes

1. The baseline population projection is based on the historical Kenora CD 25-year average annual growth rate from 1996 to 2021 (0.165% average annual growth). More details can be found in Appendix E of the Growing the Population Study.
2. The baseline projection using the Kenora CD historical growth rate was chosen because it reflects the current trend that the population in the Local Study Area is gradually increasing.

4.1.2 Construction Camp

Based on the planning assumptions used to support analysis in the community studies, the NWMO is currently planning on providing a camp to house the non-local workforce during construction (see planning assumptions in Section 4.1.1). Key characteristics in the current planning assumptions are the construction camp would be on or near the Revell Site. The camp complex will include accommodations, an airstrip, a medical centre, kitchen, cafeteria, and recreational facilities (NWMO 2021b). The construction camp would be a managed environment, meaning that health and safety will be central to how the camp is run. The NWMO will promote a strong health and safety culture, including a health and safety briefing on arrival and zero tolerance policies for substance use.

4.2 POTENTIAL CHANGES TO COMMUNITY HEALTH SERVICES

Potential changes to community health services will vary by Project phase and are predicated on achieving the residency planning assumptions, as described in detail in the Growing the Population Study. If the residency planning assumptions are achieved:

- During pre-construction, NWMO direct employees and their family members would materially increase the Township's population by about 31% (370 new residents) compared to the 2016 population (Figure 4.1-2). A majority of the population growth would follow in 2028 once the Centre of Expertise opens coinciding with the overall mobilization of NWMO staff to the region. Population growth in other Local Study Area communities would be substantially smaller at 0.5% (70 new residents) (Figure 4.1-3).
- During construction, new population growth from NWMO direct employees and their families is predicted to be 3% (45 new residents) when compared to the projected pre-construction population (Figure 4.1-2). New population growth compared to projected pre-construction population in other Local Study Area communities would be 1% (160 new residents) (Figure 4.1-3). Most of the construction workforce (360 workers) will not reside in Local Study Area communities and will be engaged in work rotation schedule (e.g., two weeks), coming to the site for their shift and returning to their home communities when off rotation. Construction workforces tend to be predominantly male and young (Amnesty International 2016) and camps are typically remote from large urban centres. This can result in workers being socially disconnected from their families and friends, and lacking investment in the local community and any relationships with the people in the area (Gibson et al 2017). Due to the demographics of the construction workforce and the lack of connection to the Local Study Area, the non-local workforce presents a potential risk to vulnerable populations in the Local Study Area if not managed well. The NWMO is committed to working collaboratively with local municipalities and Indigenous communities to ensure local safety throughout this period.
- During operations, which is currently scheduled to start in 2043, new population growth from NWMO direct employees and their families moving to Ignace is expected to grow another 17% (275 new residents) relative to the projected construction-phase population (Figure 4.1-2). In other Local Study Area communities, that percentage is expected to be 2% (345 new residents) (Figure 4.1-3).

4.2.1 Potential Changes in Demand for Health Care Services

The changes in demand for health care services are distinguished between pre-construction and operations in which in-migration is anticipated to increase the local population on a more permanent basis, and the construction phase in which a non-local workforce may place demands on existing services.

During pre-construction and operations, the in-migration of direct NWMO employees and their families to Ignace could change the demand for health care services provided at MBCHCH. Changes in demand for services are a result of multiple factors, including the total number of people accessing services, combined with a potential shift in demographics of the population.

Ignace, like the general population in Canada, is aging (Township of Ignace 2021), and an aging population typically has more health care requirements than younger populations (Gibbard 2018). They also require a different suite of health care services to address their needs. Mary Berglund Community Health Centre Hub, the Township, and other organizations are working towards providing wrap around care for seniors living in Ignace, but Project-related in-migration may shift the demand towards a younger cohort, who may require services geared towards younger families with consideration of things such as pediatric or prenatal care.

The City of Williston, North Dakota is an example of possible outcomes associated with a shift in demographics. The community experienced a rapid population increase between 2010 and 2014 because of high oil prices and the associated influx of labour to serve the Bakken oil formation projects. In addition to increasing the population by 67%, the influx of workers changed the median age of the population from 55 years old to 30 years old (Associated Press 2021; Millsap 2016). As a result of the population increase, the community scrambled to meet the health needs of a younger population that had moved to Williston, which included a subsequent baby boom as people settled and establish families. This delayed policies and planned programming to address the needs of the older population who were resident in the community prior to the influx of labour (Northwest Ontario Community and Baseline Studies Knowledge Holder Interviews 2022).

Although the growth in Ignace and other communities in the Local Study Area is being planned for in a much more detailed capacity than the example of Willison, North Dakota, the example provides important insights relative to potential demographic shifts and the need to consider primary health care needs relative to the age structure of the population. Changes in demand for health care services because of NWMO direct employees and their families moving to Ignace would likely begin in 2028, when the Centre of Expertise opens and would need to be revisited again prior to the onset of operations.

During construction, changes in demand for health care could be tied to the presence of the non-local workforce. Employment at industrial camps can cause a range of health care concerns for workers, especially those engaged in rotational or shift work. Evidence from other jurisdictions suggest that as much as 90% of the workforce's health care needs result from non-occupational, non-urgent injuries and illnesses, or existing chronic conditions – effectively primary care needs (Northern Health 2015). Without proper planning, the presence of a camp can increase the demand for local health care services, including the emergency room visits in the absence of alternative primary care options. Other factors that can trigger health concerns and therefore increased demand for health care services include social isolation (e.g., being away from family and friends), stressful work conditions predominately male environment, and long hours. These conditions can be linked to high-risk behaviour such as alcohol and drug use and mental health issues (Aalhus et al. 2018).

4.2.2 Other Potential Challenges with a Non-local Workforce

In addition to the straight demand for services, the presence of the construction camp and the non-local workforce could increase potential demands for health services associated with the behaviours and interactions among the local and non-local populations if they interact on a

routine basis. Construction workforces tend to be younger and predominantly male. When members of the workforce do not have meaningful connections to the communities near a site and have a "work hard, play hard" mentality, this can result in social and health implications (Vanclay 2002). In addition, higher levels of disposable income may facilitate the "work hard, play hard" mentality, which has occurred in some resource projects in Canada (Goldenberg et al. 2010). The non-local workforce and the construction camp have the potential to exacerbate a range of existing issues for some vulnerable populations if not managed properly.

Knowledge holders expressed concern with increased rates of substance use (drugs and alcohol) (Northwest Ontario Community and Baseline Studies Knowledge Holder Interviews 2022). Increases of substance availability and use can affect any local resident but may disproportionately affect individuals belonging to marginalized groups (e.g., Indigenous people, gender diverse people, and women).

Studies have also noted that Indigenous women and girls who are either employed at an industrial camp or live in nearby communities are at an increased risk of sexual violence and sexually transmitted infections, if not managed (Native Women's Association of Canada 2018; Gibson et al. 2017). A large non-local workforce could also increase demand for commercial sex, especially women from marginalized groups such as those experiencing economic insecurity, and in particular Indigenous women. In other jurisdictions, there is evidence that women can be placed in a vulnerable position where workers can exploit and engage in violence against them (Native Women's Association of Canada 2018; Amnesty International 2016). This may include things such as "men asking for sex in return for unsolicited offers of money, drugs, and alcohol" (Amnesty International 2016).

The increased risks associated with a non-local workforce, if not planned for and managed, could place additional demands on health care services, such as mental health or addictions services, which are already at or over capacity in the Local Study Area (Northwest Ontario Community and Baseline Studies Knowledge Holder Interviews 2022).

4.3 CONSIDERATIONS FOR IGNACE AND AREA HEALTH SERVICES

The Project is a potential catalyst for long-term, positive change for the Township of Ignace and other communities in the Local Study Area. In considering the potential implications of Project-related population growth and developing options relative to community health (Section 5), several factors warrant consideration. Within the context of the existing conditions:

- Health care in the Local Study Area is changing. Health care in Ontario is currently experiencing transformation on multiple levels, including the shift from Local Health Integration Networks to Ontario Health Teams, potential changes at the federal level, and the establishment of Canada's first independent medical university (Northern Ontario School of Medicine University), which focuses on northern health human resources and northern health. These changes provide opportunities for collaboration and activities that could benefit NWMO staff, Ignace residents, and residents of other Local Study Area communities.

- Health care in northwestern Ontario faces systemic issues that the Project could exacerbate, particularly for vulnerable populations. There are systemic issues in the provision of health care in northwestern Ontario. There is still a shortage of doctors and other medical professionals in the region, and these existing shortages could make efforts to attract more health care professionals to Ignace challenging. There are also systemic issues in connection with providing mental health services and increasing capacity in that area is often a top-down endeavour guided by provincial priorities (Northwest Ontario Community and Baseline Studies Knowledge Holder Interview Program 2022).
- Jurisdictional considerations are key. The province is responsible for the delivery of health care services in the Local Study Area communities. Influencing health care enhancement and expansion is therefore likely beyond the control of the Township or the NWMO. Although the changes in population in the Local Study Area are anticipated to drive a change in health service demand, they may not alone be substantive enough to result in systemic changes (e.g., residents are still likely to have to travel to access certain services).

Because of the systemic issues and jurisdictional constraints around health care, the Township and the NWMO may have limited ability to influence developments related to health care services. The Association of Municipalities Ontario notes that municipal governments have no mandated role in health care service planning and decision-making with the Local Health Integration Networks (AMO 2019). While this may change as the Local Health Integration Networks change to Ontario Health Teams, it is important to plan for areas where the Township and NWMO are more likely to experience success and be able to influence outcomes, which should be proportional to the anticipated changes created by the Project. As part of this, the Township and NWMO are encouraged to form regional relationships to drive initiatives with other communities and organizations as a coordinated effort to potential further success.

