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RESEARCH+STRATEGY

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REVIEW OF FERTILITY SERVICES

PROVINCE OF NEWFOUNDLAND AND LABRADOR

Recognition Statement

This review was supported by Newfoundland and Labrador Health Services staff and the Department of Health and Community Services, Government of Newfoundland and Labrador. The members of the Steering Committee were:

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We also appreciate the support from all interested parties that participated in the stakeholder engagement process, especially those who contributed heavily to discussions regarding the potential future states of fertility services in Newfoundland and Labrador.

Executive Summary

In Fall 2023, Thinkwell Research + Strategy was contracted by the Government of Newfoundland and Labrador (NL) to review the fertility services available in the province and to recommend how their residents' access to fertility services could be improved. The project had several stages, including engagement with stakeholders, a review of fertility services offered in other jurisdictions (i.e., other Canadian provinces and other countries), and a review of relevant literature.

To ensure that the stakeholder engagement, literature review, and jurisdictional scan were systematic and all spoke to the same issues, we designed our data collections based on what the World Health Organization (WHO) has suggested as the six "building blocks" of a well-functioning health system:

1. **Leadership and Governance**. At the highest (governance) level, this pertains to whether services are offered as part of the public healthcare system or in a privatized setting. Under each governance model, leadership refers to the decision-makers and their respective scopes (i.e., the types of decisions they have the authority to make).

2. **Health Workforce**. Healthcare workers and administrative, lab, and managerial staff required for service offerings.

3. **Service Delivery**. The services that are offered and how they are delivered.

4. **Medical Facilities and Products**. The infrastructure (i.e., clinic, lab), and equipment required to provide service.

5. **Health Information Systems**. Communication and information sharing within and across health systems (e.g., within NL and between NLFS and out-of-province fertility clinics) as well as between health services and clients.

6. **Health Services Financing**. The financial cost of services including the costs associated with providing services and the cost to access services.

As a brief overview of each of the first three stages of the project, our stakeholder engagement consisted of interviews and surveys with various groups of stakeholders. In particular, we conducted interviews with previous and current clients of Newfoundland and Labrador Fertility Services (NLFS), physicians who refer clients to NLFS, current

NLFS staff, Newfoundland and Labrador Health Services (NLHS) staff who spend a portion of their time supporting NLFS, and NL government staff responsible for oversight of fertility services. As an extra measure to ensure that we captured the diverse perspectives of NL residents, we sent a survey to current and previous NLFS clients, NL residents who have pursued fertility services outside of NL without consulting NLFS, and NL residents who are considering availing fertility services in the province. We also conducted a survey of physicians who refer their patients to NLFS.

The literature review consisted of finding, critically reviewing, and summarizing literature on the six components of a healthcare system listed above. The documents reviewed during this portion of the project included reports on peer-reviewed literature (e.g., journal articles), as well as policy documents and media releases. Of course, the latter were given less weight than empirical research, but were important to include as the literature did not provide answers to all of the questions that arose from the stakeholder engagement and jurisdictional scan.

The jurisdictional scan had two stages. The first stage consisted of a review of information available on the websites of fertility clinics in six countries: Canada, the United States, the United Kingdom, Australia, Sweden, and Greece. In particular, we reviewed information on the services that they offer and the funding that is provided by their local (e.g., provincial) governments. The second consisted of interviews with a handful of fertility clinics in order to learn more about their staffing and governance.

Following the research phase, the stakeholder engagement data was synthesized and findings were organized into the WHO “building blocks” framework. A clear picture of the current state of NLFS is subsequently described in terms of its leadership, workforce, services, medical facilities, health information systems, and health services financing.

Leadership and Governance. NLFS’s current organizational structure is very siloed and there are several distinct lines of reporting for the clinic, lab, and physicians. There is no single position that oversees both the clinic and the lab. Leadership within NLFS involves multiple layers of management which sometimes impedes decision-making authority.

Health Workforce. Current staffing levels, particularly in nursing and administrative support roles may be insufficient to meet the needs of the NLFS clinic and lab. This is especially true if new services were to be offered by NLFS. With limited administrative support, clerical work in the lab is falling to other NLFS personnel, detracting from their fundamental work.

Service Delivery. At present, NLFS offers a range of fertility services, including intrauterine insemination (IUI), but does not currently offer egg preservation, nor does it have the capacity to offer In Vitro Fertilization (IVF). Clients needing IVF are referred to fertility clinics in various jurisdictions outside of NL. Among those surveyed (current, former, and prospective clients) forty-seven percent (47%) reported that current fertility services did not meet their needs, thirty percent (30%) said their needs were met moderately well by the services offered, fifteen percent (15%) said current services met their needs very well, and six percent (6%) felt current services met their needs extremely well.

Medical Facilities and Products. NLFS's current facility lacks sufficient space for existing services and could not, in its present layout, accommodate an IVF lab. To maintain current services, match growing demand, and keep pace with clinical and technological advancements, additional equipment is also required.

Health Information Systems. Information is not easily shared between NLFS and clinics outside or between NLFS and other specialists and physicians within the province. Clients have a difficult time navigating the system and obtaining required information from various sources and channels. They are also uncertain about clinic policies related to waitlists and prioritization for consults or procedures.

Health Services Financing. The total budget for fertility services in the province of NL for 2022-2023 was $1,104,630, with actual spending exceeding this at $1,325,261. These amounts do not include the cost of physicians (as they are fee for service), the scientific director (a consultant), or the facility (a $170,000 lease). Current services are a mix of insured and uninsured (i.e., 'out-of-pocket'). Although NLFS does not offer IVF in the province, the NL Fertility Subsidy Program offers up to $5,000 per IVF cycle, for a maximum of three cycles per person to support clients in accessing IVF out-of-province. Ninety-eight percent (98%) of the annual subsidy budget of $750,000 is currently being utilized.

The stakeholder engagement, literature review, and jurisdictional scan together provided a comprehensive understanding of the current state of fertility services in the province. This assessment highlighted how the province compares to other jurisdictions and identified best practices in fertility care. The insights gained, alongside feedback from key stakeholders, shaped the development of recommendations to improve fertility care in the province. Key elements of the proposed model of care include making IVF and fertility preservation for persons assigned female at birth available in the province and enhancing financial support for individuals seeking access to fertility care.

Recommendations for Improving Fertility Services in Newfoundland and Labrador

Leadership and Governance
1. Address Legislative, Regulatory and Policy Gaps 2. Accreditation of the Fertility Clinic and Lab 3. Implement Integrated Leadership Between the Clinic and the Lab 4. Prioritize Capital Investments for Improved Outcomes 5. Create a Decision-Making Framework
Health Workforce
6. Adjust Staffing Base to Meet Current Needs or to Allow for Offering IVF 7. Support Nursing Staff with Ongoing Professional Development
Service Delivery
8. Expand Range of Services to Include IVF, Egg Extraction, Preservation and Storage 9. Create a More Inclusive Fertility Service 10. Increase Mental Health Supports 11. Establish a Patient Navigator 12. Greater Emphasis on Trauma-Focused/Patient-Oriented Care 13. Create an Onboarding Process for Clients 14. Mobilize Rural Fertility Care: Assess Opportunities for Localized Services
Medical Facilities and Products
15. Expand Lab Space
Health Information Systems
16. Explore Opportunities to Improve Electronic Information Sharing
Financing
17. Fertility Preservation Coverage for Oncology and Transgender Patients 18. Reduce Upfront Costs for Clients Accessing IVF and Fertility Preservation 19. Explore Options to Increase Funding for IVF Using a Direct Payment Model 20. Match Industry Standard for Out-of-Pocket Lab Costs 21. Implement a System to Pay at Time of Service

The review also explores whether fertility services should continue to be delivered through NLFS or shift to a privately-owned and operated fertility clinic. The decision between public and private models of care involves balancing key considerations such as accessibility, affordability, regulation, quality of care, and patient outcomes, aligning them with the overarching goals of improving fertility care in NL. While no single argument definitively establishes the superiority of a private over a public model of care, the combination of factors discussed in this review support the recommendation that fertility care shift to a private model. These arguments include optimizing resource allocation and improving responsiveness to patient needs. Additionally, a private model can reduce wait times by focusing exclusively on fertility care. For these reasons, among others discussed, a private model of care is the strongest choice for the future of fertility care in the province.

Whichever path the government decides to take, it will require time. This is especially true if fertility services are transitioned to a private setting. Legislative and policy changes, considerations for oversight, accountability and funding (e.g., allowing clinics to bill MCP for services outside hospitals or creating a funding program) are significant undertakings. Expanding current fertility services within the province to include IVF, egg extraction, preservation, and storage will require the creation of new roles (e.g., embryologists) and training for current healthcare professionals (e.g., Registered Nurses and Medical Laboratory Technologists). The regulatory bodies governing these professions would also need to be consulted.

Regardless of the setting, the recommendations outlined in this report aim to establish a comprehensive and inclusive fertility service that meets the diverse needs of the population, enhances accessibility, and improves reproductive health outcomes for individuals and families across the province.

All recommendations included in this report are intended to be implemented in accordance with current legislation and regulatory requirements.

About This Report

The Government of Newfoundland and Labrador and NLHS are committed to enhancing access to fertility care within the province. This report, commissioned by the Government of Newfoundland and Labrador, offers evidence-based recommendations to advance this objective, striving to improve fertility services for the residents of NL. The Government of Newfoundland and Labrador will review the findings and recommendations from this report to determine the best course of action moving forward.

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Glossary of Terms

Andrology: The branch of medicine concerned with male health, particularly relating to the reproductive system.

Assisted Reproductive Technology (ART): Medical procedures or techniques used to assist individuals or couples in achieving pregnancy when conventional methods have been unsuccessful. ART may include procedures such as IVF, ICSI, and IUI

Complementary and Alternative Medicine (CAM): Practices and treatments that are outside the scope of conventional medicine and are used alongside or instead of traditional medical approaches. CAM therapies may include acupuncture, herbal medicine, chiropractic care, and meditation.

Caseload: Number of cases or clients receiving services from a clinic or professional within a specific period.

Cryopreservation: The process of preserving cells or tissues by cooling them to low temperatures to maintain their viability for future use.

Diagnostic Andrology: The branch of andrology focused on diagnosing male reproductive disorders.

Diagnostic Semen Analysis: Laboratory testing of semen to assess male fertility and diagnose potential issues.

Embryo Biopsy: The procedure of removing cells from an embryo for genetic testing.

Embryology: The branch of biology and medicine concerned with the study of embryos and their development.

Fertility Preservation: The process of preserving fertility for individuals who may wish to have children in the future, often through methods like egg or sperm freezing.

Frozen Embryo Transfer: A technique used during IVF where frozen embryos are thawed and transferred into the uterus.

Intracytoplasmic Sperm Injection (ICSI): A laboratory procedure used during IVF where a single sperm is injected directly into an egg to facilitate fertilization.

Intrauterine Insemination (IUI): A procedure that increases the chances of pregnancy by placing specially prepared sperm directly in the uterus.

In Vitro Fertilization (IVF): A fertility treatment where eggs are retrieved from the ovaries and fertilized with sperm in a laboratory setting.

Medical Care Plan (MCP): A comprehensive medical care insurance plan designed to cover the cost of physician services for residents of Newfoundland and Labrador.

Newfoundland and Labrador Fertility Services (NLFS): Fertility clinic operated through NLHS that provides provincial outpatient services for the diagnosis and treatment of fertility issues for the people of Newfoundland and Labrador.

Newfoundland and Labrador Health Services (NLHS): Newfoundland and Labrador's integrated and full-service health system in the province, responsible for providing health services and managing healthcare facilities.

Retrograde Ejaculate Analysis: Examination of ejaculate to assess for the presence of retrograde ejaculation, a condition where semen enters the bladder instead of exiting through the urethra.

Sperm Cryopreservation: The freezing and storage of sperm for future use.

Sperm Preparation: The process of preparing sperm for use in assisted reproductive techniques such as IUI or IVF.

Surrogacy: A reproductive arrangement where an individual capable of pregnancy gives birth to a child for another individual or couple.

INTRODUCTION

Introduction

Infertility affects 1 in 6 individuals striving to conceive and can significantly impact quality of life, presenting profound challenges and emotional distress for those desiring to initiate or expand their family.[1] Despite the prevalence of infertility among those attempting to become pregnant, it can be estimated that in Newfoundland and Labrador (NL), fertility treatments are sought by less than 1% of the population, highlighting both the significant need for support among those affected and the relatively small proportion of the population seeking such interventions.

Newfoundland and Labrador Fertility Services (NLFS), operating within Newfoundland and Labrador Health Services (NLHS), offers insured and uninsured services related to investigating infertility and conducting artificial insemination. Currently, NL residents must travel out of the province to avail of treatments such as in vitro fertilization (IVF) and egg preservation. Financial assistance is available for individuals pursuing IVF treatments outside the province.[2] The Department of Health and Community Services (HCS), in partnership with NLHS, initiated a review of fertility services in the province to explore ways in which the Government of NL can increase access to fertility care to better align with the province's population needs and goals for delivery of equitable health services.

To understand current access and the associated barriers as well as opportunities for improvement, various types of research were conducted. The project engaged a large and diverse group of stakeholders, conducted an in-depth literature review, and undertook a jurisdictional scan across Canada and internationally, with an emphasis on several key fertility clinics. Key fertility clinics were chosen based on four criteria: clinics that NLFS refers clients to on an agreed-upon basis, clinics that are leaders in providing access to fertility services for 2SLGBTQIA+ individuals, clinics that represent a wide breadth of provinces and countries, and innovative clinics that have positive reputations and services aligning with best practices.

As a result of this work, the following report presents a comprehensive understanding of the current state of fertility services in NL, outlines best practices across jurisdictions, identifies barriers to accessing services, provides a gap analysis between current and future states, suggests opportunities for improving fertility services, and discusses critical decisions in determining a future model for the future state of fertility services in the province.

Engagement/Consultation

This review involved extensive engagement with key individuals with direct experience and expertise in fertility services, along with those offering valuable strategic and policy insights. The engagement approach prioritized inclusivity and diversity, ensuring meaningful participation from various stakeholder groups, including service providers, government entities, healthcare planners, clients, advocacy groups, and external experts.

The inclusion of service providers and clinic staff directly involved in NLFS operations was emphasized. Through interviews, valuable insights were gained from reproductive endocrinology and infertility specialists (REIs), nurses, lab staff, specialists, and client support staff. This comprehensive engagement provided a deep understanding of operational challenges, workflow efficiency, and potential areas for improvement within the clinic.

The process also engaged government and healthcare planning entities, including HCS and NLHS. Strategic goals, governance considerations, and priorities related to fertility services were explored through meetings and interviews. These consultations aligned the review with broader health planning initiatives, ensuring an integrated approach to enhancing fertility services in the province.

A total of fifty-six (56) interviews were conducted with previous and current clients of NLFS, physicians referring clients to NLFS, current NLFS staff (including REIs), NLHS staff that support NLFS (e.g., individuals in leadership positions in the Children and Women's Health Program and budget analysts), and NL government staff with linkages to fertility services. This diverse range of interviews provided comprehensive insights into various aspects of fertility services.

Client perspectives and experiences were central to the engagement process. Through in-depth interviews and surveys, current and past clients of NLFS shared their personal journeys, challenges, and suggestions for improvement.

One-hundred and four (104) NL residents provided feedback through an online survey. The online survey was distributed using an open link, and data gathered from the survey underwent meticulous cleaning and screening procedures to discern and mitigate instances of duplicate responses. Respondents included current and previous NLFS clients, individuals who pursued fertility services without consulting NLFS, and those considering availing fertility services in the province. The survey provided

valuable findings regarding the province's fertility services, including participant statistics and insights into the quality and depth of feedback.

Ten physicians also shared their feedback via an online survey; eight (8) physician respondents were oncologists, and two (2) were general practitioners.

Recognizing the importance of external expertise, specialists from other provinces' Health Authorities and fertility clinics were also engaged. Through interviews and consultations, best practices, emerging trends, and successful models in fertility services were explored. Additionally, the comparative analysis within this project offers insights into eligibility criteria, funding models, and successful implementation strategies from other jurisdictions.