It is also important to note that material changes in health services are challenging to predict, in part because health care and health care provision are multi-faceted when proactive interventions are favoured to address emerging outcomes. Based on population changes alone, an increased demand in services is most likely to be noticeable in Ignace during the pre-construction and operations phases when projections estimate a potential increase of more than 500 people per phase if aspirational growth targets are achieved. The potential changes in demand in services during construction will depend in part by options selected by the NWMO to minimize potential strains to services associated with a non-local workforce. If no mitigation is offered during construction, there is potential for a primary care burden to be placed on walk-in clinics and emergency rooms within the Local Study Area, such as the emergency room in Dryden. Further to this, potential risks to vulnerable populations have been considered in the context of other major project experiences which may or may not be exhibited in the context of the Project.

Given these uncertainties, and the need to be responsive to emerging issues as they relate to community health services, a more effective way to think about the nature of Project-related changes is presented in Figure 4.3-1, which suggests a continuous loop of planning, monitoring for outcomes, and adapting to changes. An initial process of planning is central to each phase of

the Project and anticipates the range of potential outcomes associated with Project-related population changes. Monitoring frameworks should be established early with relevant stakeholders and should seek to identify appropriate benchmarks against which changes are considered. Adaptations should reflect the outcomes of monitoring, in addition to being responsive to emergent trends that may or may not have been identified in the established monitoring frameworks.

Figure 4.3-1: Continual Planning, Monitoring, and Adaptation

Although planning relative to each phase of the Project is important, monitoring is central to understanding changes to accessibility and demand for health services, and imperative in determining whether any adaptations are warranted.

The areas where the Project is expected to bring about material changes where it can influence the outcomes are summarized in Table 4.3-1. These four areas are highlighted for options in part because of the Township's and NWMO's ability to influence some of the potential outcomes, although they will still require collaboration with stakeholders and the provincial and federal governments. Rationale for focusing on these issues are:

- **Workforce Attraction and Retention:** Pre-construction is a major opportunity for Ignace to transfer most of the NWMO staff working at the Centre of Expertise to residents of Ignace.[3] The NWMO also has an interest in attracting and retaining staff. One key part is considering the services and amenities professionals expect in their home communities, which includes health care services. Participating in planning for incremental enhancement of health care

[3] The Centre of Expertise will house a technical and social research program and a technology demonstration project. Later, it will be a knowledge-sharing hub for Canada and the international community (NWMO 2022b). If the Project is sited in northwestern Ontario, the Centre of Expertise would be in Ignace.

services in Ignace can be part of the coordinated planning necessary for maximizing the first wave of potential population growth.

- **Protect Community Access to Health Care Services:** The Project-related population growth and non-local workforce have the potential to affect (i.e., limit or change) access on health care services for residents of the Local Study Area by increasing demands for services. Project-related population growth could especially affect access for vulnerable populations who may face more difficulties (e.g., transportation, culturally appropriate care) with increased pressure. During construction, the non-local workforce could place pressure on health care services by accessing primary care in the Local Study Area instead of their home communities or by increasing the risk of harm to vulnerable populations.
- **Monitor and Manage for Change:** Since the material nature of changes to health and health care will evolve over time and predictions may not be accurate, the Township and the NWMO should monitor for changes with relevant health service providers. Monitoring and follow-up have been shown to alleviate knowledge-based limitations and uncertainties, in addition to contributing to learning and process improvements (Noble 2020). Results from monitoring can be used to implement new measures to ensure that access to health care is maintained.
- **Reconciliation in Action**: As noted in the limitations, Indigenous residents of the Local Study Area, Indigenous communities, and Indigenous service providers did not participate in primary data collection except for one organization. Indigenous peoples are experts in their lived experience and solutions to the systemic issues they face. The NWMO has a commitment to pursue reconciliation in all of its activities (NWMO 2019). While the NWMO is currently working with Indigenous communities, it should continue to purse reconciliation in the municipal setting as well; 20% of Ignace residents identify as Indigenous (Statistics Canada 2017) and that number is anticipated to grow.

Table 4.3-1: Considerations for Addressing Changes

Objective	Factors for Influencing Change and Implementing Options
Workforce Attraction and Retention	• Population growth, particularly in the pre-construction and operations phases, presents the most substantive opportunities to grow the population. As this workforce is unlikely to be sourced entirely from the Local Study Area, attraction is central to population growth. • Any enhancement or expansion of health care services in Ignace or other Local Study Area communities to address population change is not only a potential tool for attracting and retaining NWMO employees but also a benefit for current residents of Local Study Area communities (particularly Dryden).
Protect Community Access to Health Care Services	• Population growth, particularly in the pre-construction and operations phases, presents the most substantive increase in long term health service demands, including consideration of shifting demographics. • Population growth is likely to result in a potential expansion of health-related services in response to the demand. This is especially true of changes that are anticipated and planned for, as opposed to those that are reactive to emergent trends. • The Township has identified health and well-being priorities in the Ignace Community Safety and Well-being Plan (2021), some of which overlap with areas that the Project will influence (e.g., employment and training supports). • With respect to the construction phase, meeting the needs of the non-local workforce becomes central in not only serving the workforce, but in reducing potential strains on the existing system as a result of an influx of potential demand.
Monitor and manage for change	• No two projects will result in the same outcomes. Local context, values, and objectives should shape what is monitored and how (Noble 2020). Evidence from other projects across Canada and beyond can help to identify potential stressors on local health systems, however monitoring and adaptation need to be responsive to context-specific changes, combined with unanticipated outcomes, that are important relative to health.
Consider how reconciliation can be supported	• Although the Calls to Action related to health fall largely to federal and provincial authorities, there are opportunities in the context of the Project to implement the NWMO's reconciliation policy in action. This includes recognizing the historical wrongs in Canada in the context of health, and "creating a better future by addressing the challenges of today." (NWMO 2019). • Although the study did not engage broadly with Indigenous communities and/or service providers as part of its scope, Indigenous people, and in particular women and girls are among the vulnerable populations understood as having potential to disproportionately be affected by major project development (Native Women's Association of Canada 2018).

5.0 OPTIONS ASSESSMENT

The options assessment outlines options for Ignace and Area health services with consideration of potential Project effects described in Section 4.2 and considerations, including the materiality of the change as described in Section 4.3. Options are listed in Section 5.1 and assessed in greater detail starting with Section 5.1.1.

Note to Reader

This section provides an overview of possible options to mitigate negative consequences or to enhance positive outcomes. They are presented by the authors to foster discussion only. They do not represent commitments or actions for the NWMO, the Township of Ignace, or other parties. The final decisions on actions and commitments will be made at a future date.

5.1 OPTIONS TO CONSIDER

The Project has the potential to change access to and demand for health care services in Ignace and other communities in the Local Study Area through changes in population driven by the demand for labour. The consequences associated to population changes could be linked to the magnitude of the change (i.e., how many people will move to the Local Study Area) and the demographics of the in-migration (e.g., age of the population, gender). Four options are provided that aim to maintain community health and access to community health services at each stage of the Project, in addition to potential options to enhance health services associated with a growing population (Table 5.1-1). Details on each of the four options, as well as assessment of each against four criteria (ease of implementation, effectiveness, cost, and ability of the Township and NMWO to implement) are described in Section 5.1.1.

Table 5.1-1: Overview of Potential Options

Options	Opportunity or Constraint Addressed
Option 1: Planning throughout Project Phases: Develop a community health and well-being plan with appropriate stakeholders to guide the Township and NWMO activities during all phases of the Project. Priorities will vary by Project phase and the plan will be revisited and revised as necessary in response to changing objectives and input from the participatory social monitoring committee (Option 2).	Health care needs, Township objectives, and Project-related changes will change and evolve over the life of the Project. Adequate planning and timely review with a broad base of stakeholders will facilitate meeting needs and objectives as the Project progresses through its phases.
Option 2: Establish a Participatory Social Monitoring Committee and Associated Community-level Feedback Mechanism(s): A participatory social monitoring committee that involves relevant stakeholders will monitor Project-related changes in the Local Study Area to support adaptive management measures if necessary. The committee will also work to identify appropriate feedback mechanisms and may hear and consider feedback from individuals and communities as needed.	Health outcomes and health care are complex. The Project is a potential catalyst for growth, which could add to existing pressures in the health care system (i.e., systems at or near capacity). A monitoring committee could help the Township and other stakeholders manage changes adaptively. The community-level feedback mechanism will be one source of input into monitoring.
Option 3: Community Wellness Fund: Research and evaluate promising practices for establishing and administering a community wellness fund to support community-led initiatives.	Although the Project duration is long, it is important to support the sustainability of Ignace and other communities in the Local Study Area. One potential solution is establishing a community wellness fund. The structure and administration of existing funds should be researched and evaluated as an initial step.

Options	Opportunity or Constraint Addressed
Option 4: Reconciliation in Action: The NWMO has a Reconciliation Policy (NWMO 2019) that applies to all its activities. This option recommits to using all aspects of the Project to continue the process of reconciliation in Canada and requires additional engagement with Indigenous communities along with municipalities (if so desired) in the Local Study Area to determine how this can be accomplished.	Continuous implementation of the NWMO's Reconciliation Policy can support addressing the Calls for Justice (2019a) and the Calls to Action (TRC 2015) for business. The National Inquiry into Missing and Murdered Indigenous Women and Girls (2019b) includes Calls for Justice for health and wellness service providers (Calls for Justice 7.1 through 7.9) and extractive and development industries (Calls for Justice 13.1 through 13.5) that demand provisions to ensure that Indigenous women and 2SLGBTQQIA people are supported, safe, and can equitably benefit from projects.