Figure 1: What Has Informed the Review?

EVIDENCE
Best practices (In-depth interviews)
Review of the research (Literature review)
Analysis of financial and HR documents

PROFESSIONAL INPUT
Steering committee
In-depth interviews with REI's and NLFS staff, government entities, healthcare planners, specialists and external experts

LIVED EVIDENCE
Client survey
Client interviews

NATIONAL & INTERNATIONAL SOURCES
Jurisdictional scan
Interviews with representatives from Fertility Clinics

Building Blocks of Health Framework

Given the breadth and complexity of the information gathered as part of this review, the World Health Organization's (WHO) 6 Building Blocks of Health were used as a framework to guide the formulation of questions asked during the engagement process and to organize the subsequent findings. These building blocks also provided a structure for analyzing jurisdictional comparisons and conceptualizing potential future fertility service models. The building blocks are as follows:

Leadership and Governance: At the highest (governance) level, this pertains to whether services are offered as part of the public healthcare system or in a privatized setting. Under each governance model, leadership refers to the decision-makers and their respective scopes (i.e., the types of decisions they have the authority to make).

Health Workforce: The healthcare workers, as well as administrative, lab, and managerial staff, are required for service offerings.

Service Delivery: The services that are offered and how they are delivered.

Medical Facilities and Products: The infrastructure (clinic, lab) and equipment required to provide services.

Health Information Systems: Communication and information sharing within and across health systems (within NL and between NLFS and out-of-province fertility clinics) and between health services and clients.

Health Services Financing: The financial cost of services, including the costs associated with providing and accessing services.

CURRENT STATE

Current State

To understand the current state of fertility services in NL, this section of the report integrates data from diverse sources, encompassing external communication materials, internal documents, financial reports, and pivotal interviews with stakeholders like staff, leadership, clients, government representatives, as well as other pertinent parties. The information is structured and presented utilizing the Building Blocks of Health Framework and presents an overview of the existing fertility landscape in the province.

Leadership and Governance

Key Highlights

- The current organizational structure is very siloed as there are several distinct lines of reporting for the clinic, lab, and physicians.
- Leadership within NLFS involves multiple layers of management.
- Support provided by divisional management and the scientific director is perceived positively.
- Conflicts arise from ambiguity in decision-making authority.
- Until reaching the highest level of NLHS, no single position oversees both the clinic and the lab, therefore decisions made independently by either may cause negative implications for the other department, impacting client care.
- NLFS clinic and lab are accredited.

In NL, fertility services are currently offered through NLHS. Both the lab and clinic are currently accredited and adhere to standards set by Accreditation Canada. The Department of Health and Community Services is responsible for program and policy development and NLHS is responsible for operations and service delivery.

Within NLHS, the current leadership and governance structure for NLFS involves several distinct lines of reporting. The REIs operate within their domain, reporting to the medical director, who is overseen by the Clinical Chief of Women's Health. The Clinical

Chief of Women's Health reports to the Director of Medical Services, who manages multiple clinical divisions within the organization under the oversight of the VP of Medical Services. The VP of Medical Services reports to the CEO of NLHS.

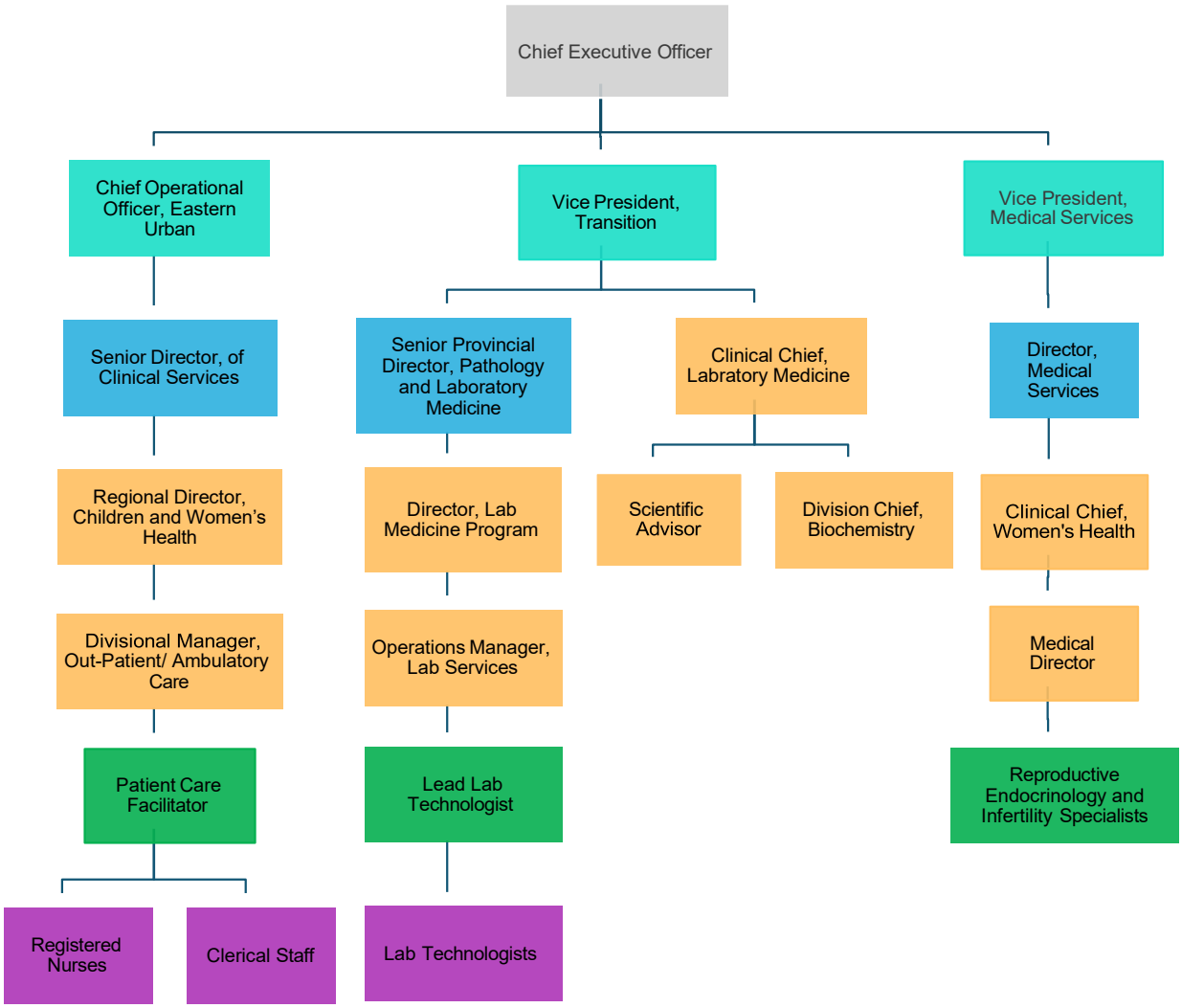
In the NLFS lab, Medical Laboratory Technologists (MLTs) are overseen by the Lead MLT, who reports to the Operations Manager of Lab Services. The Operations Manager of Lab Services position is overseen by the Director of the Lab Medicine Program, who in turn reports to the Senior Provincial Director of Pathology and Laboratory Medicine. The Senior Provincial Director of Pathology and Laboratory Medicine reports to the VP of Transition.

Supporting the lab services are specialized roles such as the Scientific Advisor and the Division Chief of Biochemistry, who report to the Clinical Chief of Laboratory Medicine. This Clinical Chief also reports to the VP of Transition. The VP of Transition reports to the CEO of NLHS.

The staff on the clinic side of NLFS includes the Registered Nurses (RNs) and clerical staff who report to the Patient Care Coordinator (PCC). The PCC reports to the Divisional Manager of Out-Patient and Ambulatory Care, who is supervised by the Regional Director of Children and Women's Health, whom the Senior Director of Clinical Services oversees. The Senior Director of Clinical Services reports to the Chief Operating Officer of Eastern Urban. The Chief Operating Officer of Eastern Urban reports to the CEO of NLHS.

The CEO of NLHS provides leadership to NLHS as a whole, providing strategic direction and oversight of each line of reporting described.

Figure 2. NLFS Organizational Chart



The current organizational structure is very siloed, with many layers of management and separate lines of reporting for the clinic, lab, and physicians. Clinic and lab staff reported a positive perception of leadership, noting the guidance and support provided by the Children's and Women's Health Divisional Management and the scientific director as strengths of the current structure.

While leadership is viewed as generally successful within the clinic, it was noted that due to the organizational silos, no one position oversees both the clinic and lab until you reach the very highest level of NLHS. Without a single position overseeing both the

clinic and lab, there may be a lack of integrated decision-making. Decisions made in isolation by the clinic or lab leadership may not fully consider the implications for the other department, which could negatively impact client care.

In addition to operating in silos, NLFS has a deep managerial structure with many layers of oversight. Many leadership positions responsible for the management of NLFS have multiple responsibilities outside of fertility. While leaders diligently manage competing priorities, fertility services cannot always receive as much attention as the complex service requires. This deep managerial structure and competing demands on time hinder the organization's ability to respond quickly to changing needs due to decision-making delays and reduced accountability. With numerous layers of management, it can become challenging to identify who is responsible for specific outcomes or decisions.

While the NLFS leadership is generally perceived as a strength for the clinic, it's important to note that conflicts do arise, particularly surrounding decision-making processes. During the in-depth interviews, participants expressed frustration regarding conflicts or misunderstandings concerning decision-making authority related to client care. These conflicts may stem from ambiguity or the need for clarity around roles and responsibilities within the clinic's organizational structure. As a result, there is ambiguity about who has the final authority to make decisions regarding client care.

Lastly, concerns were raised regarding the divided management of the lab. Lab management is distributed across three locations: St. John’s Biochemistry, POCT (acting), and NLFS Laboratories. Despite management's diligent efforts, there is a recognized need for more centralized managerial oversight.

Health Workforce

Key Highlights

- Staffing levels, particularly in nursing and administrative support roles may be insufficient to meet the needs of the NLFS clinic and lab.
- Lab personnel are spending too much time on clerical work, indicating a need for additional administrative support.
- Conflicts between clinical staff persist despite efforts by the CWH manager, who is not solely responsible for fertility and often leaves the clinic without an on-site manager.
- Nursing staff require additional training and resources to enhance their knowledge of fertility-related matters and maintain quality of care.

Clinic Staffing

Current staffing within the NLFS clinic includes:

- 3 REI's
- 1 Full-time PCC (also an RN)
- 1 Full-time RN (1 FTE[1])
- 3 Part-time/Casual RN's covering a total of 1.4 FTE
- 1 Full-time Clerk II
- 1 Part-time Clerk II (0.5 FTE)
- 1 Full-time Secretary I
- 1 Part-time Medical Service Aid (0.5 FTE)

[1] Full-time equivalent

Two of the REIs work Mondays, Wednesdays, and Fridays. Tracking is done in the mornings, and the "ultrasound clinic"[2] occurs in the afternoons. [3, 4]

One REI works Tuesday and Thursday mornings, during which time they do tracking. The clinic does not have an “ultrasound clinic” on Tuesdays and Thursdays.

Processes currently working well in the clinic include support from specific leadership (i.e., the CWH manager and scientific director) and the workload of clerical staff. Clerical staff do not feel overburdened by their current workload and are satisfied with the current number of staff; it is, however, important to note that employees from the lab are currently doing some administrative work that could be completed by clerical staff.

Although clerical staff do not feel overburdened, the opposite is true for nurses. The nurses at NLFS feel that there are currently too few nurses to provide proper care and that they have insufficient training in fertility. Due to sickness and vacation, it was noted that sometimes, only one nurse is available to care for clients. Based on interviews with NLFS staff and management, one nurse is insufficient to provide the needed services to all clients; therefore, the PCC often provides coverage working as a nurse to cover for those nurses who are absent.

Additionally, many nursing staff members have expressed concerns and unanswered questions regarding fertility-related matters that they would like addressed. Specifically, the PCC requires assistance with training, as nurses' knowledge of fertility has declined since the departure of the previous coordinator. Currently, efforts are underway to address this issue by documenting fertility-related knowledge and creating resources that nurses and physicians can utilize to maintain quality care. By establishing documented best practices, the clinic aims to enhance the consistency and effectiveness of care delivery, ensuring that clients receive consistent quality care.

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[2] “Ultrasound clinic” refers to the period when the physicians perform 5 early pregnancy ultrasounds and 3 sonohysterograms.

[3] Tracking in this instance refers to follicular tracking, monitoring, and ultrasounds for those who are doing timed intercourse or IUI/IUI/IVF cycles.

[4] These physicians also have other work in the operating room (OR) and case room, serve on Memorial University’s faculty and help train medical residents, and have their own clinic where they offer Obstetrics and Gynecology (OB-GYN) services.

Not exclusive to nurses, interviews revealed conflicts between clinical staff, and while the CWH manager has helped in resolving these conflicts, these conflicts continue to exist. As noted previously, the CWH manager is not exclusively responsible for fertility, meaning their responsibilities leave the clinic without a manager on-site.

Lab Staffing

Current staffing within the NLFS lab includes:

- 1 Permanent Full-time MLT I
- 1 Permanent Full-time MLT IIB
- 1 Permanent Full-time MLT IIIA
- 1 Scientific Director (consultant role)

One of the MLTs is pursuing a master's degree to become an embryologist while working full-time. If IVF were offered in the province, she would be ready to work as an embryologist upon completion of her program.

Some areas within the lab are currently operating below optimal efficiency. While reviewing documentation, it became clear that lab staff spend too much time on clerical work. Additional administrative staff, such as an Medical Service Aid (MSA), may be required to allow lab personnel to focus on their core responsibilities.

Service Delivery

Key Highlights

- NLFS offers a range of fertility services. IVF is not offered but out-of-province referrals for IVF are provided.
- In 2023, NLFS provided 568 IUI cycles.
- Clients are prioritized based on factors such as medical need, with wait times ranging from immediate to 9 months.
- Feedback from past and present clients highlights the dedication of NLFS staff and physicians providing care at NLFS.
- Several service delivery challenges include limited capacity for initial consultations, delays in blood work processing, and overprovision of IUI cycles
- Gender inequity in fertility preservation options exists for transgender individuals and cancer patients.
- Inadequate psychological support tailored to fertility client needs, is hindered by limited capacity.

Services

Currently, NLFS provides the following fertility services: [3]

- Pre-conceptual counselling (counselling prior to becoming pregnant).
- Fertility investigations work-up including history, physical examination, blood work, genetics, semen analysis, uterine cavity assessment, tubal patency testing, etc.
- Follicular tracking for timed intercourse (TI), intrauterine insemination (IUI), and therapeutic donor insemination (TDI) cycles.
- Out-of-province referral, satellite monitoring and follow-up for IVF, frozen embryo transfer (FET), and third-party reproduction (donor egg/embryo/gestational carrier cycles).
- Medication teaching/support for client administration/injection.
- Fertility treatment cycle guidance via nurses' telephone advice line.
- Early pregnancy ultrasound/assessment.
- Prenatal care.

- Fertility preservation: consultation and work-up for on-site sperm banking through the laboratory services (e.g. medical reasons such as oncology clients, transgender clients, etc.); consultation, work-up, and applicable referrals for egg banking in collaboration with IVF centres.
- Gynecology consultation and treatment at the physician's discretion.

It should be noted that IVF and egg freezing or storage are currently unavailable within the province.

Service Utilization (IUI Cycles Per Year)

In 2023, 568 IUI cycles were provided within the province; a breakdown of this number can be seen in Table 1 and Figure 3 below.

Table 1. Number of IUI cycles per month

Month	Sperm Wash	Donor Thaw	Total IUI
January	26	5	31
February	46	10	56
March	50	9	59
April	37	6	43
May	39	13	52
June	35	7	42
July	38	8	46
August	36	8	44
September	46	8	54
October	42	8	50
November	48	6	54
December	33	4	37
Total			**568**

Figure 3. Total IUI cycles per year

Clinic Operating Hours

The clinic delivers services during standard business hours from Monday to Friday, typically from 8:00 AM to 5:00 PM. Weekend operations are limited, with the clinic closed on Sundays.