Each option is described in greater detail in Section 5.1.1, followed by an assessment of that option based on the following four factors:

- **Ease of implementation:** includes demonstrated success on other projects if known and the degree of complexity required to implement, which may consider the number of required partners and current municipal and provincial policies;
- **Degree of effectiveness:** considers the conditions required for effectiveness as per understanding of the community needs and aspiration;
- **Cost, if known:** will document costs for implementation if known; and
- **Ability for the NWMO or the Township of Ignace to implement:** considers if the NWMO or the Township of Ignace alone or in collaboration can implement an option or if another responsible authority needs to be involved.

5.1.1 Option 1: Planning Throughout Project Phases

Each phase of the Project is expected to have different requirements and objectives related to health care services and risks to vulnerable populations. The Township with the support of the NWMO and input from relevant stakeholders could develop a Project-specific health and well-being plan for meeting the evolving needs of the community and addressing Project-related changes. The preliminary plan would address the anticipated changes described in Section 4.2 and the objectives and limitations of the Township's and NWMO's jurisdiction where health care is involved (Section 4.3). It would be refined as the Project advances, reviewed prior to the beginning of each new phase, and revised in response to monitoring results and community feedback (Option 2). Currently understood priorities for the health care plan by phase are:

- **Pre-construction:** Support the incremental enhancement of health care services to benefit Ignace residents and as part of an overall strategy to recruit and attract staff. Activities that could assist in overcoming current challenges and constraints could include shuttles within Ignace and to other relevant local communities to access health care services, enhancements to telehealth, and supports to provide visiting health specialists (e.g., providing per diems, covering travel, and offering space). To support the longer-term aspirations of the community, the initial plan may want to consider establishing scholarships tied directly to future employment for local residents to pursue medical studies or working with NOSM University, part of whose mission is to "create a flourishing health workforce" in northern Ontario (NOSM University n.d.).
- **Construction:** Manage the non-local workforce through developing a site medical services plan and supporting an on-site culture that values safety and inclusion. A health and medical services plan to provide sufficient health and well-being staff and supports at the Revell Site, including interfacing with medical service providers in Local Study Area communities so the non-local workforce will only need to leave the Revell Site for emergencies, not primary care needs. The plan would further minimize the use of local health care resources by non-local employees during the construction phase. As outlined by Northern Health's Best Management Plan for Industrial Camps (2015), the NWMO and the North West Local Health Integrated Network can work collaboratively to determine the health and medical service needs of both the workforce and residents of the Local Study Area. In anticipation of this, a review of good practices for promoting healthy communities in proximity to industrial camp settings, upon site selection, is proposed. This may include industry strategies on the siting of the camp, enforcing a "dry" camp, and implementing transportation measures for workers to limit access to personal vehicles and local communities (Gibson et al. 2017). The plan could also support well-being of workers through the provision of mental health and addictions counselling as well. Through the development and implementation of inclusive human resources and zero tolerance policies, promote a healthy work environment for workers and minimize risks to vulnerable populations.
- **Operations:** Operations begins in 2043 and lasts for 45 years. At this point, the health and wellness plan should consider the outcomes of participatory monitoring (see Option 2) and prepare for adaptive management of objectives and changes as they arise.

Table 5.1-2 presents an assessment of **Option 1: Planning Throughout Project Phases**.

Table 5.1-2: Option 1: Planning Throughout Project Phases

Factors	Key Considerations for Option
Ease of implementation	• The Township, along with the NWMO, have worked collaboratively through the site selection process. Involving relevant stakeholders, especially the provincial and federal governments, to develop a Project-specific community health and wellness plan may be a challenge. Planning should start as early as possible. • Change to the plan and inclusion of additional stakeholders will need to be responsive to the monitoring and feedback provided as part of option 2.
Degree of effectiveness with consideration of community needs and aspirations	• A coordinated planning approach could be effective especially if it has the ability to be readily adaptable to change. • Would ensure that health care resources, especially those that are operating close to or at capacity, could be planned for in advance and adapt to Project-related changes. • Community objectives that could be met include mental health supports and accessibility (Township if Ignace 2021).
Costs (if known)	• To be determined.
Ability of the NWMO and/or the Township to implement the initiative or if other parties are required	• Health care planning is complex and involves multiple organizations and levels of government. • The Township and NWMO will be two of multiple participants in the Project-specific community health and wellness planning process. For expanding health care services in Ignace, the provincial government would need to be involved. • The outcome will be determined by other organizations, but the Township and/or the NWMO could lead the plan.

5.1.2 Option 2: Establish a Participatory Social Monitoring Committee and Associated Community-level Feedback Mechanism

Changes to demand for access to health care can be unpredictable in connection with material population changes and the development of large infrastructure projects. There is also the potential that effects that are common to other major projects may not occur or that unanticipated effects may occur. Without regular monitoring, it will be difficult to adjust course when policies and programs are not working or there are unanticipated effects. One way to manage changes and risks is through monitoring.

There will be multiple aspects of the Project that require monitoring, including changes to social and economic conditions. The proposed social monitoring committee would be focused on interactions between the Project and social and economic conditions. Some of these factors may be readily captured in existing data sets that can be collected in collaboration with relevant stakeholders. Others may require the creation of new data sets, and/or where no data are readily available the creation of benchmarks or measurement indicators relative to the

community's aspirations. Working collaboratively with relevant stakeholders, a participatory social monitoring committee should develop indicators to monitor community health, well-being, and the performance of the health care system in relation to the Project. A spectrum of monitoring and follow-up committees have been implemented for major projects across Canada, including those led by industry, by government agencies, by communities, or under some joint format that support the objectives of monitoring (Noble 2020). "Agreement on the questions to be pursued, the indicators of most importance, and how findings will be used and by whom will be central to the process" (Noble 2020) and may require consideration of acceptable thresholds for change where standard indicators are not sufficient in measuring change.

To be most effective, Project-related monitoring is likely to require the involvement of specialists/experts that report to a main monitoring committee that is responsible for making decisions (i.e., a participatory social monitoring committee). Minimizing the burden to stakeholders in collecting and analyzing the data will also be important. To monitor for health and well-being, the NWMO and Township should consider building on a pre-existing committee such as the Ignace Healthy Community Working Group. The monitoring committee should be flexible or open to incorporating regulatory requirements and concerns specific to Project phases.

The committee should, with the NWMO, also establish a mechanism and resolution process for individual and community feedback following site selection. There are a range of options for feedback mechanisms. Developing one should be led by potentially affected communities and consider the best way to maintain the confidentiality of participants in the process, the comfort of participants (e.g., an all-male panel is likely not the most appropriate venue for complaints about sexual harassment), and confidence in the process. A well-designed mechanism would help protect vulnerable populations that could be affected by the Project. As these groups have the potential to experience adverse changes disproportionately, or not be able to equitably experience benefits (for example those gained through employment) their ability to access a feedback mechanism will help the NWMO manage risks and adjust course if necessary.

Table 5.1-3 presents an assessment of **Option 2: Establish a Participatory Social Monitoring Committee and Associated Community-level Feedback Mechanism**.

Table 5.1-3: Option 2: Establish a Participatory Social Monitoring Committee

Factors	Key Considerations
Ease of implementation	• The involvement of stakeholders beyond the Township and the NWMO is key for successful monitoring. Securing the participation of the appropriate stakeholders may be challenging, and research on monitoring and follow-up has identified challenges relative to implementation procedures, budgets, and human capacity (Noble 2020) that are relevant to consider in establishing the committee. • Although a single committee is proposed, communities may wish to have specific monitoring mechanisms relative to their own communities.
Degree of effectiveness with consideration of community needs and aspirations	• Would support the NWMO's involvement in the Local Study Area. • Would help support Ignace's Project priorities, along with the goals and aspirations of other communities in the Local Study Area, which are documented in each community's safety and well being plans (Sioux Lookout 2020; Ignace 2021; MNP 2021) and Ignace Project Visioning (InterGroup 2020). • Would allow for adaptive management. • The establishment of the mechanism and its implementation would be the responsibility of the NWMO (unless community trust requires that a separate entity be considered). • The involvement of stakeholders beyond the NWMO and Township would be important for developing a feedback mechanism that is acceptable and trusted by residents of the Local Study Area.
Costs (if known)	• To be determined.
Ability of the NWMO and/or the Township to implement the initiative or if other parties are required	• While the Township and the NWMO may hold responsibility for monitoring committee process, it will require a broad range of partners for successful implementation. Potential partners include health care providers, social service providers, municipal administrators, the Ontario Provincial Police, and Northwest Emergency Medical Services.

5.1.3 Option 3: Community Wellness Fund

In project development, some proponents establish an ongoing corporate social responsibility program that funds community-based initiatives like sponsoring sports teams and community events. Some corporate social responsibility initiatives provide larger scale investments. For example, Bruce Power and its suppliers have collectively donated over 1.5 million dollars to the Kincardine hospital redevelopment project through the hospital foundation (Shubert 2022). Within the context of Indigenous communities, some benefit agreements provide financial arrangements that the community can invest and use autonomously. Indigenous communities have also established different funds using settlement awards from proponents and government

to fund community initiatives and support its citizens. These funds are grown and distributed in a manner deemed most appropriate by communities.

The NWMO states that "any community that agrees to host the facility has a right to benefit from doing so. The project must be implemented in a manner that fosters the long-term well-being or quality of life of the region in which it is implemented" (NWMO 2022c). A community fund could support this principal. The Township could undertake research to determine what sort of fund or initiative would be most supportive of its well-being objectives relative to the Project. The initial research could be funded by the NWMO. The research could examine different examples of funds, including structure, investments, distribution mechanisms and parameters, and roles and responsibilities. As part of the research, the Township could develop an evaluation framework for different funds that reflect the Township's objectives and vision for the fund to allow for easy comparison.

Table 5.1-4 presents an assessment of **Option 3: Community Wellness Fund** based on the factors described above.

Table 5.1-4: Option 3: Community Wellness Fund

Factors	Key Considerations for Option
Ease of implementation	• The Township would likely need to hire a third-party firm to complete research into best and promising practices and financial support from the NWMO. • The Township would need to work with the NWMO to determine scope of the research and agree on objectives and aspirations to use in the evaluation of options.
Degree of effectiveness with consideration of community needs and aspirations	• Ignace has noted four priorities in its Community Well-being and Safety Plan (2021), which a community wellness fund could support. • Ignace has priorities related to employment and providing recruitment and retention opportunities; improving outcomes and access to mental health and addictions; and to increase sense of belonging in the community and improving accessibility to services and supports may overlap with changes from the Project.
Costs (if known)	• To be determined.
Ability of the NWMO and/or the Township to implement the initiative or if other parties are required	• The Township would be able to procure and direct the research with minimal input from other groups, although engagement with the community at large should be considered as part of the effort. • Financial support from the NWMO would be required to support the initial research, in addition to the eventual establishment of such a fund, while the Township (if so determined by the research) could undertake the fund's future administration.

5.1.4 Option 4: Reconciliation in Action

When discussing healing for Indigenous peoples and communities, the National Inquiry into Missing and Murdered Indigenous Women and Girls (2019b) noted four foundational concepts to support healing and wellness: “dignity, family participation, peer support, and cultural safety.” The Township and the NWMO have the opportunity to support some of the healing and wellness through the continued implementation of its Reconciliation Policy, which was developed and finalized through an Indigenous ceremony in response to the Truth and Reconciliation Commission (NWMO 2019).

The Reconciliation Policy applies to all NWMO activities (NWMO 2019). Within the context of Ignace and Area health services, the Township and the NWMO should continue to foster relationships with Indigenous communities whose members are at risk for disproportionately experiencing adverse changes from the Project and may not be able to equitably benefit from the Project. Continued relationships should lead to Indigenous-led processes and studies to understand effects; and Indigenous-led development of options to address those impacts. These actions would support the TRC Call to Action #92 for Businesses (TRC 2015) and the MMIWG Calls for Justice for Health and Wellness Providers and Extractive and Development industries (MMIWG 2019b).

Table 5.1-5 presents an assessment of **Option 4: Reconciliation in Action** based on the factors described above.

Table 5.1-5: Option 4: Reconciliation in Action

Factors	Key Considerations for Option
Ease of implementation	• The NWMO has publicly committed to applying its Reconciliation Policy to all activities. Corporate commitment is important for implementation but it should be acknowledged that there will still be struggles. Reconciliation and decolonization go against current norms and require individuals to remain aware of traditional patterns of thinking and acting, and actively implement policies and programs that will support reconciliation. • The participation of Indigenous communities is mandatory for the success of this option to reflect their truths and priorities.
Degree of effectiveness with consideration of community needs and aspirations	• Will support collaboration between NWNO and Indigenous communities that support a successful Project. Indigenous peoples are best positioned to understand how cumulative effects from development and other activities have the potential to impact their communities (Indigenous Centre for Cumulative Effects 2020). Programming put into place by Indigenous organizations, such as the Dryden Native Friendship Centre are examples of this because they consider lived experiences and the creation of culturally appropriate solutions.
Costs (if known)	• To be determined.
Ability of the NWMO and/or the Township to implement the initiative or if other parties are required	• The participation of Indigenous communities is mandatory for the success of this option to reflect their truths, lived experiences, and solutions.

6.0 SUMMARY

6.1 KEY FINDINGS

Ignace and other communities in the Local Study Area have a range of local health services. However, the barriers to access and gaps in these local health services are better understood through this study and have contributed to the creation of a range of options. Key findings relative to existing conditions include:

- Current health care services in the Local Study Area are generally meeting community needs, but gaps in services exist, and travel within the area and beyond is often required to meet basic health service needs;
- Areas of concern in the Local Study Area are access to services, drug and alcohol use, mental health, and seniors;
- Existing gaps in health care services in the Local Study Area include residential addictions treatment, adequate mental health services, senior services, and crisis response; and
- Barriers such as transportation, hours of operation, and lack of knowledge on how to navigate the health care system affect access to health care in Ignace.
- Although various stakeholders in health care and the Township are working towards addressing existing gaps, these conditions are expected to persist until such a time that services and infrastructure gaps can be addressed. To retain NWMO employees in Ignace, gaps in health services in Ignace and other communities in the Local Study Area may need to be filled;
- The Township and NWMO have limited ability to influence the provision of health care in the Local Study Area as health care off-reserve is a provincial responsibility. The Township and NWMO could have more success if the focus is on workforce attraction and retention, participating in planning and monitoring, reconciliation, and measures to support well-being in communities;
- The NWMO and the Township of Ignace should consider options to mitigate the impact of an increase in demand for services, along with potential risks to vulnerable populations in the Local Study Area; and
- The NWMO and the Township of Ignace should consider collaborating with appropriate stakeholders to enhance health care infrastructure and services in the Local Study Area.

Four options are proposed to address the potential Project-related changes to health services and health services access, which reflect the need to continually plan, monitor, and adapt to outcomes. These options are:

- Option 1: Planning throughout Project Phases;
- Option 2: Establish a Participatory Social Monitoring Committee and Associated Community-level Feedback Mechanism(s);
- Option 3: Community Wellness Fund; and
- Option 4: Reconciliation in Action.

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APPENDIX A:
List of Northwest Ontario Socio-Economic Community Studies

Table A-1: List of Socio-economic Community Studies

Study Name	Study Proponent	Lead Consultant
Community and Culture	NWMO	InterGroup Consultants Ltd and Scatliff+Miller+Murray
Local and Regional Economics and Finance	NWMO	Hardy Stevenson and Associates Ltd
People and Health	NWMO	InterGroup Consultants Ltd
Infrastructure	Township of Ignace	WSP
Tourism	Township of Ignace	Urban Systems

APPENDIX B:
Knowledge Holder Organizations and What We Heard

Table B-1: List of Knowledge Holder Interviews

Knowledge Holder Organizations	
Alterna Credit Union	Ignace Resolute Sawmill
City of Dryden	Keewatin Patricia District School Board (KPDSB)
City of Kenora	Kenora District Municipal Association (KDMA)
City of Williston	Kenora District Services Board (KDSB)
Community Living Dryden-Sioux Lookout	Ministry of Natural Resources and Forestry (MNRF) Fire Centre
Confederation College	Municipality of Atikokan
Crossroads Training and Employment Centre	Municipality of Machin
Domtar	Municipality of Sioux Lookout
Dryden Native Friendship Centre	Northwest Business Centre
Dryden Regional Airport	Northwest Training and Adjustment Board (NTAB)
Dryden Regional Mental Health	Ontario Provincial Police (OPP)
FedNor	Patricia Area Community Endeavours (PACE)
Hoshizaki House	Ricci's Trucking
Ignace Area Business Association (IABA)	Sioux Lookout Friendship Accord Economic Development Corporation - Sioux Lookout Mining Centre of Excellence
Ignace Fire Department	Thunder Bay Chamber of Commerce
Ignace Healthy Community Working Group	Thunder Bay Homebuilders Association
Ignace Public Library	Township of Ignace
Ignace Public School	Treasury Metals
Ignace Recreation Committee	

Table B-2: What We Heard from Knowledge Holder Interviews

Knowledge Holder Organizations Relevant to Ignace and Area Health Services	
Community Living Dryden-Sioux Lookout	Ignace Healthy Community Working Group
Dryden Native Friendship Centre	Ignace Fire Department
Dryden Regional Mental Health	Kenora District Services Board (KDSB)
Hoshizaki House Dryden District Crisis Centre	Ontario Provincial Police (OPP)

What we heard about Ignace and Area Health Services

- Improvements in the health outcomes and well-being of individuals can be made by addressing the social determinants of health, including aiding people to acquire employment, adequate housing, and the ability to live independently.
- Vulnerable populations in the area include individuals who are homeless, low-income, living with addictions, and/or living with mental health challenges, as well as sub-groups of these populations such as seniors, youth, and Indigenous individuals.
- Young women in the region, particularly those living with addictions, are vulnerable to trafficking.
- In-patient addictions treatment would be an immediate benefit to the Local Study Area and the northwest Ontario region and requires investment and infrastructure.
- Mental health services are limited and in high demand. It is difficult to provide these services in a timely manner. More support for psychiatry would benefit the area.
- Transportation is a barrier to health services throughout the region. Often transportation services are provided informally by community members and health providers such as case managers. An affordable public transit system would be beneficial.
- Demand for emergency and crisis-response has increased. Current response services do not have the appropriate capacity to meet the demand.
- Ignace has a high proportion of seniors who require senior services not currently available, such as long-term care.
- It is difficult to attract health care and social services staff to the area.
- Support for individuals with developmental challenges is underfunded.

APPENDIX C:
Vulnerable Populations

Gender Based Analysis Plus is a requirement under the Impact Assessment Act (IAA 2021) which requires proponents and practitioners to consider how a project may affect different parts of a community in different ways. It requires consideration "of a project's effects on groups that are historically excluded or more vulnerable to a project's adverse effects" (IAA 2021). As an analytical tool, Gender Based Analysis Plus can be considered as "a way of thinking, as opposed to a unique set of prescribed methods" (IAA 2021). The following memo describes the overall approach and initial conclusions in identifying potentially vulnerable populations relative to the NWMO's Adaptive Phased Management (APM) Project (the Project) in northwestern Ontario. It is important to note that the process is largely reflective of the municipal context and may not specifically address concerns relative to Indigenous communities in the region.