Weekend operations are organized to accommodate essential procedures and client care services. An RN is available on Saturdays to conduct inseminations and manage incoming calls on the nurses' line. The PCC does not work Saturday shifts. As noted previously in the Health Workforce section, there are no REIs available on weekends and Tuesday or Thursday afternoons. Additionally, clerical staff are not available on Saturdays.

The laboratory operates under an 'on-call' arrangement on Saturdays; hours worked are considered overtime. On Saturday, MLTs are primarily tasked with preparing sperm samples for scheduled inseminations as per physicians' directives. The timing of laboratory activities is contingent upon client caseloads.

Waitlist Prioritization

The waitlist for IUI has decreased since the clinic's reopening following the pandemic in 2020. The current waitlist is 4-5 months, and clients are prioritized based on several key factors. Prioritization of groups and assigned target times can be seen in Table 2 below.

Table 2. Triage groups with reasons for referral and target turnaround times

Assigned Priority	Reason For Referral	Target Time
P1	Assigned Male at Birth Fertility Preservation (Oncology)	0-7 days
P2	Advanced Maternal age > 40 Fertility Preservation (Medical Surgical/Other)	7-30 days
P3	Advanced Maternal Age > 35 Transgender Fertility Preservation Known Reduced Ovarian Reserve Oligo/Anovulation Known Male Factor Known Tubal Disease Recurrent Pregnancy Loss	30-60 days
P4	Trying To Conceive > 1 Year No Other Identified Risk Factors Cryopreservation (Social)	60-90 days
P5	Trying To Conceive < 1 Year With No Other Identified Risk Factors	9–270 days

Fertility Care Pathway

Generally, the fertility journey follows a similar client pathway for each client that avails of services. First, a referral is sent on behalf of the client. Usually, the referral source is a family physician, consultant physician, or nurse practitioner. Currently, clients do not receive confirmation that a referral has been received or any pre-consult education information or guidance during the waiting period between their referral and initial

consultation. In some cases, referrals were missed and not caught for extended periods because a referring healthcare provider mistakenly believed the form had been received. Once a referral has been received, client wait times are determined by a prioritization process that considers several factors related to medical needs. Following time on the waitlist, which is currently 4-5 months, a client then has an initial consult, followed by the appropriate investigations, after which a follow-up appointment is made to prepare for treatment. After treatment occurs, if a client has a positive pregnancy, pregnancy care starts; if not, the client returns to have another follow-up appointment to prepare again for treatment. Alternatively, at any point, a client can choose to travel outside of the province for IVF treatment.

Most clients who have received care through NLFS feel that the staff provides high levels of care. Respondents to a survey conducted with past and present clients of NLFS praised the dedication and expertise of the clinic's staff and physicians, highlighting the value of their skills and the positive impact they have on client experiences. However, several challenges have been identified within the current service delivery framework.

Service Delivery Challenges

Clients and staff noted several service delivery challenges. These challenges include limited capacity for initial consultations, delays in blood work processing, overprovision of IUI cycles, inequity in service provision, and a lack of sufficient psychological support tailored to the needs of fertility clients.

Limited Capacity for Initial Consultations:

Initial consultations within the province are constrained by limited capacity, resulting in delays for clients seeking fertility care. Current capacity limits are impacted by both space, equipment, and availability of REIs.

Delays in Blood Work Processing

Clients experienced increased wait times due to delays in processing blood work, decreasing the overall efficiency of service delivery.

Overprovision of IUI Cycles

The provision of IUI cycles per client exceeds industry norms, which may be attributed to the absence of IVF services in the province and the fact that IUI treatments are insured.

Inequity in Service Provision

Gender inequity currently exists in service provision, with individuals seeking to preserve sperm having access to fertility preservation services within the province, while no equivalent process is available for those wishing to preserve eggs. The procedure for ovarian stimulation and egg collection mirrors that of IVF, which is currently unavailable in NL.[4] For sperm preservation, a sample is obtained through ejaculation and undergoes a washing process to separate sperm cells from semen before freezing for future use.[5] In contrast, egg preservation involves a more complex and invasive process. Individuals must self-administer hormones over 10 to 12 days to stimulate egg development, with frequent blood tests and ultrasounds to monitor progress. Following maturation, an outpatient surgical procedure under anesthesia is required to retrieve the eggs. Subsequently, the eggs undergo vitrification, a rapid freezing process using liquid nitrogen.

Transgender individuals who wish to preserve their eggs do not currently have available options within the province. Similarly, clients who are facing cancer diagnosis or treatment do not currently have access to timely egg preservation services. The urgency of cancer treatment may not align with the time required to travel out of province to undergo egg freezing, and in some cases, flying is not advised for cancer patients, further complicating the decision-making process regarding fertility preservation.

Overall, the lack of accessible and timely fertility preservation options within the province can significantly impact the reproductive autonomy and future family planning of individuals wishing to preserve their eggs. Transgender individuals and clients facing cancer diagnosis or treatment are particularly vulnerable to inequitable access to fertility preservation.

Psychological Support

Presently, the responsibility within NLFS for psychological care primarily falls upon a single clinical psychologist whose duties span multiple areas within women's health services, of which supporting clients dealing with infertility is just one aspect. Clients and NLFS staff have identified this limited capacity as a significant resource gap in psychological support, indicating that the existing resource is not able to dedicate sufficient time to the fertility service to meet client needs. Fertility challenges, particularly in the context of undergoing IVF treatments, can impose significant emotional strain. The process is inherently stressful and emotionally demanding. Recognizing the critical role of emotional well-being in overall health and treatment experiences, it's evident that

additional psychological support is needed. Specifically, clients have expressed a desire for additional mental health resources tailored to the challenges they face during fertility treatments. This sentiment was echoed by NLFS staff, who emphasized the importance of additional psychological support resources possessing an understanding of the unique needs of fertility clients. It's worth noting that psychological services and psychologists are in very high demand across services.

Medical Facilities and Products

Key Highlights

- The current facility lacks sufficient lab space, increasing contamination risks and compromising safety protocols.
- Current equipment and facilities can accommodate the completion of 5 IUI cycles per day, demand can exceed this number.
- New cryogenic storage tanks are required due to NLFS nearing the current storage limit, and a policy is needed to efficiently manage sperm storage.
- Upgrades such as phase-contrast microscopes and additional laminar flow hoods are needed to allow for improved diagnosis and processing efficiency.

The fertility service lab currently resides within the Major's Path facility, where the lab operates with insufficient space to accommodate the necessary equipment, increasing the likelihood of contamination. Improper positioning of equipment due to space restrictions can disrupt airflow patterns in the lab, compromise safety protocols, and hinder access to necessary tools during procedures. The inability to maintain adequate segregation between equipment can also compromise the sterility of the environment, leading to decreased success rates and increased risk of failed treatments.

Currently, NLFS is able to complete 5 IUI cycles per day. Occasionally, demand is over 5 IUI cycles per day, and this is handled through staggering staff shifts and keeping staff late. An additional laminar flow hood is required to allow staff to complete more than 5 IUIs per day. A laminar flow hood is a crucial piece of equipment in fertility labs for maintaining a sterile environment during certain procedures, particularly those involving the handling of embryos or gametes (sperm and eggs). An additional hood would double capacity, allowing NLFS to meet current demand and expand to meet future needs. Additional equipment would also be needed if IVF were brought into the province.[5]

[5] It should be noted that requests to purchase the equipment listed in this section have been made but not approved.

New cryogenic storage tanks are needed as storage limits are near being reached; in addition, some tanks are getting close to their recommended replacement date. It should be noted that currently, there is no policy informing the length of time sperm can be stored, and sperm is stored at no cost to the client, which has led to some samples being stored for longer than may be needed.

Phase contrast microscopes with a teaching head have been requested to allow for the most up-to-date analysis of sperm quality and to improve diagnosis and, in turn, treatment outcomes.

Health Information Systems

Key Highlights

- Challenges exist sharing information easily with clinics outside the province and between other specialists and physicians within the province.
- Information necessary for clients is scattered across various sources and channels, making it difficult to navigate effectively.
- Some clients feel uncertain about their prioritization within the clinic's system, leading to anxiety and perceived discrimination. Despite clinic policies, there's a lack of transparency that leaves clients dissatisfied and confused about their place in the system.

Despite managing the paper system well, fertility clerical staff, specialists, and other physicians collaborating with NLFS have noted that paper records take more work to find, manage, and share. Information sharing with clinics out of the province, particularly in other countries, and information sharing between private and public clinics is particularly challenging within fertility in the province.

Another significant challenge clients encounter is accessing clear and comprehensive information about their fertility journey. Many clients report a lack of clarity regarding what to expect throughout the treatment process, including whom to contact for specific inquiries or assistance at different stages. This ambiguity often results in frustration and delays in accessing necessary information or support, adding to the stress of undergoing fertility treatments.

While the information clients need is available, it is often fragmented, scattered across different sources, and accessed through varying channels. As a result, clients may struggle to locate the information they require to navigate their fertility journey effectively and confidently.

A small number of clients also shared that they feel uncertain about how they are prioritized within the clinic's system. The perceived lack of transparency regarding prioritization criteria can leave clients feeling anxious and, in some cases, discriminated against due to personal characteristics. The clinic’s policies aim to ensure fairness and

prioritize patient needs in determining wait times. While the clinic strives to be transparent by making information on wait time determinants publicly available, it appears that some clients may not easily access or understand this information. Without clear communication regarding appointment scheduling and urgency criteria, clients may find it challenging to navigate the system, potentially resulting in dissatisfaction with the clinic's services. Clients may struggle to understand their place in the system, leading to feelings of dissatisfaction with the clinic's services.

Health Services Financing

Key Highlights

- NLFS offers both services that are insured under the provincial healthcare plan (MCP) and services that are not insured.
- Some of the uninsured services are delivered at no cost to the client, while others are delivered for an out-of-pocket fee.
- The budget for fertility services in the province for 2022-2023 was $1,104,630, with actual spending exceeding this at $1,325,261.
- The NL Fertility Subsidy Program offers up to $5,000 per IVF cycle, for a maximum of three cycles per person.
- From May 2022 - May 2023, ninety eight per cent (98%) of the annual subsidy budget of $750,000 is being utilized.
- NLFS charges below-market rates for some out-of-pocket services.
- Invoicing for out-of-pocket expenses, instead of collecting payment at the time of service, has resulted in a significant number of unpaid bills totaling $35,000.

Currently, NLFS provides both insured and uninsured services. Some of the uninsured services are delivered at no cost to the client (as their costs are covered by the annual operational budget), while others are delivered for an out-of-pocket fee.

Physician assessments and investigations related to diagnosing infertility are considered insured services under provincial public insurance plans. In contrast, services for which clients are charged include the washing of sperm and the thawing of cryopreserved sperm, and the storage of cryopreserved sperm.

Examples of the cost of these services that clients must pay for out of pocket are provided in Table 3.

Table 3. Out-of-pocket clinic services and associated prices

Service	Price
Sperm wash	$75.00
Sperm wash and thaw	$200.00
Freezing and 3 years of storage for trans and cancer clients	$350.00 initial $50.00/year after
Storage of donor sperm	No Fee

Currently, clients do not pay an annual fee to store donor sperm at NLFS.

Instead of paying at the time of the services, clients are currently invoiced for any out-of-pocket expenses resulting from services delivered through NLFS; this is time-consuming and has resulted in late or unpaid invoices totalling $35,000 as of December 2023.

It is noteworthy that the expenses incurred by NL residents for these services are lower than those incurred by residents of other provinces for the same services. While this may result in clients receiving fertility services at a lower cost, many are unaware that these rates are substantially lower than national averages. It is important to note that although service costs are low, some clients must travel across the province to access these services, thereby increasing their overall expenses. Additionally, the absence of in-province IVF services necessitates costly travel for IVF treatment, in addition to the high cost of IVF as a fertility treatment.

As previously noted, NL does provide a subsidy to help with the cost of IVF. Newfoundland and Labrador offer up to $5,000 per IVF cycle for a maximum of three cycles, or $15,000 total, throughout the patient's lifetime. From May 2022 - May 2023, 98% of the total government budget of $750,000/year was used.

To be eligible for the subsidy, an individual must hold a valid MCP card; be a client of NLFS and receive their referral for IVF treatment from NLFS; be followed by NLFS for the duration of their pregnancy achieved through IVF; and not previously received a provincial subsidy for more than three cycles of IVF.

If a client meets the eligibility criteria, in particular, if they decide to pursue IVF at a fertility clinic in Canada and are referred by NLFS then they can receive a subsidy of up to $5000 per round of IVF for a maximum of three rounds per resident; if they do not meet eligibility criteria (e.g., they are not referred by NLFS to a Canadian fertility clinic or chose to pursue IVF in another country), they are not eligible for the subsidy. Table 4 details the number of people who availed of the IVF subsidy.

Table 4. Number of subsidy applications May 2022 - May 2023 and total funded released per application round

	Application Numbers %	Total Funds Released
First Application	114 Applications (70%)	$527,452.35
Second Application	41 Applications (25%)	$172,645.76
Third Application	8 Applications (5%)	$37,784.09
Totals	163 Applications	$737,882.20

Current Budget - Clinic and Lab

The total budget for fertility services in the province for the 2022-2023 fiscal year was $1,104,630; in the same year, the actual amount spent by the province on fertility services was $1,325,261. Tables 5 and 6 below detail the breakdown of budget and actual spending per year within the fertility clinic and lab in the province. Other fertility expenses within the province also include the lease of the clinic and lab, which together are approximately $170,000.

Compensation of the clinic staff includes the salaries of all clinic staff other than the physicians, as the physicians bill MCP for the services they deliver. It also does not include the portions of the salaries for NLHS management, NLHS budget analysts, NLHS health and safety personnel, or provincial government staff that regularly work to support the fertility clinic.

Compensation of lab staff includes the salaries of all lab staff but does not include the current scientific director’s fees or portions of the salaries for NLHS management, NLHS budget analysts, NLHS health and safety personnel, or provincial government staff that regularly work to support the fertility lab.

Also, it should be noted that even while going over budget, the clinic and lab still have equipment needs that are not being met. Additionally, as mentioned in the above section, the NLFS team would need an additional MSA and more nurses even if IVF was not brought into province to keep up with increasing IUI demand, which means current expenses are under the actual necessary budget.

Table 5. Current Clinic Budget: April 2022 - March 2023

	Annual Budget	Mar Ytd Act	Mar Ytd Var
Compensation	$609,626	$656,332	($46,706)
Drugs	$100	$181	($81)
Medical/Surgical Supplies	$41,007	$61,063	($20,056)
Other Supplies	$63,552	$71,362	($7,810)
Total	$714,285	$788,937	($74,652)

Table 6. Current Lab Budget: April 2022 - March 2023

	Annual Budget	Mar Ytd Act	Mar Ytd Var
Compensation	$294,265	$375,229	($80,964)
Drugs	$0	$14	($14)
Medical/Surgical Supplies	$2,463	$11,282	($8,819)
Other Supplies	$93,617	$149,799	($56,182)
Total	$390,345	$536,324	($145,979)

Current State: Summary of Strengths and Limitations

The current landscape of fertility services in NL exhibits both strengths and limitations. Understanding these aspects is crucial for enhancing the efficacy and accessibility of fertility care in the province.

Table 7. Summary of NLFS Strengths and Limitations

Strengths	Limitations
Standards and Quality of Care	Organizational Silos
Effective Clinic Leadership	Service Gap and Efficiencies
Dedicated and Skilled Staff	Staffing and Training Needs
Subsidy for IVF Treatment	Limited Psychological Support Capacity
	Gender Inequality in Service Provision
	Space Needs
	Equipment Needs
	Reliance on Paper Records and Information Sharing
	Client Communication and Inclusivity
	Exceeded Budget

Strengths

Standards and Quality of Care: Both the lab and clinic are currently accredited ensuring that both adhere to high-quality standards and best practices.

Effective Clinic Leadership: Despite organizational silos, the clinic benefits from strong leadership.

Dedicated and Skilled Staff: Past and present clients praised the dedication and expertise of the clinic's staff and physicians.