C1.0 Approach

Initial data collection included disaggregated data from Statistics Canada, Census of Population, with gender and Indigenous identity initially presented. Information on age, sex, Indigenous identity, and visible minority in communities in the Local Study Area compared to the Kenora Census Division[4,5]. Selections of these data were presented for discussion to Ignace and Area Working Group (IAWG)#4 (October 6, 2021), with the concept of Gender Based Analysis Plus introduced. IAWG#5 (December 2, 2021) included specific discussions on vulnerable population and sought feedback from all participants on how vulnerable populations might be defined relative to the local context. Vulnerable groups identified by participants at IAWG#5 included:

- Youths facing employment and education barriers;
- Indigenous peoples;
- Homeless individuals;
- Low-income individuals and families;
- Seniors;
- Individuals with mental health and/or addictions issues; and
- Women subjected to violence.

Following the discussion around key vulnerable populations in the Local Study Area, members were asked where they see inequalities in their community. Members feedback on inequalities were as follows:

- Children and youth groups;

[4] The Local Study Area are the communities which are within a one-hour commute of the Revell Site. This includes Ignace, Dryden, Sioux Lookout, Machin, the Local Services Board of Wabigoon, Eagle Lake First Nation, Wabigoon Lake Ojibway Nation, the Local Services Board of Melgund, and communities within the Kenora unorganized region that are within a one-hour commute.

[5] Data presented for the Local Study Area excludes Ignace to isolate the effects experienced by Ignace compared to the other Local Study Area communities. Data presented for the Local Study Area only includes Dryden, Sioux Lookout, Machin, and the Local Services Board of Wabigoon where applicable due to the availability of data for the other communities.

- First Nation residence and surrounding communities;
- Addictions and mental health needs;
- Quality and availability of housing (particularly for low-income residents);
- Quality and availability of employment (seasonal vs. permanent);
- Homelessness;
- Low-income residents;
- Education; and
- Geography (in term of isolation).

IAWG participants were also asked to share if there were any perceived local or regional differences. Members feedback on perceived local or regional differences included:

- Internet and cell service in rural communities;
- Residents becoming accustomed to the associated barriers with their place of residence;
- Sexual orientation and racism in smaller communities; and
- The lack of cultural facilities.

The feedback from IAWG#5 members acted as a starting point for identifying vulnerable populations in the Local Study Area. The Ignace Community Safety and Well-Being Plan 2021 was also consulted for the identification of potential vulnerable populations and included (2021):

1. Support for seniors;
2. Employment recruitment and retention policies for skilled workers, youths, Indigenous peoples, adult learners, and young professionals;
3. Mental health; and
4. Accessibility (e.g., safety, access of services and supports).

Community studies interviews sought to further understand perspectives on where there might be unique considerations relative to certain parts of the population. Community studies interviews were conducted with knowledge holders who have areas relevant to the community studies and understand the context of the Local Study Area communities or the region. The selection of knowledge holders was undertaken through an iterative process among the Township of Ignace, the NWMO, and the consulting team. An NWMO staff member participated in the interviews to answer questions about the Project and go through the consent protocol. To date, there have been 38 interviews conducted by the consulting team and the NWMO. Responses from knowledge holders indicated that challenges faced by identified vulnerable populations in the Local Study Area, such as those living with addictions and those facing homelessness or inappropriate housing, are challenges that affect the northwestern Ontario region more broadly, not just the Local Study Area. Concerns expressed by knowledge holders for vulnerable populations were similar.

C2.0 Identification of Potentially Vulnerable Populations

Based on the outcomes of the IAWG feedback and community studies interviews, a list of populations who could be considered as vulnerable populations was developed. These populations are not mutually exclusive. The list of vulnerable populations as currently understood includes:

- Low socio-economic status (youths, seniors, single-parent families, Indigenous people);
- Those experiencing homelessness and/or precariously housed;
- Individuals experiencing barriers to employment;
- Individuals experiencing issues with mental health and addictions;
- Victims of abuse (e.g., domestic violence, sexual assault, harassment);
- Populations who have challenges with the accessibility of supports and services;
- Individuals living with disabilities;
- Individuals dealing with mobility constraints;
- Youths;
- Seniors;
- Women (job access/employment);
- Individuals who have limited access to transportation;
- 2SLGBTQ+ identifying individuals;
- Visible minorities and newcomers;
- People with English/French as a 2nd language;
- Individuals with a criminal record;
- Individuals receiving government support (e.g., Employment Insurance, Canada Pension Plan);
- Individuals without a secondary education;
- Individuals out of work for over one year/limited work history;
- Single-parent families (e.g., employment, job/training access);
- Marginalized or underrepresented members of the workforce (e.g., Indigenous peoples, visible minorities, women); and
- Small businesses competing for labour.

The above populations were reviewed for key themes and considered relative to the APM Project. Further discussion was had with representatives of the NWMO and the Township of Ignace to

verify the analysis. Based on this process, Table C-1 identifies the four main vulnerable populations in the context of the APM Project and the rationale for their selection.

Table C-1: Vulnerable Populations Affected by the APM Project

Vulnerable Population	Rationale for Inclusion
Low socio-economic status	• The APM Project, through in-migration and the creation of high-paying, long-term jobs, may affect cost of living, housing affordability and availability, income, and access to services in the Local Study Area. • Individuals who are below the low-income line must manage added stress of financial instability to their everyday life and well-being. • Lower income means a larger portion of income must be spent on shelter costs, food, and clothes. • Reduced purchasing power when prices rise (from a growing economy) can result in shelter costs becoming unaffordable. This can also influence disposable income and lead to food insecurity and lack of means to afford other essential goods. • If required to move to find affordable housing, individuals and families might be subject to transportation challenges and spending more time/money in order to access services and supports.
Individuals experiencing homelessness or are precariously housed	• Housing has been identified as a concern in communities in the Local Study Area. • APM Project-related in-migration has the potential to increase pressures on demand for housing. • Increased cost of living and cost of housing may further exacerbate challenges in acquiring suitable/adequate/affordable housing. • May experience further challenges with a lack of transitional housing due to a lack of housing stock.
Individuals experiencing barriers to employment	• Many employment opportunities with the APM Project will require specialized training and education. Individuals without a high school diploma/equivalent or post-secondary education will not be able to take advantage of the full range of employment opportunities. • Years of experience required to enter the workforce can be a barrier for somebody without formal work experience, or individuals who have been out of work for a long time, as employers are less inclined to hire those with gaps in work experience. For example, individuals trying to obtain a position requiring a post-secondary education, but lacking experience, might be unable to obtain employment despite having the education. • The transition to a structured work environment can be challenging as it may not be what an individual is accustomed to. • Life skills and self-reliance are essential - without them individuals may be unable to obtain employment or seek further education due to an inability to complete basic tasks (e.g., read, write, complete a resume).
Individuals experiencing mental health and/or addictions	• Concerns about potential Project effects may result in increased stress and anxiety. Economic instability can cause significant mental health problems (Government of Canada 2013). • Increased disposable income in the area may result in increased substance use. • Increased cost of living and cost of housing may further exacerbate challenges. • Increased population may change access to services.

C3.0 Characterization of Potentially Vulnerable Populations

Information on vulnerable populations which needs to be considered in planning processes are presented for Ignace compared to the Local Study Area. The Local Study Area is defined as the communities which are within a one-hour drive from the Revell Site. Data is not available for communities in the Unorganized Kenora Census Subdivision and income data is not available for Indigenous communities in the Local Study Area and are omitted from the Local study Area data presented. The Local Study Area communities that are included in the data presented are as follows:[6]

- Dryden;
- Machin;
- Sioux Lookout; and
- Local Services Board of Wabigoon.

Concerns regarding vulnerable populations were similar across both Ignace and other communities in the Local Study Area and generally expressed at a regional level for northwestern Ontario. The vulnerable populations identified in both the strategic and community safety and well-being plans of City of Dryden, Machin and Area, and Sioux Lookout confirmed concerns for low-socioeconomic status individuals, individuals experiencing homelessness and precarious housing, individuals experiencing barriers to employment, and individuals experiencing mental health and/or addictions (MNP 2021; Municipality of Sioux Lookout 2020a; Municipality of Sioux Lookout 2020b).

C3.1 LOW SOCIO-ECONOMIC STATUS

Low socio-economic status is a measure of an individual's combined economic and social status. Higher socio-economic status tends to be positively associated with better health (Baker 2014). Socio-economic status encompasses not only income, but educational attainment, financial security, and subjective perceptions of social status and social class (Cutter 1995). The Project through in-migration and the creation of high-paying long-term jobs may affect cost of living, housing affordability and availability, income, and access to services in the Local Study Area. Potential subgroups that may experience low socio-economic status include seniors, youths, lone-parents, and Indigenous peoples. Potential challenges these subgroups face are as follows:

- Lack of financial means to seek education and training to improve their financial situation;
- Lack of financial means to engage in recreational activities and access amenities which would improve their overall well-being; and

[6] Ignace is not included in data presented for the Local Study Area to isolate effects to vulnerable population groups within Ignace.

- Rising prices and rental costs from an expanding economy will affect individuals with a fixed income (e.g., those receiving social assistance, seniors who are retired) leads to challenges with food security and purchasing other essential goods.

Table C-2 shows general demographics of the population in Ignace compared to the Local Study Area. There is a large proportion of the total population who are 65 years and older (23.7%) in Ignace compared to the other communities in the Local Study Area (17.1%). On the other hand, there is a smaller proportion of youths (ages 15-29 years old) in Ignace (14.6%) compared to the Local Study Area (18.6%).

Table C-2: Demographics[1,2]

Demographics	Lone parent[3,4]: • 15.6% in Ignace • 17.6% in the Local Study Area Lone parent by one, two, and three or more children living at home as a proportion of total families[3,4], respectively: • 9.1%, 5.2%, 1.3% in Ignace • 9.9%, 5.4%, 2.1% in the Local Study Area Indigenous Population[5]: • 19.1% in Ignace • 26.7% in the Local Study Area Youth Population (ages 15-29): • 14.6% in Ignace • 18.6% in the Local Study Area Senior population (65+): • 23.7% in Ignace • 17.1% in the Local Study Area

Source: Statistics Canada 2017.

Notes:

1. Data have been subjected to a confidentiality procedure known as random rounding whereby values are rounded either up or down to a multiple of 5 and in some cases 10.
2. Percentages calculated by InterGroup Consultant Ltd. were derived from Statistics Canada data.
3. A census family refers to a married couple or a common-law couple with or without children or a lone parent of any marital status with at least one child living at home.
4. The household refers to a group of people living in a dwelling, which can include census families, only one individual, a group of unrelated persons, or multiple census families.
5. Indigenous Identity (known as Aboriginal identity) refers to whether a person self-identifies with the Aboriginal people of Canada (First Nation, Métis, Inuk [Inuit]), registered or treaty Indian, or those who have membership in a First Nation or Indian band).

Table C-3 shows income statistics for Ignace and other communities in the Local Study Area, including median income and low-income measures. The median income in Ignace ($54,625) is lower than the median income for the other communities in the Local Study Area ($77,410). The after-tax low-income measure was higher in Ignace for families (16.0%) compared to the Local Study Area (12.5%). Similarly, the low-income measure by age was lower for youths (20.0%) and seniors (14.5%) in Ignace compared to youths (13.2%) and seniors (11.4%) in the Local

Study Area. The after-tax low-income measure accounts for cost of living and is adjusted by the Consumer Price Index. A lower proportion of Ignace residents meet the low-income cut-offs for families, youths, and seniors compared to the Local Study Area.

Table C-3: Income Statistics[1,2]

Median income, used as a comparison across communities and whether certain subgroups of the population should be included as priority low-socio economic vulnerable populations (e.g., Indigenous peoples).	Median household income in 2016[5,6]: • $54,625 in Ignace • $77,410 in the Local Study Area
Low-income measure after-tax is a low-income approximation which accounts for economies of scale (each additional member in a family result in less need for more income [e.g., 4 to 5 dependents require $7,000 more and 5 to 6 $5,000 more])	Low-income measure by family[3,4,6,7]: • 16.0% in Ignace • 12.5% in the Local Study Area Low-income measure by age[3,4,6,7]: • Youths (18 to 24 years old): o 20.0% in Ignace o 13.2% in the Local Study Area • Seniors (65 years and older): o 14.5% in Ignace o 11.4% in the Local Study Area
Low-income cut-offs after-tax account for costs of living and income spent 20% or more on average on food, shelter, and clothing. It also accounts for economies of scale for families and for area of residence. The thresholds are adjusted to current dollars using the Consumer Price Index.	Low-income cut-offs by family[3,4,6,8]: • 2.9% in Ignace • 5.1% in the Local Study Area Low-income cut-offs by family type[3,4,6,8]: • Couple economic families (i.e., married couples and common law couples): o 1.5% in Ignace o 1.5% in the Local Study Area • Lone-parent economic families: o 9.1% in Ignace o 11.4% in the Local Study Area Low-income cut-offs by age[3,4,6,8]: • Youths (18 to 24 years old): o 6.7% in Ignace o 9.8% in the Local Study Area • Seniors (65 years and older): o 0.0% in Ignace o 0.9% in the Local Study Area

Source: Statistics Canada 2017.

Notes:

1. Data have been subjected to a confidentiality procedure known as random rounding whereby values are rounded either up or down to a multiple of 5 and in some cases 10.
2. Percentages calculated by InterGroup Consultant Ltd. were derived from Statistics Canada data.
3. A census family refers to a married couple or a common-law couple with or without children or a lone parent of any marital status with at least one child living at home.
4. The household refers to a group of people living in a dwelling, which can include census families, only one individual, a group of unrelated persons, or multiple census families.

5. The median income is the income value which falls at the 50th percentile of the individuals with positive incomes (i.e., ordering all household's income from smallest to largest, the household who falls in the middle has the median income).
6. All data related to income, excluding median income is not available for the Local Services Board of Wabigoon to ensure confidentiality of the residents.
7. Low-income measure after tax refers to a fixed percentage (50%) of median adjusted after-tax income of private households. The household after-tax income is adjusted by an equivalence scale to take economies of scale into account. This adjustment for different household sizes reflects the fact that a household's needs increase, but at a decreasing rate, as the number of members increases.
8. Low-income cut-offs after tax - refers to an income threshold, defined using 1992 expenditure data, below which economic families or persons not in economic families would likely have devoted a larger share of their after-tax income than average to the necessities of food, shelter and clothing. More specifically, the thresholds represented income levels at which these families or persons were expected to spend 20 percentage points or more of their after-tax income than average on food, shelter and clothing. These thresholds have been adjusted to current dollars using the all-items Consumer Price Index.

C3.2 HOMELESS AND PRECARIOUSLY HOUSED

An individual without a permanent address or residence, appropriate housing, or the immediate prospect, means, and ability to acquire it are considered homeless (KDSB 2021). An individual or family whose current housing situation does not meet public health and safety standards are considered precariously housed (Gaetz et al 2012).

Table C-4 shows a larger proportion of homeowners are living in unaffordable housing in Ignace (13.7%) compared to the other communities in the Local Study Area (11.0%). Similarly, a larger proportion of renters are living in unaffordable housing in Ignace (41.2%) compared to the other communities in the Local Study Area (37.4%). The Northwestern Health Unit (2019) reported 504 individuals experiencing homelessness across the Kenora and Rainy River Districts.

Table C-4: Housing and Homelessness Statistics[1,2]

Housing unaffordability characterized by a household spending 30% or more of its total income on shelter costs.	Homeowners living in unaffordable housing[3,4,5,7,10]: • 13.7% of homeowners in Ignace • 11.0% of homeowners in the Local Study Area Renters living in unaffordable housing[3,4,5,7,10]: • 41.2% of renters in Ignace • 37.4% of renters in the Local Study Area
Housing suitability characterized by whether a private household is living in a dwelling with enough bedrooms for the size and composition of the household.	Households that are not suitable[3,4,9]: • 3.5% of households in Ignace • 4.0% of households in the Local Study Area
Housing inadequacy characterized by a dwelling needing major repair.	Dwellings in need of major repair[3,4,6]: • 9.7% of dwellings in Ignace • 10.8% of dwellings in the Local Study Area
Subsidized housing characterized by whether a renter household lives in a dwelling that is subsidized: rent geared to income, social housing, public housing, government-assisted housing, non-profit housing, rent supplements and housing allowances.	Renters residing in subsidized housing[3,4,5,7,8]: • 0% of renters in Ignace • 13.2% of renters in the Local Study Area
Homelessness characterized by an individual without a permanent address or residence, appropriate housing, or the immediate prospect, means, and ability to acquire it.	Individuals experiencing homelessness during enumeration October 2021: • 4 in Ignace • 37 in Dryden • 36 in Sioux Lookout

Source: Statistics Canada 2017. KDSB 2021.

Notes:

1. Statistics Canada data have been subjected to a confidentiality procedure known as random rounding whereby values are rounded either up or down to a multiple of 5 and in some cases 10.
2. Percentages calculated by InterGroup Consultant Ltd. were derived from Statistics Canada data.
3. A census family refers to a married couple or a common-law couple with or without children or a lone parent of any marital status with at least one child living at home.
4. The household refers to a group of people living in a dwelling, which can include census families, only one individual, a group of unrelated persons, or multiple census families.
5. Data on housing affordability is not available for the Local Services Board of Wabigoon to ensure confidentiality of the residents.

6. Major repairs include dwellings needing major repairs such as dwellings with defective plumbing or electrical wiring, and dwellings needing structural repairs to walls, floors, or ceilings.
7. Tenure - refers to whether the household owns or rents their private dwelling. The private dwelling may be situated on rented or leased land or be part of a condominium. A household is considered to own their dwelling if some member of the household owns the dwelling even if it is not fully paid for, for example if there is a mortgage or some other claim on it. A household is considered to rent their dwelling if no member of the household owns the dwelling. A household is considered to rent that dwelling even if the dwelling is provided without cash rent or at a reduced rent, or if the dwelling is part of a cooperative.
8. Subsidized housing - refers to whether a renter household lives in a dwelling that is subsidized. Subsidized housing includes rent geared to income, social housing, public housing, government-assisted housing, non-profit housing, rent supplements and housing allowances.
9. 'Housing suitability' refers to whether a private household is living in suitable accommodations according to the National Occupancy Standard; that is, whether the dwelling has enough bedrooms for the size and composition of the household. A household is deemed to be living in suitable accommodations if its dwelling has enough bedrooms, as calculated using the National Occupancy Standard. Housing suitability and the National Occupancy Standard on which it is based were developed by Canada Mortgage and Housing Corporation through consultations with provincial housing agencies.
10. Housing affordability is measured by the 'shelter-cost-to-income ratio' which refers to the proportion of average total income of household which is spent on shelter costs. The category '30% or more of household income is spent on shelter costs' includes households who spend 30% or more of their average monthly total income on shelter costs.

Many residents are not aware of the supports and services that are available and some of the challenges homeless and the precariously housed face are as follows (Northwestern Health Unit 2019):

- 37.4% do not know what health or other community services are available to them;
- 39.3% reported they are not able to access an emergency shelter during extreme weather; and
- 44.4% of individuals experiencing homelessness in the Kenora District reported there is not enough room in shelters.