Subsidy for IVF Treatment: Although IVF is not currently available within the province, the provision of a subsidy for IVF treatment helps alleviate financial burdens for individuals and couples pursuing IVF treatment by covering a portion of the treatment expenses, including travel costs. The subsidy alleviates some of the financial stress and barriers that patients may face, which is exacerbated by having to travel out of province for IVF.

Limitations

Organizational Silos: The system's highly siloed structure impedes integrated decision-making and can lead to communication gaps and inefficiencies in resource allocation. This structure makes it difficult to identify specific responsibilities.

Service Gap and Efficiencies: The challenges in service delivery include IVF not being offered at NLFC, limited capacity for initial consultations, delays in blood work processing, and overprovision of IUI cycles. Wait times have been reduced since 2020 and are currently at 4 or 5 months. Addressing these challenges requires strategic interventions to optimize resource allocation, streamline processes, and enhance service quality and timeliness.

Staffing Needs: There are occasions when there is only one nurse available to clients at the NLFC. There is also a call for additional administrative staff, particularly to alleviate the workload associated with administrative tasks currently being performed by lab personnel. Hiring an MSA would allow lab personnel to focus more on their core responsibilities and enhance overall operational efficiency.

Limited Psychological Support Capacity: The emotional toll of fertility treatments underscores the necessity for expanded psychological support. Both clients and NLFS staff highlight the need for tailored mental health resources that understand the specific challenges of fertility journeys. NLFS currently relies on a single clinical psychologist to address psychological needs across various women's health services.

Gender Inequity in Service Provision: Disparities in access to fertility preservation options underscore significant gaps in service provision, particularly for individuals who require egg freezing to preserve fertility. This service inequality is particularly impactful for transgender individuals and oncology patients.

Space Needs: The existing lab space is not sufficient to properly place the existing equipment. Insufficient space compromises sterility, risking decreased success rates and increased treatment failure.

Equipment Needs: There are equipment requirements that remain unfulfilled within the fertility service. New cryogenic storage tanks are required to address nearing storage limits and the expiration of some tanks. The acquisition of a phase contrast microscope with a teaching head is essential to ensure advanced sperm analysis, leading to improved diagnostic accuracy and treatment outcomes. Additionally, an extra laminar flow hood is indispensable for accommodating the growing demand for services, enabling concurrent processing of multiple samples, and maintaining the sterility required for critical procedures. The shortage of this crucial equipment not only hampers current operations but also jeopardizes the service's ability to meet evolving patient needs and industry standards.

Reliance on Paper Records and Information Sharing: The reliance on paper records poses significant challenges in information management and collaboration and information exchange with other health care providers limiting continuity of care and data integration efforts. Information sharing with clinics out of province, in particular in other countries, and information sharing between private and public clinics is particularly challenging within fertility in the province.

Client Communication and Inclusivity: Information access for clients is lacking to help them understand their fertility journey and inform them about policies, where to get information, and actions they can take while waiting for an initial consultation. Clients do not perceive that the services prioritize inclusivity and identified a need for improved trauma-focused, patient-oriented care practices.

Exceeded Budget: NLFC expenses currently exceed the services allotted budget.

CLIENT VOICE

Client Voice

Acknowledging the importance of client voice in shaping policy and service provision, an online survey was distributed to current, past, and prospective clients to provide an opportunity to gain a better understanding of their experiences, challenges, and needs.[6]

In total, 114 residents of NL completed the survey. At the time of the survey, 43% of respondents were current patients of NLFS. Past patients of NLFS accounted for 28% of the sample, 11% were waiting for an assessment, 11% were not currently nor had ever been a patient of NLFS, 4% considered treatment but did not proceed, and 3% did not specify.

Barriers to Care

When asked whether they had faced challenges in accessing fertility services, 81% of respondents said “Yes”, indicating that they had faced challenges. The following is a summary of the challenges experienced by current, past, and prospective clients of NLFS.

Table 8. Barriers to Fertility Care for NL Residents

Logistical Barriers
• Long wait times for initial consults, appointments, tests, diagnosis, and treatment. • Scheduling challenges (e.g., no choice in when appointments are scheduled, clinic only operational on certain days, uncertainty around travel time required due to variable treatment timelines). • Clinic coordination challenges (e.g., sending of sperm, paperwork, and lab results). • Access and timeliness of blood work, which was worse for individuals residing in rural areas.

[6] This section contains a summary of the key findings. To review all of the findings from the client survey please see Appendix A.

Financial Barriers
• Cost (e.g., travel within and outside of province, treatment, inadequate subsidy, lack of upfront financial support, medication, donor sperm, etc.).
Systemic and Institutional Barriers
• Limited services (e.g., IVF and egg or embryo preservation are not offered in the province). • Lack of 2SLGBTQI+ informed care, feedback described that the system is heteronormative, and has non-inclusive environments, language, forms, and processes. • Lack of information and resources on fertility services. • Lack of mental health support for fertility clients.
Social and Personal Barriers
• Challenges accessing fertility services due to lack of family doctor/NP. • Difficulty balancing work and home demands (e.g., unable to get adequate time off work, limited sick leave, missed pay, no childcare, etc.). • Age and weight (BMI) restrictions.
Communication and Cultural Barriers
• Inconsistency among physicians and staff with regard to their level of compassion.

Emotional and Psychological Support

When asked to rate the emotional and psychological support provided during their fertility treatment, 18.5% of current and past clients indicated it was excellent, 18.5% said good, 34% said it was average, 23% rated it as poor, and 6% indicated emotional and psychological support was very poor.

Emotional and psychological supports that would have been beneficial during treatment are included in Table 9. The resources that clients felt would have been beneficial fell into three categories: improved communication; emotional support, and psychological assistance.

Table 9. Beneficial Emotional/Psychological Supports

Improved Communication	Emotional Support	Psychological Assistance
• Patient navigator or clinically informed point of contact • Regular updates while on the waitlist • Phone call check-ups	• More empathy or compassion from physicians, nurses, and staff • Acknowledgments of past trauma/experience from physicians and staff during appointments • Support groups or online peer support groups organized or offered or promoted by NLFS	• A list of resources (i.e., psychologists, therapists, counsellors) with training in fertility issues or trauma • Counselling or access to a psychologist or social worker •

What Worked Well

When current and past patients were asked what worked well during their fertility services experience(s), they indicated the value and skill of excellent staff and physicians, and living in close proximity to the clinic is what made their experience better.

All respondents were asked how well the fertility services offered by NLFS met their needs. Forty-seven per cent (47%) reported that current fertility services did not meet their needs. Thirty per cent (30%) said their needs were met moderately well by the services offered, 15% said current services met their needs very well, and 6% felt current services met their needs extremely well.

Over half (59%) of respondents felt the current services were not meeting the needs of diverse groups, 33% felt their needs were met moderately well, and 7% felt the needs of diverse groups were met very or extremely well by the current service offerings.

The number one reason respondents gave for being unsatisfied with their treatment outcomes is the amount of out-of-province travel required to access IVF treatment. Other reasons for dissatisfaction included treatment not resulting in pregnancy or live

birth, lack of alternative treatment options such as IVF, prolonged wait times, poor continuity of care following pregnancy loss, and lack of resources.

How Could Services Be Improved?

The number one suggestion when asked, “How could services at NLFS be improved?” was to increase access and availability of fertility services in and across NL by bringing IVF into the province. The second most common suggestion was to reduce cost barriers, and the third was to reduce the wait times by streamlining and speeding up the diagnostic, referral, and treatment processes. Other suggestions for improvement included offering more mental health support, ensuring continuity of care, improving consistency of care and access to time-sensitive testing, privatizing fertility services, and improving the ability of staff to provide 2SLGBTQIA+ care.

LITERATURE REVIEW

Literature Review

A review of existing literature related to the delivery of fertility care was conducted (e.g., academic studies, policy documents, clinical guidelines, government reports, and media sources). The focus of the review was to identify best practices and areas for improvement in fertility care with a specific focus on the Canadian context. The evidence synthesized from this review informs the recommendations and strategies for improving the province's fertility services outlined in this report and supports decision-makers, policymakers, and health care providers by providing a thorough understanding of the available evidence.

The Canadian Context

Public health care refers to a model of care in which medical services are provided by the government using public funds. The public health care system in Canada is supported by the Canada Health Act, which is the federal legislation that outlines the principles and criteria that provinces and territories must adhere to in order to qualify for federal funding for their provincial health insurance programs. Each provincial and territorial health insurance plan must cover **medically necessary** hospital and doctors' services that are provided on a prepaid basis, without direct charges at the point of service.[6]

The Canada Health Act does not provide a clear definition of 'medically necessary' treatments but notes that they are those essential for maintaining health, preventing diseases, or diagnosing and treating injuries, illnesses, or disabilities.

The provinces and territories have the ability to decide what is and is not medically necessary. Although some parts of fertility care are commonly covered by all of the provincial health programs across the country (e.g. initial consultations and investigations leading to a diagnosis of infertility), IVF is still not considered medically necessary using the Canada Health Act definition in most provinces. Apart from Quebec, funding support currently lies with a program that is outside of provincial insurance coverage.

Though decisions regarding the inclusion of fertility treatments in provincial health coverage are made locally, federal initiatives indicate a growing recognition of the

importance of fertility care. The Federal Minister of Health's mandate letter in 2021 included a statement to commit to working towards ensuring that Canadians nationwide have access to essential sexual and reproductive health services, including establishing a portal for sexual and reproductive health rights information and assisting families with IVF costs.[7] In addition, in 2023 the federal government committed $36 million over three years to bolstering reproductive care.[8]

Reproductive care encompasses a wide range of services, but for many Canadians experiencing infertility, it often involves Assisted Human Reproduction (AHR). In Canada, AHR care, specifically, is regulated by the Assisted Human Reproduction Act.[9] Health Canada is responsible for the administration and enforcement of the act that is designed to "protect and promote the health, safety, dignity, and rights of Canadians who use or are born of AHR technology". The act outlines prohibited and ethically unacceptable acts within AHR in Canada and provides guidance on legislation regarding the handling and use of gametes, the reimbursement of surrogate mothers, and the need for informed consent.[10]

The Case for Fertility Care

Canada's fertility rate has been steadily declining since 2009.

[11] Infertility affects 1 in 6 Canadians and has been found to have a profound impact on mental health and quality of life.[12] [13] [14] Advancements in ART have markedly improved outcomes for individuals facing infertility, and the contribution of ART to total birth rates has been steadily increasing. In some countries, ART accounts for as much as 8% of all births.[15]

It is important to note that beyond the medical perspective, members of the 2SLGBTQI+ community and single individuals require fertility care to fulfill their goals of starting a family, further highlighting the diverse range of people affected. [16]

Barriers in Access to Care

While ART serves as a viable solution for individuals unable to conceive without medical assistance, the process of accessing such care is fraught with numerous obstacles. From significant financial burdens to geographical constraints, individuals encounter formidable barriers on their path to seeking fertility treatment.

Financial Barriers

The substantial cost of ART presents a significant barrier for many individuals seeking assistance with infertility. IVF in particular comes with a substantial financial burden, typically ranging from $10,000 to $20,000 per cycle.

[17] Achieving successful fertility outcomes can require multiple cycles, further exacerbating the financial strain. Since many insurance companies do not cover IVF or other fertility treatments, individuals without alternative financial support face an extraordinary financial burden. [18] A study of 1,944 individuals (infertile patients or partners of infertile patients) across 9 countries found that perceived cost prevented 37.5% of infertile patients from seeking treatment, while 34.7% of those who initiated treatment discontinued it due to the financial impact.[19]

Health care policymakers in many countries are trying to remove financial barriers to accessing ART for patients who cannot afford to pay out of pocket for the procedure.[20] The amount patients have to pay for ART affects both how easily they can access care and how many embryos are transferred during the treatment.[21] Funding conditions can have a significant impact on positive outcomes and costs to the overall health care system by regulating how many embryos are transferred during IVF, to reduce the incidence of multiple births. In 2009, an expert panel convened by the government of Ontario found that the high cost of private IVF contributed to elevated rates of multiple births, as patients often opted for multiple egg transfers knowing they may only be able to afford a single round of IVF.

The Ontario fertility program which provides funding for one round of IVF, only allows for one embryo transfer under its mandatory single embryo transfer policy. This is meant as both a safety and money-saving measure, aimed at cutting the roughly 30 per cent multiple-birth rate that results from IVF. Single embryo transfer has been recommended in the literature as good practice, tying single embryo transfer to funding is a way to encourage single embryo transfers. [22] [23]

While it makes sense to tie funding for ART to safer practices to lower the medical costs associated with multiple births, the primary goal of offering financial support is to improve access to fertility treatments. Research has found that sufficient financial support for ART does improve access. A US-based study conducted in 2018 examined the per centage of births stemming from ART and found that for states with comprehensive insurance mandates for infertility treatment, 4.5% of births were [provided using ART compared to less than 1% in states without coverage.[24]

Financial support can take various forms, for example, public funding programs, tax rebates or credits, and insurance coverage mandates. However, not all types of funding are equally effective at increasing access to fertility care.

In Quebec, various types of funding have been offered to residents availing of fertility services over the past 20 years. Quebec started to offer a tax credit to support residents availing of fertility services in 2000, they switched in 2010 to offer support for up to three full IVF attempts. The three-cycle coverage was cancelled by the government in 2015, it was claimed as unsustainable, and the publicly funded IVF program ended. The 2015 funding program was replaced with tax credits for one full IVF attempt.[2526] The switch to the tax credit from funding three cycles of IVF drastically decreased access to services. Only Quebec residents without children could access the tax credits, which ranged from 80 per cent to 20 per cent of costs depending on income. A year after the funding changes went into effect, the number of IVF procedures greatly decreased.[27] Quebec switched to, and is currently, funding a single IVF cycle as of 2021, under the medically assisted reproduction (MAR) program which provides a medical solution for people unable to conceive a child.[28] If a person is not eligible for Régie de l'assurance maladie du Québec (RAMQ), the provincial insurance program, and has to pay out of pocket, they are still eligible for tax credits that will cover between 20 and 80 per cent of the costs, not surpassing $20,000 per year depending on their income.[29] This example makes it clear that there is a difference between a rebate and a funding program that does not demand the individual to carry costs but provides funding up front. This case highlights the distinction between tax rebates and being able to access care without upfront payment in increasing access to fertility care.[30]

Geographic Barriers

As financial support for fertility care becomes more widespread, the proximity or distance from a fertility clinic is poised to be the next major challenge preventing access to fertility care. ART requires access to specialized fertility clinics equipped with state-of-the-art technology and experienced medical professionals. In some regions, especially rural areas or developing countries, these facilities may be limited or unavailable, requiring patients to travel long distances to access them. A scoping review analyzing barriers to accessing ART across numerous studies revealed that geographical location was the most cited barrier, highlighted in 11 of the 19 studies reviewed.[31]

Clients will typically visit the fertility clinic a few times throughout a cycle. For some patients who do not have a fertility clinic nearby, this can mean a loss of income as a

result of periods of time away from work, not having access to a support system while undergoing a procedure, and additional costs related to travel.[32]

For oncology patients seeking fertility preservation, the distance from a fertility clinic can extend far beyond mere inconvenience. Certain aspects of cancer and its treatments can render travel, especially by air, not only challenging but potentially hazardous. For instance, low platelet or red blood cell counts may preclude safe air travel. Consequently, patients experiencing these symptoms who wish to undergo fertility preservation may have to forgo air travel altogether.[33] Asking oncology patients to undertake air travel for fertility preservation procedures could expose them to additional risks, such as blood clots or infection, compounding the already significant barriers faced by those not located near a fertility clinic. [34]

In Atlantic Canada, only three clinics offer IVF, meaning residents of NL often have to travel to other Canadian provinces for treatment.[35]

Age

The deliberate postponement of childbirth can be ascribed to various factors. However, IVF procedures undertaken by older clients assigned female at birth tend to yield fewer oocytes, and the resulting embryos exhibit reduced potential for successful implantation.[36] In many countries, there are age limits set on access to fertility treatment or financial support for fertility treatment.[37] In Canada, the Assisted Human Reproduction Act does not set out an upper age limit for accessing fertility care. However, individual provinces have set age limits on funding programs and insurance eligibility for fertility treatment.[38] For example, Ontario has an age limit of 43 for its IVF, while Quebec's age limit is 41.[39] The question of whether limitations should be placed on access to ART remains a subject of ongoing discussion within the realms of medicine, society, as well as ethics and law.[40]

Waitlists

A closely related issue to age is the impact of waitlists on a person’s ability to access care. One study that investigated nine countries (i.e., USA, Canada, UK, France, Germany, Italy, Spain, Australia, and China) identified an average 3-year wait before infertility diagnosis which can lead to reduced chances of success due to older age. The overall average times were 3.2 years to receive a medical infertility diagnosis, 2.0 years attempting to achieve pregnancy without assistance before treatment, and 1.6 years of treatment before successful respondents achieved pregnancy. Respondents reported

significant delays in seeking treatment, likely negatively impacting the chances of achieving pregnancy.[41]

Other Societal Factors

Research shows that barriers to accessing fertility services can be a result of inequity of access; for example, in the United States, economic, racial, ethnic, and other disparities affect both access to fertility treatments and treatment outcomes.[42] As seen above costs are a significant barrier to accessing fertility services; therefore, it is no surprise that economic factors contribute to inequity in access to treatment; however, social and cultural factors such as individual or systemic discrimination that disadvantage certain people because of their race, ethnicity, sexual orientation, or gender identity are also barriers to accessing fertility services.[43]

Systemic discrimination has been found to be a barrier to accessing fertility services.[44] Research shows that normative beliefs, heteronormativity, and cisnormativity, affect the health care received, and are barriers to fertility services for 2SLGBTQI+ individuals within Canada. The additional emotional labor and intentional decision-making can make availing of fertility services harder for these individuals.[45] Similarly, within English-speaking countries, stigmatization of fertility care, lack of infertility knowledge, language barriers, discrimination, and lack of institutional trust serve as barriers for minority and racial-ethnic groups seeking fertility treatments.[46]

Other barriers include psychological barriers to initiating or continuing ART, availability of health insurance or health insurance cost, lower education level, medication side effects, marital status, and HIV-positive status.[47]

Health Care Service Model: Private versus Public

Private health care delivery is frequently lauded for its efficiency and sustainability, contrasting with the commendation of public sector health care for its equity and accountability. Nevertheless, the notion that all public clinics or private clinics—whether for-profit or not-for-profit—are uniform in their operations is flawed. Each institution exhibits a unique performance spectrum and the debate over the benefits and risks of private vs. public health care is not limited to fertility care.