C3.3 BARRIERS TO EMPLOYMENT

Individuals may experience barriers to employment because of a lack of educational attainment, years of experience, familiarity with a structured work environment/workplace culture, and life skills and self-reliance.

As shown in Table C-5, fewer Ignace residents have obtained a post-secondary education (39%) compared to the other communities in the Local Study Area (49%). Net migration is negative for individuals who are 18 to 24 years old (26% of net migrants) and 45 to 64 years old (30% of net migrants) and could be for reasons to pursue education and employment opportunities outside of the Kenora Census Division. It is also worth noting that seniors accounted for the largest number of migrants to leave the Kenora Census Division (54% of net migrants)[7] but was likely not due to employment reasons and instead due to a lack of nearby housing or services.

[7] Net migration proportions total 100%, but all age groups except the 25-44 years old age group (-29% of net migrants) had a negative net migration.

Table C-5: Barriers to Employment Statistics[1,2,3]

Educational attainment is a measure to see the proportion of residents who have no secondary or no post-secondary education as their highest level. • This indicator identifies barriers to employment due to a lack of education requirements for various occupations.	Post-secondary educational attainment (all forms)[4]: • 39% in Ignace • 49% in the Local Study Area No high school attainment[4]: • 35% in Ignace • 24% in the Local Study Area
Seeing the change in Employment Insurance recipients over time identifies some of the population who are without work and cannot find employment with a wage which meets expectations. • This indicator identifies barriers to employment due to a lack of suitable available job openings.	Total number of Employment Insurance recipients in the Kenora Census Division[5] in September 2020: • 140 men • 90 women Total number of Employment Insurance recipients in the Kenora Census Division in September 2021: • 1,130 men • 860 women Numbers are skewed from 2020 to 2021 due to the availability of Canada Emergency Response Benefit throughout 2020 and part of 2021. The proportion of Employment Insurance claims who were women increased from 39% in 2020 to 43% in 2021.
The breakdown of uptake of key services offered by Employment Ontario identifies individuals trying to overcome barriers to employment. This also captures the number of people who recognize a need for improvement of key skills required to obtaining employment. • These indicators identify barriers to employment due to a lack of work experience, experience writing resumes and other basic skill requirements for obtaining employment.	Employment services: • 357 people received Assisted Employment Services in 2020-2021; 300 fewer (45.7%) than 2019-2020. • 1,490 used the Unassisted Employment Services in 2020-2021; 1,352 (42%) fewer than 2019-2020. Literacy and basic skills: • 205 new learners participated in literacy and basic skills in 2019-2020, in addition to 155 carry-over learners. • There was a decrease of 44% in new learners and 31% of total learners compared to 2019-2020. Apprenticeship: • Apprentices in the Kenora District were stable in 2020-2021 compared to the previous year. There were 72 new registrations and 245 active apprentices in the area compared to 71 and 213 in 2019-2020. Second Career: • In 2019-2020, fewer than ten individuals participated in Second Career in both the Kenora and Rainy River Districts. Training was limited to Transport Truck Driving. Youth Job Connection: • 49 people participated in Youth Job Connection in 2020-2021 compared to 91 in 2019-2020 (decrease of 46%). An additional 37 participated in Youth Job Connection Summer compared to 57 in 2019-2020 (decrease of 35%).
Net migration identifies individuals who need to move out of the Kenora Census Division for various reasons which includes pursing employment, training, or education opportunities. • This indicator identifies barriers to employment due to a lack of available opportunities in the region.	Net Migration in/out of the Kenora CD from 2014 to 2019: • Total= -807 o Age 0-17= -154 o Age 18-24= -208 o Age 25-44= 231 o Age 45-64= -241 o Age 65+= -435 The decline in youths aged 18 to 24 years old and working age individuals aged 45 to 64 years old could be attributed to pursuing education and employment opportunities due a lack of availability for certain occupations in the region.

Source: Statistics Canada 2017. Northwest Training and Adjustment Board 2022.

Notes:

1. Statistics Canada data have been subjected to a confidentiality procedure known as random rounding whereby values are rounded either up or down to a multiple of 5 and in some cases 10.
2. Percentages calculated by InterGroup Consultant Ltd. were derived from Statistics Canada data.

3. The Local Study Area are the Local Study Area communities excluding Ignace and Indigenous communities (i.e., Dryden, Sioux Lookout, Machin, the Local Service Boards of Wabigoon). This does not include communities which are included in the Kenora Unorganized subdivision.
4. 'Highest certificate, diploma or degree' refers to the highest certificate, diploma or degree completed based on a hierarchy which is generally related to the amount of time spent 'in-class.' For postsecondary completers, a university education is considered to be a higher level of schooling than a college education, while a college education is considered to be a higher level of education than in the trades. Although some trades requirements may take as long or longer to complete than a given college or university program, the majority of time is spent in on-the-job paid training and less time is spent in the classroom.
5. Data is not presented by community in the Northwest Training and Adjustment Board report or Statistics Canada to ensure the confidentiality of Employment Insurance recipients.

C3.4 MENTAL HEALTH AND ADDICTIONS

Mental health is the state of psychological and emotional well-being of an individual (Government of Canada 2020). Addictions is the problematic use of a substance (The Centre for Addiction and Mental Health n.d.). Individuals who experience mental health and or substance use issues will require both social and health supports.

As shown in Table C-6, perceived life stress, mental health, and individuals with mood disorders have similar rates for the Northwestern Health Unit compared to the Ontario average. This supports the idea that mood disorders, mental health, and life stress are experienced at a similar rate across Ontario but are critical to an individual's well-being and an important inclusion for vulnerable populations.

Table C-6: Mental Health Statistics[1]

Ratings of mental health	Perceived mental health fair or poor:[2] • 7.3% under the Northwestern Health Unit • 7.9% in Ontario Perceived life stress, most days quite a bit or extremely stressful:[3] • 20.2% under the Northwestern Health Unit • 21.6% in Ontario Population with mood disorder[4] (reported that they have been diagnosed by a health professional as having a mood disorder, such as depression, bipolar disorder, mania, or dysthymia): • 10.6% under the Northwestern Health Unit • 9.2% in Ontario

Source: Statistics Canada 2022.

Notes:

1. The Northwestern Health Unit includes communities in the Kenora and Rainy River Census Divisions and the Unorganized Kenora and Rainy River areas.
2. Population aged 12 and over who reported perceiving their own mental health status as being excellent or very good or fair or poor, depending on the indicator. Perceived mental health refers to the perception of a person's mental health in general. Perceived mental health provides a general indication of the population suffering from some form of mental disorder, mental or emotional problems, or distress, not necessarily reflected in perceived health.
3. Population aged 12 and over who reported perceiving that most days in their life were quite a bit or extremely stressful. Perceived life stress refers to the amount of stress in the person's life, on most days, as perceived by the person or, in the case of proxy response, by the person responding.
4. Population aged 12 and over who reported that they have been diagnosed by a health professional as having a mood disorder, such as depression, bipolar disorder, mania, or dysthymia.

As shown in Table C-7, approximately 25% of residents self-reported engaging in heavy alcohol drinking in the North West Local Health Integration Network and approximately 26% of residents under the Northwestern Health Unit. Also, under the North West Local Health Integration Network, 164.8 per every 100,000 individuals have visited an emergency department for an opioid-related emergency and 146.3 per every 100,000 individuals under the Northwestern Health Unit. The Northwestern Health unit reported a 73% greater opioid-related emergency department visits compared to Ontario. This much larger rate may seem alarming, but due to the small population in Ignace and northwestern Ontario relative to the entire Ontario population, the reported hospitalizations are much smaller compared to Ontario. The North West Local Health Integration Network catchment area includes communities in the Kenora, Rainy River, and Thunder Bay Census Divisions and the Unorganized Kenora, Thunder Bay, and Rainy River areas. To ensure confidentiality, the number of hospital visits from heavy opioid use are reported but were below 50 visits annually in the Northwestern Health Unit over the previous 10 years. The rates might be higher compared to the Ontario average, but due to the small population, the number of visits is not very many in Ignace and the Northwestern Health Unit; however due to the nature of services available locally any increase in the number of incidents would be considered significant.[8]

[8] The Northwestern Health Unit includes communities in the Kenora and Rainy River Census Divisions and the Unorganized Kenora and Rainy River areas. The North West LHIN catchment area includes communities in the Kenora, Rainy River, and Thunder Bay Census Divisions and the Unorganized Kenora, Thunder Bay, and Rainy River areas.

Table C-7: Drug and Alcohol Use Statistics[1]

Heavy alcohol use	Self-reported heavy alcohol drinking in 2015-16:[2] • 25.3% of residents under the North West Local Health Integration Network • 26.2% of residents under the Northwestern Health Unit • 18.5% of residents in Ontario
Heavy opioid use	Cases of opioid-related emergency department visits reported in 2020:[3,4] • 164.8 per 100,000 individuals under the North West Local Health Integration Network • 146.3 per 100,000 individuals under the Northwestern Health Unit • 84.6 per 100,000 individuals in Ontario Cases of opioid-related hospitalizations visits reported in 2020:[3,4] • 19.9 per 100,000 individuals under the North West Local Health Integration Network • 11 per 100,000 individuals under the Northwestern Health Unit • 13.9 per 100,000 individuals in Ontario Cases of opioid-related deaths reported in 2020:[3,4] • 33.8 per 100,000 individuals under the North West Local Health Integration Network • 20.7 per 100,000 individuals under the Northwestern Health Unit • 16.4 per 100,000 individuals in Ontario

Source: Public Health Ontario 2018, 2022.

Notes:

1. The Northwestern Health Unit includes communities in the Kenora and Rainy River Census Divisions and the Unorganized Kenora and Rainy River areas. The North West Local Health Integration Network catchment area includes communities in the Kenora, Rainy River, and Thunder Bay Census Divisions and the Unorganized Kenora, Thunder Bay, and Rainy River areas.
2. Heavy drinking refers to males who reported having five or more drinks, or women who reported having four or more drinks, on one occasion, at least once a month in the past year.
3. Opioid death data for 2020 and 2021 should be considered as preliminary and is subject to change.
4. Opioid data are reported for cases per every 100,000 individuals.

C4.0 Appendix C References

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APPENDIX D:
Data Limitations

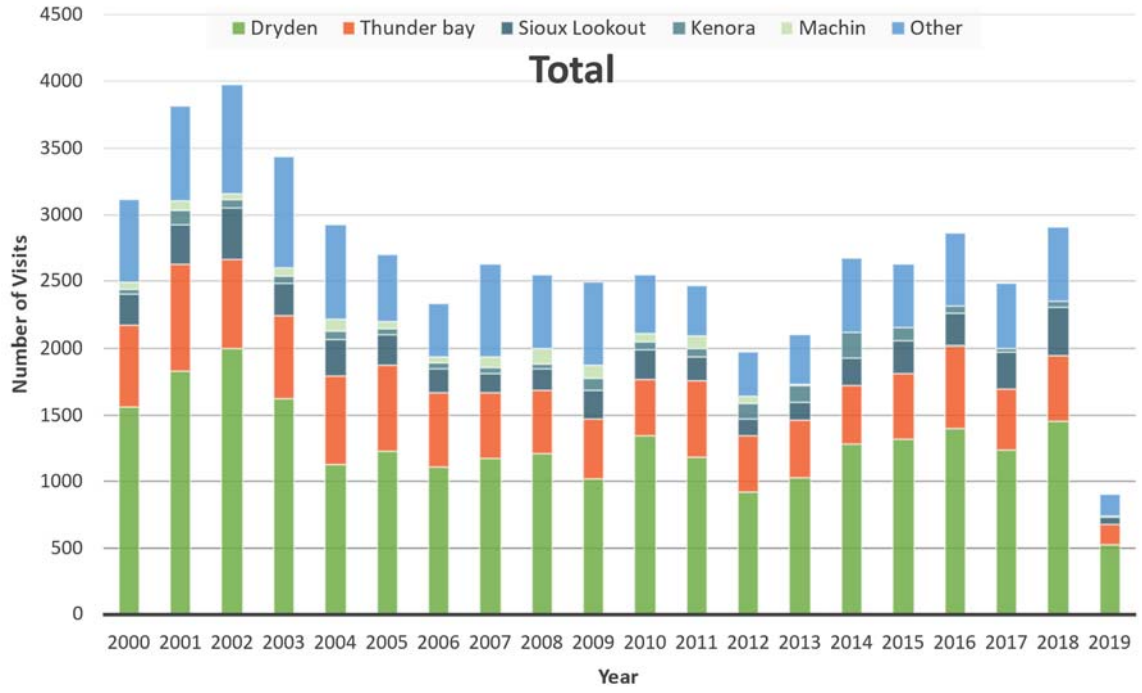
DATA LIMITATIONS FOR SECTION 4.0 CHANGE ANALYSIS

Figure 4.1-1

1. Data are based on Residency Employment Planning Assumptions which are subject to the hosting agreement that would be formed between the NWMO and the Township of Ignace if Ignace is chosen for the Project.
2. The Local Study Area are the communities and unorganized area which are within a one-hour commute of the Revell site, excluding Indigenous communities (e.g., Dryden, Sioux Lookout, Machin, the Local Services Board of Wabigoon).
3. The regions outside of the Local Study Area (e.g., Manitoba, northeast Ontario) are regions where the NWMO will need to resource from to meet the labour requirements for certain occupations where there is not a large enough labour supply in the Local Study Area.

APPENDIX E:
Additional Data

Figure E-1: Location of Visits for General and Family Practice Medicine Outside of Ignace, 2000 to 2019



Source: IntelliHealth Ontario 2022b.
Note: 2019 numbers may be incomplete.

Figure E-1 displays the primary locations residents of Ignace go for general and family practice medicine when they leave the Township. Residents of Ignace largely go to Dryden (48%) for general and family practice medicine, followed by other (20%), Thunder Bay (19%), Sioux Lookout (8%), Kenora (3%), and Machin (2%).

APPENDIX F:
Glossary of Terms

Table F-1: Glossary of Terms

Term	Definition
Adaptative management	Adaptive management is defined consistent with the CNSC's definition of adaptive management (REGDOC-3.6): A planned and systematic process for continuously improving management practices (primarily environmental) by learning from their outcomes. For an environmental assessment it involves, among other things, the implementation of new or modified mitigation measures over the life of the Project to address unanticipated environmental effects. Note: the need to implement adaptive management measures may be determined through an effective follow-up program.
Adaptive Phased Management (APM) Project	The Deep Geological Repository and other required infrastructure for the safe, long-term management of Canada's used nuclear fuel.
Community	The use of the term 'community' (a group of people living either in the same place or having a particular characteristic in common) will be qualified to specify the specific community of reference.
Community Studies Purpose	Community studies will inform the primary APM Project hosting agreement between the NWMO and the Township of Ignace. In addition, they will provide pertinent information for agreements with the City of Dryden as well as other potential regional agreements.
Ignace Area	Delineates the general area surrounding the potential APM Project location Deep Geological Repository in Northwestern Ontario; mainly comprising of City of Dryden, Machin, the Local Service Board of Wabigoon, the Local Service Board of Melgund (Dyment and Borups Corner), and Sioux Lookout. The area is located in Treaty #3 within the traditional territories of multiple Indigenous and Métis communities.
Ignace and Area Working Group	The Township of Ignace and the NWMO have established a working group inclusive of the Township of Ignace, Wabigoon Lake Ojibway Nation, and other Indigenous and non-Indigenous local and regional community members and observers to collaboratively design and implement baseline and community studies to provide a basis for achieving informed decision making related to the APM Project.

Term	Definition
Local Study Area	The Local Study Area refers to the communities/areas most likely to experience future direct, indirect, and induced impacts of the APM Project - both positive and negative. For the purposes of the baseline studies, the potential "host" community (i.e., Ignace) is considered central to the Local Study Area, while other communities may be included on a topic-by-topic basis relative to potential future impacts and cumulative impacts. The Local Study Area will vary by baseline component/study as well as phase of the Project. For example, for workforce the Local Study Area includes communities that can commute to the Revell Site or the Centre of Expertise within an hour drive. This means that Ignace, Dryden, Sioux Lookout (for the Revell Site) and Machin (for the Revell Site) and unincorporated municipalities constitute the primary Local Study Area (micro labour-shed). This micro labour-shed includes settlement areas (unincorporated communities) between Dryden, Ignace, and Sioux Lookout. The preliminary spatial boundaries are as follows: • Ignace; • Dryden; • Machin; • Sioux Lookout; • The Local Service Board of Melgund; and • The Local Service Board of Wabigoon.
Neighboring Community	Communities in Northwestern Ontario surrounding the Project or included in both Local and Regional Study Areas (i.e., Dryden, Sioux Lookout, Machin, and unincorporated municipalities).
Neighboring Community Leadership	For the purpose of engagement on draft materials, neighboring community leadership in this context refers to municipal administrative leadership inclusive of the Local Service Board of Wabigoon, the Local Service Board of Melgund, etc.
Potential Municipal Host Communities	Two municipal siting communities remain in the process. These are the Township of Ignace and the Municipality of South Bruce. Ignace has participated in the NWMO's site selection process since initiation in 2010.
Project Site	Used to describe the location of the primary APM infrastructure including the Deep Geological Repository, and ancillary infrastructure to support operations.

Term	Definition
Regional Study Area	The Regional Study Area refers to the area used to provide context for each component and may also experience future impacts of the APM Project (both positive and negative). During the future impact assessment, cumulative effects will be considered within the Regional Study Area. The Regional Study Area will also vary by baseline component/study as well as phase of the Project. In some instances, the regional boundaries are either narrowly defined by the area within the Kenora District or more broad in scope such as the labour baseline for example: • Atikokan; • Kenora; • Thunder Bay; • Steinbach; and • Winnipeg.
Revell Site	Revell Batholith Temporary Withdrawal Area.
Rights Holders	First Nation and Métis communities who have asserted and or hold recognized treaty and/or Indigenous rights and whose Traditional Territories include the Project site.
Siting Area	In the context of the Community Studies for Northwestern Ontario, 'siting area' refers to the Ignace Siting Area defined above for 'Ignace Area'.
South Bruce Area	Delineates the general area surrounding the potential APM Project location in southwestern Ontario; mainly comprising Bruce County (excluding the South Bruce Peninsula) and northern portions of Huron County, but not extending to the shores of Lake Huron. The area is located in Treaty #45 1/2 in the traditional territory of the Saugeen Ojibway Nation as well as the asserted traditional territories of Métis communities.
Spatial Boundaries as defined in Baseline Design Report	Spatial boundaries vary by topic and will be refined over the course of engagement. It is anticipated spatial boundaries will reflect inputs from local governments, the public, Indigenous communities, federal and provincial government departments and agencies, and other interested parties, consistent with the Tailored Guidelines template. Two general spatial study areas are considered as part of the Community Studies that referred to as the Local Study Area and Regional Study Area.

InterGroup

CONSULTANTS

300-259 Portage Avenue

Winnipeg, MB R3B 2A9

www.intergroup.ca