Although not specific to fertility services, a UK study examining the privatization of the NHS in England more broadly found that private-sector outsourcing corresponded with

significantly increased rates of treatable mortality.[48] A study focusing on access to care, procedural efficiency, administrative effectiveness, equity, and health care outcomes reveals that universal health care systems incorporating a blend of for-profit and not-for-profit care consistently outrank Canada.[49]

Both the UK and Spain provide fertility services within the public system and through private clinics offering an opportunity for research comparing both models within a consistent national context. In Spain, it was found that clients treated exclusively in private clinics had on average a higher cumulative incidence of becoming pregnant compared with clients who approached public clinics. Clients with both higher household income and higher education had a higher likelihood of accessing ART in a private clinic and a decreased tendency to access public clinics or fail to access any service.[50] Although all citizens have access to coverage under Spain's public health care program public clinics have very long wait lists leading to patients choosing private clinics to avoid the waiting period. [51] As noted previously, waiting periods for fertility treatment can significantly impact outcomes because success rates fall as clients age. In practice, about 75% of cycles are elaborated by private clinics, which are also responsible for nearly all donor eggs. Coverage for donor gametes and PGT is limited.[52]

A similar pattern can be seen in the United Kingdom where backlogs in waitlists for public health care treatments are preventing women from starting IVF and driving women to seek treatment at private clinics.[53] Another reason private clinics were increasingly chosen by clients in the UK, were add-ons. The ability to integrate novel techniques into treatments, and or offer services that could not be provided in an NHS publicly funded clinic can be beneficial to the treatment of clients. However many add-ons are not supported by conclusive evidence produced by randomized control trials and therefore cannot be offered in NHS clinics.[54] However, the need for add-ons and the potential risk they pose when often inadequately researched to determine their safety has been criticized in previous literature.[55] Add-ons have also been criticized for being an additional way in which clinics could charge clients fees for services that may not aid in their treatment.[56]

In an article explaining the transition from a pay out of pocket hospital-based public clinic to a private clinic in Alberta, one of the biggest concerns was that the public clinic operated on a cost-recovery model, while the private clinic charges on a for-profit basis. One of the doctors at the public hospital clinic noted many of their patients would not be able to afford the 20—25% higher fees at the private clinic. The transition of valuable staff and skills out of the public system to the private clinic was also a concern.[57] Patients involved in the move reported very high stress over the need to move to a

privately run clinic, even despite receiving reimbursement for the transfer cost from Alberta Health Services.[58]

A benefit of public clinics is the financial assistance they often provide. Public fertility care makes it easier and more equitable for people to access these services, particularly: [59]

- low-income earners
- people who need donor or surrogacy services, such as 2SLGBTQI+ and single people
- people who need fertility preservation due to medical treatment, such as people with cancer and people undergoing gender-affirming treatment
- people who need genetic testing because they are known carriers of medical conditions that may pose a threat to the life of their child.

However, it is important to note many of these benefits are directly tied to the fact that a public model of care addresses financial barriers. If financial barriers are reduced through financial support that would allow individuals to access fertility treatment at a private clinic without bearing out-of-pocket costs it would also result in reduced inequity.

When it comes to client satisfaction, a study in Sweden found differences in patient experiences of the care they received at private and public clinics with private clinics receiving higher patient scores. This research examined patients' perceptions of quality of 'medical care' 'staff respect/commitment and empathy'[60]

In terms of pregnancy rates as an outcome, a study comparing the differences between public and private clinical settings in Kazakhstan found that private clinics had a higher pregnancy rate than public clinics.[61] Research in Sweden found the same effect with a higher incidence of pregnancy in clients who received treatment at public clinics, however it was noted in the study that lower pregnancy rates at public clinics could be due to long waiting periods.[62]

Research that definitively illustrates the benefits or drawbacks of either model is scarce and there is no clear-cut consensus in the scientific or peer-reviewed literature regarding the universal superiority of either private or public health care in regard to patient care, outcomes, cost models, efficiency, or access.[63] [64] [65] [66]

Workforce

Establishing a Patient Navigator

Patient navigation is a patient-centred practice in which personnel help patients identify barriers, including financial, cultural, logistical, and educational obstacles to health care, and help them overcome these barriers to ensure they have access to health services.[67]

Previous research in the United States has displayed that patient navigation is increasingly effective for those receiving cancer care, including gynecologic oncology. Within these areas, patient navigation has been demonstrated to increase access to screening, shorten time to diagnostic resolution, and improve cancer outcomes, particularly in health disparity populations, such as with people of color, rural populations, and individuals who live in economically disadvantaged communities.[68]

The previous experience of US clinics highlights how a patient navigator can be useful in providing high-quality service to clients. A clinic in North Carolina, Duke Health, brought on a patient navigator to their Duke Onco-Fertility Program to help lower the barriers to access to care and increase awareness of fertility preservation innovations for both patients and providers. They explain that cancer diagnosis can be overwhelming to a patient, and avoiding any delays in treatment can be critical. Patients need to be seen quickly and told of their options. A patient navigator is able to help clients navigate that process alongside helping them navigate the expenses of ART which may not be covered by a patient's insurance and find the information and contacts they need. The navigator's expertise includes knowing what insurance covers and sometimes recommending creative ways to help the patient financially, including through charity care.[69]

Service Delivery

Patient-Centred Care

Patient-centred care is a critical component of all health care. Specifically with respect to fertility services. Patient-centred care increases the ability for care that is sensitive to clients' needs, values, and preferences. In many cases, infertility and undergoing fertility services can be emotionally challenging and burdensome, impacting client and family

mental, physical, social, and emotional health, and wellbeing, thus utilizing a patient-centred care approach can help overcome these challenges and support clients.[70] [71] In many instances, patient-centred care is used as a metric for measuring the effectiveness and quality of fertility care.[72]

Patient-Centred Care and Person-Centred Care as Best Practices

It is becoming increasingly evident that a PCC approach increases the opportunity for clients to be involved in decision-making processes regarding their care and provides additional "human" factors, such as emotional support when needed and/or preferred. A patient-centred approach is fulsome and comprehensive and goes beyond just the "effectiveness of [fertility] treatment".[73] While desired outcomes of fertility services, such as becoming pregnant, are often the main factor clients consider when thinking of the 'success' of their fertility journey, patient-centred care also plays a large role in shaping the client experience. By increasing both overall clinic and clinician focus on implementing patient-centred care, the quality of client care as well as client experience have the opportunity to be further optimized.[74]

Further to "patient-centred care" is "person-centred care" while both focus on increasing empathy, relationship building, and communication, person-centred care is broader by definition and considers a client's overall life (including a client's perceived meaningfulness of their life - which may be impacted by whether or not an individual/couple can have children) versus the "functional life" approach of patient-centred care.[75]

Various tools have been developed to improve person-centred care. A multidisciplinary team developed a practical evidence-based tool to help fertility clinics implement best practice in person-centred care. The tool included a range of topics such as the importance of a client care system in ART; benefits of patient-centred care for clients, staff, and the clinic; ways to communicate information to clients; informing about fertility treatment options; fertility awareness; men's needs; emotional support; benefits of a mentor program; how to support to staff; exit strategies; needs of clients seeking cross-border care; the fertility clinic' online communication; engaging clients in good and safe choices; and also how to care about clients undergoing a gamete donation treatment.[76]

The "Tell me" tool, consists of ranking and open-ended questions posed to couples seeking fertility treatment to assess their wellbeing as well as their experience with treatment (including factors such as mental health and shared decision-making). The tool aims to assess clients' priorities with respect to their treatment, as well as their

preferences and values. After testing, the tool showed a variation in client responses, indicating a variety of different values, and further highlighting the importance of a client-centred and, in this case, a person-centred care approach.[77] The tool is designed to both provide clients with an opportunity to further consider their own values and preferences but also allows care providers to ensure they are meeting the needs of their clients and providing the appropriate and necessary supports.

Emphasis On Trauma-Focused Patient-Oriented Care

Trauma-informed care involves recognizing how common trauma is, and to understand that every patient may have experienced serious trauma. Not necessarily questioning people about their experiences; rather assuming that they, as individuals may have this history, and acting accordingly to provide care in a way that supports their needs and makes them feel secure.[78]

Trauma-informed care in fertility is essential as certain aspects of the fertility journey may evoke intense emotions and memories in some individuals. To ensure that these concerns are handled with care, a trauma-informed approach can be taken by health care providers.[79]

One Canadian clinic TRIO has already implemented training in trauma-informed care for all staff members, to ensure that clients receive a high level of support and sensitivity throughout their fertility journey. They also offer a specialized Trauma-Informed Fertility Care program for patients who have trauma to avail of fertility treatments.[80]

While addressing the phase of reproductive health care that comes after ART, previous research in perinatal health has shown that the use of trauma-informed care by perinatal nurses is effective at creating safe care environments, establishing collaborative patient relationships based on trust, demonstrating compassion, offering patients options, when possible, to support patient autonomy, and providing resources for trauma survivors. These effects can prevent or reduce the negative impact of trauma and improve the health and well-being of patients.[81]

IVF, Egg Extraction, Preservation, and Storage in Province

Fertility on a biological basis has an inherently shorter timeline for clients assigned female at birth, and while these restrictions do exist, they can be lessened. Many biological aspects such as menopause and decreasing number of eggs create a small window for clients assigned female at birth to become pregnant.[82] The likelihood of conception begins to decline in the thirties, and by age 40 the probability is very low. It

should be noted that the mean age of mothers at the time of delivering a child is increasing in NL (i.e., 28 years old in 2002, 29 years old in 2012, 30 years old in 2022); women are having children at an increasingly older age.[83] Fertility preservation is a tool that can be used to avoid some of the decline, due to age, of fertility by removing eggs at a younger age with the intention of using these eggs in the future.[84]

Fertility preservation is also essential to the fertility of many groups within society. It is essential for oncology patients or those patients whose fertility is threatened by gonadotoxic treatments, disease, or surgery.[85] Chemotherapy can damage the ovaries so that the fertility of oncology patients is greatly decreased, while radiotherapy can damage both the ovary and the uterus.[86] Many cancer treatments (i.e., chemotherapy, radiotherapy, and surgery) and even cancer itself have detrimental effects on the male reproductive system. Therefore, fertility preservation is the only option to ensure an oncology patient can conceive a child in the future. [87]

Research has found that normative beliefs, heteronormativity, and cisnormativity, are barriers to fertility services for 2SLGBTQI+individuals within Canada, as the additional emotional labor and intentional decision-making can make availing of fertility services harder for these individuals.[88] These findings provide additional context for why fertility preservation is also key for trans and non-binary individuals. Stopping gender-affirming treatments to avail of fertility preservation can have serious consequences on an individual's mental health. [89] The use of hormones and gender-affirming treatments can have lasting effects on fertility, however, availing of fertility services can cause a resurgence of gender dysphoria. For this reason, having fertility preservation accessible and available for trans and non-binary individuals to avail of before commencing hormone treatment or surgery is best practice to ensure equity of care, and limit additional harm to their mental health. [90]

Additionally, there are benefits to keeping fertility treatments within the province. A few of these benefits are timeliness as treatments may be done faster, more quickly, and more on-demand as patients do not need to travel for care. Also, it is more costly for patients to travel for treatment, so having fertility services in the province removes an additional financial barrier.[91]

Even if treatment is timely and financially supported, transportation barriers can lead to rescheduled or missed appointments, delayed care, and missed or delayed medication use; affecting the quality of care patients receive.[92] Outside of transportation barriers, numerous barriers still exist when traveling for treatment including availability of time, childcare, difficulty navigating, physical discomfort, loan of a vehicle and transportation arrangements, significant energy expenditure, coordinating time off work, and arranging

overnight stays near a clinic. These barriers make traveling for care stressful and challenging for patients.[93]

Additionally, certain aspects of cancer and cancer treatments can also make air travel challenging or impossible (e.g., flying if your platelets are low or flying if your red blood cells are low). Patients with these symptoms wishing to avail of any treatments may need to do so without air travel. [94] Asking oncology patients to travel via air for needed fertility preservation is challenging as it may require them to take on additional risks (e.g., blood clots, infection) outside of the barriers of traveling.[95]

Mental Health Services for Clients

Counseling and education surrounding fertility are key parts of the client journey when availing of services. For example, traditional stress and coping models for heterosexual couples suggest appraisal and coping for both partners combine to produce relationship outcomes, irrelevant of whether those outcomes lead to healthier functioning or maladaptive dysfunction for the couple. However, this model may be too simplistic for couples who are experiencing infertility because of the context of treatment and gender differences in handling the stress of infertility.[96]

However, couples who receive infertility-specific social and therapeutic support show less distress than couples who do not receive infertility-specific support.[97] Similarly, couples who use meaning-based coping (i.e., coping strategies revolving around placing values and beliefs in and around their life experiences) experience the least amount of distress.[98]

Another potential approach is Emotionally Focused Couples Therapy (EFCT) which provides a holistic therapeutic approach to treating these couples through validating their experience, reinforcing empathic communication, and reframing their reproductive journey to find new purpose and meaning within their relationship through a more secure attachment.[99]

Support Groups

Some research into support groups shows their usefulness for those undergoing fertility treatments. An online forum reduced loneliness and allowed participants to learn new ways to manage stress. It was particularly beneficial for those with heightened psychological distress. Clients responded, ‘I felt less alone knowing I could contribute to

the forum', highlighting the need to have support for clients availing of fertility services.[100]

Inclusivity In Fertility Services

Improving access and equity should be a best practice in increasing the availability of fertility services. For example, US Fertility, the United States' largest partnership of physician-owned fertility practices, signed an agreement in 2023 with Ovation Fertility to work collaboratively going forward. They completed a federal regulatory evaluation process, creating a platform in the U.S that together will allow for clients to avail of reproductive medicine practices, embryology laboratories, and life science services that include diagnostic testing, genetic testing, pharmaceuticals, frozen donor services, surrogacy, cryogenic storage, and data science while improving client access, experience, and outcomes.[101]

Best practices to improve equity of care include understanding access to services for those of minority groups. Research shows that immigrant women in Toronto face numerous barriers when accessing fertility care including waiting for longer periods of time before accessing fertility services compared with non-immigrant women, fewer resources and less social stability compared with their non-immigrant clients, care compromised by suboptimal comprehension and a reluctance to disclose information, and inability to access fertility services as easily or quickly as non-immigrant women.[102] These barriers reveal that immigrant women are more interested in pursuing treatment when they are required to disclose less personal information. Expanding internet resources and developing trust and openness may also help improve accessibility. Likewise, exploration of religious and cultural beliefs, in addition to understanding financial barriers, may improve access to fertility treatments.[103]

It is also crucial to understand how access to fertility services can be improved via best practices, especially for single individuals who are pursuing fertility services alone in the "couples-oriented world of IVF".[104] IVF clinics can use best practices in client-centred care to ensure access and equity. The factors within client-centred infertility care that are essential to improve to ensure equity of care are provision of information, competence of clinic and staff, coordination and integration, accessibility, physical comfort, continuity and transition, cost, attitude and relationship with staff, communication, client involvement and privacy, and emotional support.[105]

Research shows that barriers to accessing fertility services can be a result of inequity of access, for example in the United States, economic, racial, ethnic, and geographic

disparities affect both access to fertility treatments and treatment outcomes. As seen above costs are a significant barrier to accessing fertility services therefore it is no surprise that economic factors contribute to inequity in access to effective treatment; however, social, and cultural factors including individual or systemic discrimination disadvantage certain people because of their race, ethnicity, sexual orientation, or gender identity are also barriers to fertility services.[106]

As mentioned, systemic discrimination has been noted as a barrier to accessing fertility services.[107] Research has found that normative beliefs, heteronormativity, and cisnormativity, affect the health care received, and are barriers to fertility services for 2SLGBTQI+ individuals within Canada. The additional emotional labor and intentional decision-making can make availing of fertility services harder for these individuals.[108] Similarly, within English-speaking countries stigmatization of fertility care, lack of infertility knowledge, language barriers, discrimination, and lack of institutional trust serve as barriers for minority and racial-ethnic groups seeking fertility treatments.[109]

Further research is needed and encouraged to understand documented equity disparities in treatment and access. Ways to improve access could include increasing insurance coverage, reducing the economic and noneconomic burdens of treatment, improving public and physician attention to treatment disparities, and reaching and educating underserved populations and geographic areas.[110]

Additionally, The American Society for Reproductive Medicine developed Task Force Recommendations to both increase support for underrepresented minority populations and to reduce health disparities in accessing health care. Their recommendations could be useful in improving access to care for those of minority groups, they included:[111]

“Taskforce Charge I: Enhancing opportunities to increase and support diversity and equity, and the inclusion of underrepresented minority populations, in the profession and leadership of reproductive medicine.

- Perform an environmental scan
- Expand and focus recruitment and retention of a diverse workforce
- Increase outreach, education, and opportunities for diverse populations, including pipeline programs
- Expand and enhance training to support a diverse and informed workforce

Task Force Charge II: Reducing and eventually eliminating health disparities in access and outcomes to reproductive care.

- Promote inclusive terminology and definitions

- Reduce and address infertility-related stigma in diverse populations
- Advocate for and support inclusive education in reproductive health
- Continue to support universal inclusive coverage for infertility care
- Evaluate opportunities to enhance and provide low-cost and inclusive services
- Continue and expand advocacy efforts for inclusive policies
- Require transparency to promote accountability
- Ensure ASRM publications prioritize diversity, equity, and inclusion”

Telemedicine/Virtual Care

The American Society for Reproductive Medicine (ASRM) during the COVID-19 pandemic recommended using telehealth to the greatest extent possible to continue evaluating and treating clients within health care.[112]

Telemedicine appears to be of particular interest to clients who live farther from clinics and have longer durations of infertility, as it could reduce visit times. Research shows that clients seen in person and those seen via telemedicine are equally likely to pursue treatment.[113] Telemedicine consultation for new-client visits is feasible in an academic fertility practice and may be especially useful in areas with limited access to fertility specialists.[114]

Studies show telehealth is generally well-received by clients and providers, and surprisingly previous research found even among minority and low-income clients, telehealth is a satisfactory method to provide infertility counseling and treatment.[115] However, client satisfaction can be further improved by improving access to telehealth for non-English speakers.

Common Diagnostic Tools and Assessment

Although success rates vary by age and diagnosis, accurate diagnosis, and effective therapy along with shared decision-making can facilitate the achievement of fertility goals in many couples treated for infertility. Approximately 85% of infertile couples have an identifiable cause. The most common causes of infertility are ovulatory dysfunction, male factor infertility, and tubal disease. The remaining 15% of infertile couples have “unexplained infertility.”[116]

Some best practice diagnostics tests, tools, and assessments include looking at reproductive and medical history, physical exams, blood tests, ultrasounds, semen

analysis, ovarian reserve testing, antimüllerian hormone (AMH) testing, follicle-stimulating hormone (FSH) test, and hysterosalpingography.[117]

Reproductive Tourism

With rising cases of infertility in the context of increased medical costs in the United States and advancements in reproductive technologies abroad, the global fertility tourism market is expected to grow at a rate of 30% over the next seven years from its 2021 valuation of $400 million USD. Prices outside of the United States are a lot less and success rates can be just as high.[118]

However, the United States isn't the only country with clients travelling for fertility services, reasons why Canadians travel for fertility services include:[119]

Cost Savings The significant cost difference between IVF treatments in Canada and Europe is one of the primary reasons Canadians travel. Clients can often save thousands of dollars by opting for treatment in certain European countries, even after accounting for travel expenses.

Greater Accessibility Some clients may not have access to IVF treatments in Canada due to restrictive legislation or lack of insurance coverage. Europe, particularly countries like Spain and Greece, offers more inclusive and accessible fertility treatments, including egg donation IVF, which might not be feasible for some clients in Canada.

Donor Egg Availability Clients requiring egg donation IVF might find more available egg donors in certain European countries, where the legislation and cultural attitudes towards egg donation are more favorable.

Advanced Technology and Expertise Europe boasts several leading fertility clinics with experienced specialists and advanced reproductive technologies. Canadian clients seeking the latest advancements and specialized care might choose specific European clinics renowned for their expertise.

Shorter Wait Times In some regions of Canada, there are long waiting lists for IVF treatments, while European clinics may offer shorter wait times, enabling clients to start their treatment sooner.

Privacy and Anonymity Traveling abroad for IVF can provide clients with greater privacy and anonymity, which might be appealing to those who prefer to keep their fertility journey confidential.

Financing

Funding For Fertility Services

Out-of-pocket costs of about $20,000 per round of IVF are a significant barrier to fertility treatment for NL residents. To help with these costs NL has its own IVF Subsidy Program that offers a subsidy of $5,000 per IVF cycle for a maximum of three times. It also provides coverage for frozen embryo transfer, donor egg cycles, donor embryo cycles, oocyte cryopreservation, intracytoplasmic sperm injection (ICSI), and gestational carrier cycles as well as medications associated with these services. However, these services must be provided at a clinic of the applicant's choosing located within Canada, and travel expenses are not included.[120][121]

Other provinces offer similar subsidies. For example, the Fertility Support Program provides funding to residents of PEI who are accessing IVF, IUI, and associated medications at out-of-province clinics. The program provides a minimum of $5,000 and up to $10,000 annually, for up to three years, based on family income, for eligible expenses associated with IUI and/or IVF.[122] However, NL clients are taking out loans and fundraising money for treatment costs, which can include care at a private clinic in another province, as the subsidy is insufficient to cover the cost of care.[123]. Within the recent IVF Subsidy Program evaluation report prepared by NLHS, the most significant barrier to access reported by patients and NLFS staff was that the subsidy, with its $5,000 application cap and $15,000 lifetime limit, does not provide enough support to reduce the financial barriers to treatment.[124]

The NLHS IVF Subsidy Program evaluation report revealed having to pay out of pocket and then receive the subsidy is still a major barrier for many clients (28%, n=13). Within the report, NLFS staff reported they had not observed an increase in patients seeking or receiving IVF and they had not observed different types of patients, such as those of lower socioeconomic status, seeking and receiving IVF. One of the key recommendations from clients and staff drawn from these findings, to improve access, was to provide money upfront so patients do not have to find alternative methods to pay for treatment while awaiting reimbursement[125].

As noted previously, Quebec switched in 2010 to offer support for up to three full IVF attempts. The three-cycle coverage was canceled by the government in 2015, it was claimed as unsustainable by the new provincial government, and the publicly funded IVF program ended, and was replaced with tax credits for one full IVF attempt.[126][127] The switch to the tax credit from funding three cycles of IVF drastically decreased access to

services. Quebec switched to, and is currently, funding a single IVF cycle as of 2021, under the medically assisted reproduction (MAR) program which provides a medical solution for people unable to conceive a child.[128] This example makes it clear that there is a difference between a rebate and a funding program that does not demand the individual to carry costs but provides funding up front.[129]

Again, as previously noted, The Ontario IVF funding program only allows for one embryo transfer under its mandatory single embryo transfer policy. This is meant as both a safety and money-saving measure, aimed at cutting the roughly 30 per cent multiple-birth rate that results from IVF. Tying funding to single embryo transfer has been recommended as public policy in the literature.[130][131]

JURISDICTIONAL SCAN

Jurisdictional Scan

In an effort to better understand fertility services being offered worldwide, a jurisdictional scan was conducted of clinic websites from six different countries.[7] These countries were Canada, the United States, the United Kingdom, Australia, Sweden, and Greece. We reviewed information from approximately 145 clinics (23 in Canada) regarding the services they offer and their funding structure.

From the 145 clinics we reviewed, four clinics were investigated in more depth, a summary of the results of the jurisdictional scan is provided below.

Initial Scan Findings

Leadership and Governance

Many clinics worldwide (e.g. Canada, Greece, the US, and Sweden) offer private fertility care. All twenty-three Canadian fertility clinics, reviewed in the scan, that offer treatment are privately run organizations (e.g., AART, Regional Fertility Program, Ottawa Fertility Centre). The majority operate as for-profit entities, and only two clinics (i.e., AART in Nova Scotia and McGill Reproductive Centre in Quebec) were identified as not-for-profit. Not-for-profit clinics are rare as the provision of fertility services does make considerable amounts of money, which has led to the trend of larger companies acquiring smaller clinics.[132] Conceptia, once a non-profit, became a for-profit clinic in 2021 after being acquired by a larger group of clinics.[133]

Based on the clinics that were available for interview, most clinics can avail of nearby hospitals for certain services (e.g., complex blood working and scans). However, one of the reasons, provided in the interviews, for the move of fertility clinics to private operations nationally is that the required turnaround times to properly provide fertility services can be better met in a private setting.

[7] For the complete jurisdictional scan see Appendix C

In Halifax, AART, identified as being a smaller service, is still connected to the public system in that their physicians still work in obstetrics and gynecology in the hospital, this allows for financial stability and for their physicians to retain certain hospital privileges. It is the only clinic of the three investigated in-depth that is still connected to the public health care system.

In Québec, clinics may be located in public hospitals or in private practices. Some hospitals and public establishments provide fertility investigations and some medically assisted reproduction (MAR) treatments. These hospital-based assisted reproduction centres provide insured services as well as services at the patient's expense.[134]

Legislation of Clinics

Within Canada, fertility policy. legislation and accreditation are complex, overall, the Government of Canada has set forth a collection of acts that restrict certain prohibited actions within the country as well as that detail both the handling of gametes and the process of informed consent (Government of Canada, 2023).

Outside of these nationwide acts, much of the regulation of fertility services occurs at the provincial level, leading to differences between provinces. Designing a policy framework to regulate fertility services has been challenging for provincial governments (Mahboob, 2020). Many private fertility clinics in Canada adhere to standards set by Accreditation Canada, an independent not-for-profit agency, however all of these accreditations are voluntary (Scotti, 2016).

The scan revealed that in Québec, clinics do require a license to provide assisted reproduction services. It is noteworthy that there is no legislation governing assisted reproduction in Ontario, however, clinics do have to report some information to the provincial government (e.g., track multiple pregnancy rates and other clinic or lab information).[135] [136]

In Greece, it is the Greek Ministry of Health that controls and inspects all Greek IVF clinics. Inspections are carried out without notice to ensure that all standards are being met. There is no mandatory accreditation, but to be sure that clients are choosing a good clinic for IVF in Greece they should check to see if it has an ISO accreditation and certificate.[137] The ISO 9001:2008 standard is the international standard that defines the criteria that a business must operate so that the end product and/or service is judged satisfactory by both its customers and other interested parties.[138] Greek clinicians are tightly regulated by the independent Greek National Authority of Assisted Reproduction.[139][140]

Workforce

The workforce for fertility clinics across Canada varies considerably, depending on the size of the clinic and the division of labour amongst staff. An overview of staffing for each clinic interviewed can be seen in Appendix C. While there are some similarities (i.e. all clinics have physicians, nurses, and embryologists. Two out of the four clinics have fellows, a pharmacist, and access to a psychologist, most clinics have administration and clerical staff) staffing also varies depending on the services offered.[141] It is also common for larger clinics to have dedicated REIs, the only clinic we found evidence of that had REIs that worked in the public health care system as well as a fertility clinic was AART in Halifax.

Clinics adhere to recommended staffing models, including both nationally and internationally. IVF Serum in Greece highlights the importance of having autonomy over staffing to establish an independent culture that is compassionate and understanding of clients' fertility journey and this has contributed to the success of their clinic. AART Halifax has a defined physician hiring process between Dalhousie University and IWK so approval from both parties is required before staff are hired.

AART in Halifax also mentioned that there are multiple third parties who are contracted to ensure operation given they operate as a private clinic and do not have access to hospital resources. Such third-party contracts include IT support on retainer, cleaners, a lawyer, preventative maintenance and repair companies for equipment, an insurance broker, a cyber security company, on-site security, off-site security for alarm response, an auditor, medical waste pick up, lab sample transportation, a social media management company, and a plumber and a locksmith. Staffing for all four clinics can be found in Appendix C.

Required Training

The first steps to becoming an REI require having a medical degree. Various university fellowship programs exist to provide training for REIs in Canada following eligible residency training programs.[142] The deep dives with clinics revealed there is no additional formal or required training for nurses to work in a fertility clinic, however, most clinics offer their own in-house training. Certifications for embryologists are available, and further research post-interviews suggest that embryologists also receive in-house training and must hold at minimum a bachelor's degree.[143][144]

Service Delivery

The overall scan revealed that clinics in Canada, the United States, Australia, Sweden, the United Kingdom, and Greece offer some form of fertility investigation or assessment for all individuals.

IVF is available within most provinces and most people do not have to leave their home province to avail of treatment. Within Canada, most provinces have multiple clinics that offer IVF. Quebec, Ontario, Alberta, and British Columbia have numerous fertility clinics allowing clients to receive IVF within their home province. Manitoba, Saskatchewan, Nova Scotia, and New Brunswick are limited in the number of clinics housed in the province (i.e. Manitoba and Saskatchewan each have two clinics and Nova Scotia and New Brunswick each have one clinic), even if there are fewer clinics at which residents can avail of treatment, access to IVF is available for clients within their own province. The only provinces without access to IVF for residents are NL and PEI.

Common services offered at all clinics worldwide included IVF, donor insemination or IVF, IUI, cryopreservation, PGT, ICSI, gestational carriers/surrogacy (except Greece due to legal requirements), TESE treatments, and treatments for the 2SLGBTQI+ community. All countries offer ICSI and over half offer semen analysis, surgical sperm collection, and testicular biopsy through their clinics. Most clinics are offering insured and out-of-pocket services with everything under one roof, as mentioned above, to allow for faster turnaround times for clients. For testing and diagnostic procedures, all countries have clinics that offer at least sperm and egg cryopreservation. Over half of the countries, within the scan, offer genetic testing (e.g., PGD, PGT) through their clinics. Over half of the countries offer ultrasounds, laparoscopies, and hysteroscopies through their clinics. Over half of the countries offer oncofertility services, cycle monitoring or ovulation tracking, assisted hatching, and treatment for recurrent pregnancy loss through their clinics. NLFS offers the above treatments with the exceptions of egg cryopreservation, IVF, gestational carriers/surrogacy, surgical sperm collection, testicular biopsy, assisted hatching, and TESE treatments.

All Canadian clinics, reviewed in the scan, also conduct blood tests and complete medical scans. Blood work and scans directly related to treatment are completed (i.e., collected and tested) in the clinic while diagnostic or complex bloodwork and scans are often completed outside the clinic. The members of staff who complete scans for clients (i.e., nurses, physicians/REIs, sonographers) depend on the scan being provided and the respective clinic.

At AART, nurses do fertility treatment scans, while physicians do sonohysterograms and other complex scans. The clinic does send patients to diagnostic imaging at the IWK for things that are complex or need documentation (i.e., because ultrasounds at the clinic are not part of the provincial medical database) such scans would include a patient with an ovarian cyst found in the clinic that is uncertain or concerning, or scans for confirmation of a suspected ectopic pregnancy. Additionally, most investigative work for infertility, including diagnostic scans, for this purpose are billed to the government. At the Ottawa Fertility Centre ultrasounds for patients in treatment can happen in the clinic. Sonographers are responsible for ultrasounds, and they have a provincial license to complete gynecological scans. Insured gynecological scans, conducted in the clinic, are billed to the government, while fertility scans are bundled into the fertility funding received from the government, excluding hysterosalpingograms (HSG) and Level 2 Ultrasounds, which are done at the hospital. Another exception is patients from out of town, who can elect to have their scans done closer to home, outside of the clinic. At The Regional Fertility Program in Calgary, all scans with patients directly related to active treatment cycles are completed in the clinic. Information on which member of the clinic's workforce completes the scan was not obtained. Any scan for investigation or patient work-up for infertility is done through the public system and can be booked at any radiology clinic. In Alberta, these clinics are in the community (non-hospital) and the cost of the scan is through the provincial health care system. At IVF Serum in Greece, all scans are completed in the clinic by physicians.

At AART all blood work related to treatment is done at the clinic with the exception of hCGs, AMH, and endocrinology blood work (e.g., TSH, prolactin, testosterone), though these tests may be added within the clinic in the future. Additionally, infectious disease screening is done outside of the clinic. AART does not draw any blood work that isn't analysed within their clinic. At the Ottawa Fertility Centre, all blood testing for patients in treatment can happen in the clinic. Patients have the option to do bloodwork at the clinic or elsewhere. Some bloodwork is analyzed on-site and some blood work is sent out for analysis. At The Regional Fertility Program in Calgary, all blood work with patients directly related to active treatment cycles is completed in the clinic. The clinic runs in-house assays directly related to treatment cycles and typically does not draw blood in-house to be run at an outside lab. Any blood work not related to an active treatment cycle is done in community labs. At IVF Serum in Greece, all blood work is completed in the clinic.

Regarding additional services outside of fertility treatments, clinics in all countries offer psychological support or counseling services to clients. Many fertility clinics worldwide also offer services within gynecology and obstetrics (e.g., endometriosis and PCOS

treatment, tubal reversal, abnormal menstruation treatments, preventive gynecology, reproductive surgery, pregnancy care and support), andrology (e.g., diagnosing testosterone deficiency and testicular cancer, surgical andrology, vasectomy reversal, reproductive surgery, penile and testicular disorders) and genetics (e.g., sperm DNA analysis, PGD, PGS, PGT, genetic typing, freezing of genetic material, genetic carrier screening, genetic testing of parents, prenatal genetics).

Medical Facilities

All four fertility clinics who were interviewed (i.e. AART, Regional Fertility Program, Ottawa Fertility Centre, and IVF Serum) have their clinic and lab located at the same site. Similarly, all clinics have physician offices within their clinic instead of outside the clinic.

Financing

Countries differed in the funding available to support fertility treatments. Canada and the United Kingdom both offer some publicly funded coverage for fertility treatments. For Canada coverage varies by province, and in the United Kingdom only specific clinics offer coverage for some treatments.

In Australia, support for IVF varies by state. In Victoria, individuals are insured for up to two IVF cycles per person, while in New South Wales the Government supports access to affordable fertility treatments under the NSW Affordable IVF Initiative which includes a rebate for out-of-pocket expenses related to pre-IVF fertility testing, a fertility treatment rebate to help with the costs of IVF and other ART treatments, publicly supported lower IVF clinics and statewide fertility preservation services for patients with a medical need.[145][146]

In Sweden, childless couples and single women can access publicly funded IVF. But in Sweden, it's only possible for involuntarily childless couples (i.e., those without children and experiencing infertility) and single women to get publicly financed fertility treatment. In cases where the person requires sperm or eggs from a donor, the legislation demands a special assessment of their suitability as parents.[147][148]

In the United States and Greece, most fertility clinics are private and fertility treatments are either paid out of pocket or covered by a client's private medical insurance. In Greece, no services (i.e., treatments, surgeries, scans, or testing) are insured if they are for the purpose of fertility.

For financial support across Canada, the common viewpoint is that IVF is often considered not medically necessary, so it is not always financially supported within every province. In all provinces, assessments and investigations leading to a diagnosis of infertility are covered under public health care, and while some fertility treatments are covered, IVF is not covered under public health insurance, with the exception of Quebec. Two of the four clinics spoken to were situated in provinces and countries that offer financial support for IVF. A little over half of the Canadian provinces and territories (i.e., eight provinces) offer or intend to offer some form of financial support for IVF.

Nova Scotia offers a refundable tax credit equal to 40 percent of the cost of fertility care provided by a Nova Scotia-licensed medical practitioner or infertility treatment clinic and for surrogacy-related medical expenses. It offers a maximum annual claim of $20,000 and a maximum annual tax credit of $8,000 so that helps in financially supporting those who avail of these services. Manitoba offers a similar tax credit but recently increased the maximum annual tax credit to $16,000.[149]

Ontario offers provincial government financial support of one IVF cycle per client. Within Ontario, every client assigned female at birth, under 43 with an OHIP card gets funding for one round of IVF for a lifetime, and the clinics bill the Government of Ontario for that cycle. Not all, medication and storage is covered under the funding provided by Ontario. In Ontario, the clinics receive a certain basket of money for IUI/IVF, they cannot bill directly, and they use this money till it runs out. In other provinces and countries, there is no direct funding for IVF.

Quebec also offers provincial government financial support of one IVF cycle per client. It is worth noting, as mentioned earlier in the report, Quebec has had various types of funding offered to residents availing of fertility services over the past 20 years. Quebec started to offer a tax credit to support residents availing of IVF in 2000, they switched in 2010 to offer support for up to three full IVF attempts. The three-cycle coverage was cancelled by the government in 2015 and the publicly funded IVF program ended and was replaced with tax credits for one full IVF attempt.[150] Interestingly the switch to the tax credit from funding three cycles of IVF drastically decreased access to the treatment. Only Quebec residents without children could access the tax credits, which ranged from 80 per cent to 20 per cent of costs depending on income. A year after the funding changes went into effect, the number of IVF procedures greatly decreased.[151] In 2021 Quebec switched to insuring a single IVF cycle under the medically assisted reproduction (MAR) program which provides a medical solution for individuals unable to conceive a child. If a person does not meet Quebec's criteria for IVF and has to pay out of pocket, they are still eligible for tax credits that will cover between 20 and 80 per cent of the costs, not surpassing $20,000 per year depending on their income.[152]

Alberta offers no coverage for IVF but does cover assessments and investigations leading to a diagnosis of infertility. British Columbia intends to offer coverage for a single round of IVF starting in 2025. The availability of public funding or financial support for IVF by province is summarized below in Table 10.

Table 10. IVF supports available by province and eligibility requirements

	Funding	Total Amount	Eligibility
NL	Fertility Subsidy Program	$15,000 ($5,000 per In-IVF cycle, up to a maximum of three IVF cycles throughout their lifetime.)	Resident of NL Valid NL MCP card, Referred by NLFS Followed by NLFS
MB[153]	Fertility Treatment Tax Credit	$16,000 annually	
ON[154]	Ontario Fertility Program	Total amount for one cycle of IVF	Resident of ON Valid ON Health Card Age < 43 Performed at Participating Clinic
QC	Medically Assisted Reproduction Program	Total amount for one cycle of IVF is insured	Valid Que Health Care Age < 41 for IVF (42 FET)
NB[155]	Special Assistance Fund	$5,000 (one time per household)	Resident of NB Diagnosed
NS[156]	Fertility and Surrogacy Tax Credit/ Rebate	Up to 40% of cost	44 years of age - IVF but 55 - if they have eggs and use FET
PE[157]	Fertility Treatment Program	$15,000-$30,000	Resident of PEI - Valid NL. Health Card - Filed most recent tax return

BC[158]	Recently announced that as of 2025 1 round of IVF will be covered for residence. No additional details were available at the time that this report was written

Even within provinces that provide funding or coverage for IVF, some services are not covered, and patients have to pay out of pocket. These services can include consultations with physicians, sperm preparation for IUI, IUI with ovarian stimulation, cryopreservation of sperm, additional sperm sample collections, storage fees, receiving and processing of sperm, and sperm shipment to a clinic. Prices and whether a client has to pay out of pocket for certain services varies by clinic. Overall prices for various fertility services across five Canadian clinics can be found in Appendix C.

FINANCIAL/HUMAN RESOURCE ANALYSIS:

IMPLICATIONS AND CONSIDERATIONS

HUMAN RESOURCE ANALYSIS

The following staffing recommendations are the result of careful consideration, informed by in-depth interviews with staff members and analysis of various clinic staff mixes. However, it is essential to recognize that these recommendations represent our best estimate based on available data and industry standards. Staffing needs can evolve over time, influenced by factors such as patient volume, treatment complexity, and clinic workflow. Therefore, it is important to continue to review and evaluate staffing levels to ensure that they effectively support clinic operations and patient care as fertility services in NL evolve. The Registered Nurses Association of Ontario has created a framework and guidelines to inform staffing and workload recommendations.[159] This is a potential approach that allows for ongoing optimization of staffing levels to meet the dynamic needs of fertility care in the province and provide the highest quality of care to patients.

Below are staffing recommendations addressing additional needs beyond the existing staff described in the current state. Recommendations are presented for two distinct scenarios:

1. Optimizing Current Services: Recommended staffing adjustments under the assumption of maintaining existing services.
2. Expanding Services to Include IVF: Recommended staffing adjustments to facilitate the incorporation of IVF services.

Optimizing Current Services

The recommended additional staffing to address needs in current services includes part-time positions or additional hours from both RNs and MSAs, as well as MLTs. These additions will address identified gaps in current operations, improve workload distribution, and enhance the overall effectiveness and efficiency of clinic and lab functions.

Additional Clinic Staff:

- **RN I (0.6 FTE):** To address the current shortage of nursing staff and ensure adequate coverage, it is recommended to add 0.6 full-time equivalent (FTE) RN

positions. These nurses will assist in providing comprehensive care to patients undergoing fertility treatments, contributing to improved patient experiences and outcomes.

- **MSAs (0.5 FTE):** Adding 0.5 FTE MSAs will provide essential support to clinic operations, helping with various tasks such as patient assistance, equipment maintenance, and administrative duties (for both the clinic and lab). This additional support will alleviate workload pressure on existing staff and enhance the efficiency of clinic operations.

Additional Lab Staff Required:

- **MLT IIB (1 FTE):** Adding one FTE MLT IIB will strengthen the lab's capacity to perform specialized tasks related to fertility treatments.

Expanding Services to Include IVF

The recommended staffing for IVF services includes additional staff and new skill sets. These additions will ensure the clinic and lab have the necessary resources and expertise to deliver high-quality IVF services and optimize patient outcomes, should IVF be brought into the province.

Additional Clinic Staff Required:

- **General Manager (1 FTE):** The general manager oversees the day-to-day operations of the clinic and lab, including staffing, scheduling, budgeting, and quality assurance initiatives. They play a crucial role in ensuring smooth and efficient clinic functioning.
- **REI (0.5-1 FTE):** Additional REIs are required to accommodate the specialized nature of IVF procedures and meet patient demand for fertility treatments.
- **RN I (.6 FTE):** An additional RN is recommended to support IVF procedures and patient care, ensuring adequate staffing levels to meet patient needs, bringing the total RN staff to 4 FTE, including the PCC.
- **IVF Patient Coordinator:** 2 FTE RNs require training to become IVF patient coordinators. Similar to the current PCC, these specialized nurses coordinate

patient care throughout the IVF process, providing support, education, and guidance to patients undergoing fertility treatments.

- **LPN (1.5 FTE):** LPNs play a vital role in assisting with patient assessments, medication administration, and monitoring during IVF procedures, contributing to the overall efficiency and safety of treatment protocols.
- **MSAs (0.5 FTE):** Additional MSAs provide essential support to clinic operations, assisting with patient transportation, equipment setup, and facility maintenance.

Additional Lab Staffing:

- **Lab Manager (1 FTE):** The lab manager oversees all aspects of laboratory operations, including staffing, quality control, protocol adherence, and equipment maintenance, ensuring compliance with regulatory standards and best practices. This individual should also be trained as an embryologist and could be filled by providing the current MLT IIIA.
- **Embryologists (2 FTE):** Highly-trained embryologists are essential for performing intricate procedures such as fertilization, embryo culture, and embryo transfer, playing a critical role in the success of IVF treatments. These roles would be filled by providing training in embryology to the current MLT I and MLT IIB.
- **Lab Andrologists (2 FTE):** Andrologists specialize in the assessment and processing of male reproductive samples, including semen analysis and sperm preparation, contributing to the overall success rates of IVF procedures.
- **MLT IIB (2 FTE):** As noted above, the existing MLTs can be trained to take on new roles as embryologists and lab andrologists, maximizing the utilization of existing staff expertise and minimizing the need for additional hires. However, there would still be the need for 2 FTE MLT IIBs.
- **Assistants (1 FTE):** These personnel provide support to MLTs, Andrologists and Embryologists by assisting with sample processing, equipment setup, and data management tasks.

Table 11 summarizes and compares the current staffing and additional staffing needs for each scenario.

Table 11. Staffing Adjustments

Staff Category	Current Staff	Recommended Staff Increases for Current Services	Recommended Staff Increases for Expanding Services (IVF)[8]
REIs	REIs (1-1.5 FTE)		REI (0.5-1 FTE)
Clinic Staff	• RN IIC / PCC (1 FTE) • RN I (2.4 FTE) • Clerk II (1.5 FTE) • Secretary I (1 FTE) • MSA (0.5 FTE)	• RN I (0.6 FTE) • MSA (0.5 FTE)	• General Manager (1 FTE) • IVF Patient Coordinator (2 FTE) • RN I (0.6 FTE) • LPN (1.5 FTE) • MSA (0.5 FTE)
Lab Staff	• MLT I (1 FTE) • MLT IIB (1 FTE) • MLT IIIA (1 FTE) • Scientific Director - Contract (0.5 FTE)	• MLT IIB (1 FTE)	• Lab manager (1 FTE) • Assistants (1 FTE) • Embryologists (2 FTE) • Lab Andrologists (2 FTE) • MLT IIB (2 FTE)

[8] There are 3 additional staff above the current MLT's. It is recommended that the 3 current MLT's be trained to take on these new roles of Embryologists and Andrologists. Similarly, as noted the recommended IVF Patient Coordinator do not have to be new hires but can be trained from existing nursing staff.

FINANCIAL ANALYSIS

Accurately projecting the cost of various potential futures for fertility services in NL requires making various assumptions and will be significantly influenced by the different decision pathways that the government could take with respect to the future of the service. This section offers financial insights to complement earlier discussions. These estimates are approximate and are intended solely to provide a broad overview of costs, aiding decision-making regarding the future of fertility services in NL.

In particular, this section of the report includes cost estimates related to the three critical decision points presented previously: (1) Should IVF be offered in the province? (2) What costs of fertility services should the NL government cover? (3) Should IVF be offered through a public facility or through a private facility?

Key Highlights

What is the impact of IVF and fertility preservation for those capable of pregnancy if offered in the province?

- The financial analysis demonstrates that the additional cost of leasing a new facility, purchasing new equipment, additional products, and hiring and training new staff would be substantial. However, this would not only be due to the fact that the clinic would be offering more services—it would also be because more NL residents would be able to access fertility care.

What costs should the government cover, if any?

- This section of the report provides estimations of the cost of covering IVF and IUI procedures and medications for one round of IVF and all rounds of IUI. This considers the impact of offering the most complete coverage of care and acknowledges that this is likely not sustainable. However, given that covering the cost of a medical procedure increases access to that procedure (when funding is offered at the time that expenses are incurred), covering the cost of IVF and IUI procedures is recommended.

What is the impact of delivering fertility care in a private vs. public setting?

- In terms of whether fertility services should continue to be delivered through NLHS or should be delivered by a private fertility clinic, this report demonstrates that:

- A private fertility clinic would be viable if IVF and IUI were funded by the government, after the clinic was open for a period of time.
- If IVF and IUI were funded, a private fertility clinic could arguably be viable even during its first few years of operation if the owners generated additional revenue through other means outside of offering fertility services.
- However, if IVF and IUI were not funded, caseloads would be lower, and it would be more challenging for a private clinic to cover its costs.

Costs Considerations Related to Offering IVF in Province

This section of the report delves into the financial implications of providing IVF and fertility preservation services for clients assigned female at birth within the province.[9] For the sake of this analysis, we assume that NLFS will retain its role in delivering fertility services and that the existing government subsidy would be continued if IVF were not made available in the province.

With these considerations in mind, the additional cost of offering IVF in the province can be calculated as follows:

- Start with the cost of operating a fertility clinic that offers a full range of services (like IUI, IVF, and fertility preservation for all NL residents).
- Subtract the expenses associated with running a clinic that only offers NLFS's current services.
- Subtract the current IVF Subsidy amount.

Forecasted Cost of Establishing and Scaling a Full-Service Fertility Clinic

To estimate the operational costs of a full-service fertility clinic in NL that offers IVF, expenses related to staffing, facility, equipment, and products have been calculated at

[9] Hereafter, in this section of the report, the term “IVF” is used to refer to both IVF and fertility preservation for individuals assigned female at birth.

two key stages: StartUp and FutureMax. These stages represent the clinic's initial establishment and its peak client capacity, respectively.

Caseload Estimates at StartUp and FutureMax

The caseloads for StartUp and FutureMax were determined based on certain assumptions and estimates regarding financial supports available to clients and the services that the clinic would offer. The following are our projected annual caseloads at StartUp and FutureMax:[10]

StartUp Caseloads: When the clinic first opens, it is estimated that the following cycles of various fertility treatments would be delivered:

- Approximately 200 cycles of IVF using fresh embryos.
- An additional 180 cycles of IVF using Frozen Embryos.
- 500 cycles of IUI using fresh sperm.
- An additional 120 cycles of IUI using frozen (donor) sperm.

FutureMax Caseloads: When the clinic reaches its maximum capacity, it is expected that the following cycles of fertility treatments would be delivered:

- Approximately 500 cycles of IVF using fresh embryos.
- An additional 450 cycles of IVF using Frozen Embryos.
- 1250 cycles of IUI using fresh sperm.
- An additional 305 cycles of IUI using frozen (donor) sperm.

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[10] Caseloads for StartUp and FutureMax were estimated in consultation with Oozoa Biomedical, a Canadian company specializing in designing and establishing fertility laboratories. The commonly accepted maximum need for ART treatment is estimated at 2500 IVF/ICSI cycles per million of population per year. Adjusting for factors such as the likelihood of couples requiring IUI, as well as potential barriers to accessibility and affordability, a more realistic FutureMax capacity for a fertility clinic in NL is estimated at 500 IVF/ICSI cycles per year.

Caseload estimates are predicated on the premise that clients have access to IUI and one round of IVF covered by the NL Government. It is acknowledged that financial barriers pose significant obstacles to treatment accessibility, and therefore, caseload numbers may be expected to be lower if funding is not available for IVF.

Resources Required to Bring IVF in Province

Adding IVF to the existing services offered by NLFS requires a new facility, equipment, products, and staff. The size of the facility, amount of equipment and products depend on expected caseloads.

Facility Costs: To handle the projected caseloads at FutureMax, the clinic would need around 10,000 square feet of space.[11] This space would include general office space, as well as space for a basic lab, clinical procedures, therapeutic labs, a cryobank, and gas rooms but not space for physician practices, which could be located in a separate, more affordable location. There are three primary options for acquiring this space: constructing a new building, purchasing space within an existing building, or leasing space within an existing building. Leasing space in an existing building would likely be the most economical choice. A rough estimate suggests that the lease cost could be around $60 per square foot per year, totalling approximately $600,000 annually.[12] However, the actual cost could vary based on factors such as the location and type of building.

Product Costs: Estimating the cost of medical products is complex as it depends on a number of factors. However, at FutureMax, it is expected that the number of cases for IVF and IUI treatments will increase to about 2.5 times the number at StartUp. Since the cost of products typically aligns with the number of cases, it can be assumed that at FutureMax, the cost of products will be roughly 2.5 times higher than at StartUp. Based on these assumptions, it is calculated that product

[11] When building a new facility, it is important to base design on expected maximum future capacity as it is expensive to renovate and to acquire new medical facilities.

[12] This estimate was provided by NLHS and is based on current lease agreements for other health services.

costs will be roughly $587,620 at StartUp and $1,469,050 at FutureMax.

Equipment Costs: To establish IVF services within the province, an estimated investment of $2,000,000 is projected for necessary equipment. For privately operated clinics, this investment typically involves acquiring a loan. If a clinic opts for a 10-year repayment plan, the annual loan payment would approximate $285,000, based on prevailing interest rates.[13]

Staff Costs: This category covers salaries for physicians, management, and other clinic staff. Like cost of products, staff costs are expected to rise as caseloads increase. Based on projected caseloads, the total staff cost, including physician salaries, is estimated to be $2,780,985 at StartUp and $5,071,560 at FutureMax.

The costs are summarized in table 12. An important note regarding this table is that, unlike the current state budget tables and column in this table, StartUp and FutureMax staff costs include the salaries of all REIs, the scientific director, as well as management that would only manage the clinic.[14] Similar to the current state budget tables, this table does not include the costs of NLHS upper management, NLHS budget analysts, and NLHS health and safety personnel that would regularly work to support the fertility clinic.

Table 12 Annual cost of expanding to offer IVF at Start Up and Future Max

	Current State	Cost @ Start Up	Cost @ Future Max
Staff	$1,031,561	$2,780,985	$5,071,560

[13] The estimated equipment cost of $2,000,000 covers all necessary equipment for IVF services. This projection represents the anticipated investment to establish IVF services and does not include potential cost efficiencies from using existing equipment. It should be noted that while some overlap exists between IUI and IVF equipment, some IVF equipment is specialized and distinct from that required for IUI.

[14] Including REI salaries in the cost estimates does not suggest a recommendation to compensate REI's through a salaries model instead of a fee-for-service. Salaries are used here for simplicity. Estimating total fees for service is very complex and beyond the scope of this project.

Facility	$170,000	$600,000	$600,000
Equipment		$285,084	$285,084
Products	$293,701	$587,620	$1,469,050
TOTAL	$1,495,262	$4,253,689	$7,425,694

In summary, the estimated operational costs to establish and operate a full-service fertility clinic with IVF services in the province are as follows: At the StartUp stage, the total estimated cost is $4,253,689. This figure encompasses staffing, facility, equipment, and product expenses. Upon reaching FutureMax capacity, the projected operational cost rises to $7,425,694.

The Cost of Continuing to Offer Only Current Services

In the 2022-2023 fiscal year, the province allocated $1,104,630 for fertility services (without IVF) and a lease of $170,000; however, the actual expenditure exceeded this totalling $1,495,262 (including the lease; see table 12). Neither of these figures include the cost of the REIs (as they are fee for service), or Scientific Director (a consultant). While these figures could be compared to the estimated cost of operating a fertility clinic with IVF in the province, this review has identified gaps in staffing, equipment and facilities that are recommended to improve existing services, regardless of the introduction of IVF.

It is estimated that the recommended improvements to existing fertility services would include an initial expense of around $93,856 ($63,856 in equipment costs and $30,000 to renovate the space), approximately $1,729,234 annually for staff salaries, product costs, lease, and equipment maintenance, and an additional $680,705 for the cost of the REIs and the Scientific Director. This would bring the total cost to $2,499,262 for the first year and $2,409,939 annually.

For a detailed breakdown of additional anticipated expenses, please refer to Table 13.

Table 13. The cost of staffing, equipment, and facility to offer only current services.[15]

	Current State	Additional	StartUp	Total Annual Operating after StartUp
Staff	$1,031,561	$229,439	$1,261,000	$1,261,000
Facility	$170,000		$170,000	$170,000
Equipment		$63,856 initial investment + $4,533 for annual maintenance	$63,856 initial investment	$4,533 for annual maintenance
Products	$293,701[16]		$293,701	$293,701
Renovations		$30,000 initial investment	$30,000 initial investment	
SUBTOTAL	$1,495,262	$233,972 + 93,856 initial investment	$1,823,557	$1,729,234
With REI's and Scientific Director	$680,705		$680,705	$680,705
TOTAL	**$2,175,967**		**$2,499,262**	**$2,409,939**

[15] There is no cost listed for the maintenance of current equipment as we do not have this information.

[16] This total is calculated from drugs, medical products and other products.

Putting This Together

As noted above, the cost of offering IVF in the province can be estimated as the cost of operating a fertility clinic capable of providing a full range of fertility services, minus the cost of operating a fertility clinic that offers only the set of fertility services currently provided by NLFS, minus the cost of the subsidy amount.

At StartUp, it is estimated that the cost of operating a fertility clinic in NL that offers a full range of fertility services would be $4,253,689 annually. It is estimated that the cost of operating a fertility clinic that offers only the set of fertility services currently provided by NLFS would be $2,409,939 annually plus an initial investment of $93,856 to purchase needed equipment and minimally renovate the current fertility lab. The current subsidy cost to support NL residents who pursue IVF in another Canadian province is currently $737,882 annually. This means that it would cost approximately $1,105,868 more annually to offer IVF in the province (less the cost of renovations and new equipment the first year).

Table 14. Summary of the estimated cost of offering IVF in the province

	StartUp
IVF in Province: Cost to operate a fertility Clinic with full range of service (including IVF) at start-up	$4,253,689
IVF Not in Province: Cost to operate a fertility Clinic with existing services only + current subsidy	$2,409,939 + $737,882 = $3,147,821
Additional cost to operate IVF in province at StartUp	$1,085,208

Cost Considerations Related to Providing Financial Support for Clients

There are three main types of costs that individuals in NL who are pursuing fertility treatment are faced with: the cost of fertility services, the cost of medications and, for those who need IVF, the cost of travel and accommodations for those who need IVF.[17] The expenses associated with an initial cycle of IVF can serve as a significant barrier for clients in need of this procedure. On average, an initial IVF cycle incurs an expense of approximately a $11,500[18] , coupled with medication costs typically around $5,000 per cycle.

The IVF Subsidy Program in NL currently provides financial assistance of up to $5,000 per IVF cycle, with a limit of three cycles. The existing subsidy cost the NL government $737,882.20 in the 2022-2023 fiscal year. This section examines the projected expenses of expanding financial assistance to cover one full cycle of IVF and explores the possibility of including medication coverage. These calculations are based on the assumption that IVF services have been introduced within the province.

The cost of medication for fertility treatments, such as IUI and IVF, can vary significantly due to factors such as client needs, medication types, dosing requirements, insurance coverage, and regional price differences. The estimates used for the calculations in this section are based on prices published on fertility clinic websites as well as other secondary sources such as government websites and media reports.[160] For the purposes of these calculations, it is estimated that the typical cost of IUI medication is approximately $1,000 per cycle, while the cost of IVF medication is estimated at approximately $5,000 per cycle.

Just as medication costs can vary, the expenses associated with IUI and In IVF can also differ. To estimate the financial support needed to cover these treatments, we

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[17] There is also the related cost of lost wages from days not worked that the individual could not take as vacation or personal days, including those that are only paid for the work that they do (e.g., taxi drivers), or lost revenue for business owners who need to close or pay someone that they otherwise would not have to run it during that time. However, this is an example of something that would be outside of the scope of this project to estimate.

[18] $10,500 for IVF and $1,850 for approximately 50% of clients.

considered the costs of procedures involved in both IUI and IVF for a single cycle. [19] It is important to note that many clients undergoing IUI or IVF will have to undergo multiple cycles of treatment.

Table 15 provides estimates for the total funding required by the NL government to cover one cycle of IVF and/or the necessary medications for a single round of IVF, based on projected caseloads at StartUp and FutureMax. It was assumed that at StartUp, 60% of IVF cycles would require Intracytoplasmic Sperm Injection (ICSI), while this percentage would be 40% at FutureMax.

The calculations in both Table 15 and 16 assume the availability of IVF services within the province. It is worth noting that if IVF were not accessible locally, and clients had to seek treatment outside NL, the caseloads would likely be lower.

Table 15. Proposed fees for service to deliver IVF in NL

	Total cost to gov @ StartUp (200 cycles per year)	Total cost to gov @ FutureMax (500 cycles per year)
IVF	$2,322,000	$5,620,000
IVF medications	$1,000,000	$2,500,000
Total	$3,322,000	$8,120,000

Table 16 displays the projected expenses for the government to cover all cycles of IUI with medication and without medication at both StartUp and FutureMax. The estimates for IUI costs at StartUp and FutureMax are derived from the anticipated number of cycles using fresh and frozen samples, each including one semen analysis.[20] [21]

[19] To see a breakdown of these costs see Appendix G.

[20] At StartUp, it was estimated that 500 IUI cycles would be conducted using fresh samples, while 122 cycles would utilize frozen samples. For FutureMax, projections included 1250 cycles with fresh samples and 305 cycles with frozen samples.

[21] To see a breakdown of these costs see Appendix G.

Table 16. Proposed fees for service to deliver IUI in NL

	Total cost to gov @ StartUp (622 cycles per year)	Total cost to gov @ FutureMax (1555 cycles per year)
IUI	$646,700	$1,616,750
IUI medications	$622,000	$1,555,000
Total	$1,268,700	$3,171,750

In summary, this section delved into the estimated costs associated with covering one cycle of IVF and all IUI cycles—the procedures and medications, recognizing the potential impact of offering comprehensive care coverage. We estimate that these costs would be $4,590,000 at StartUp and $11,291,750 at FutureMax. While acknowledging the fiscal challenges and sustainability concerns, it is worthwhile to note that covering the costs of medical procedures enhances accessibility. Therefore, it's recommended that the government consider extending coverage to IVF and IUI procedures, understanding that timely financial assistance can bolster access to vital reproductive health care services. It is expected that this would cost $2,968,700 at StartUp and $7,236,750 at FutureMax.

Cost Considerations Related to Delivery of Fertility Services in a Public vs Private Care Setting

Understanding the financial dynamics of fertility clinics, whether public or private, involves an analysis of money coming in versus money going out. Funds received by a healthcare facility, whether from the government or from clients, would be considered money coming in, while the money going out consists of operational expenses.

In public health care, government funding predominantly covers costs, often through annual budgets and billing systems like MCP (Medical Care Plan). However, clients may sometimes bear certain expenses, which could be partially or fully covered by private insurance or paid for ‘out-of-pocket’. In contrast, private clinics tend to rely more

heavily on client paying ‘out-of-pocket’ or through private insurance, although governmental coverage for medical services delivered through private clinics is also a model that exists (e.g., for fertility services in Quebec and Ontario). For instance, private clinics may bill government health care plans for certain services rendered, although they are delivered through a private clinic.

While desirable for the patient, insuring a service can be complicated as it may require the government to allow a private clinic to bill MCP for a service that is also offered in the hospital. A related and complicated decision is whether to keep the fee the same as when the code is used in a public facility and create an associated “facility code” that helps cover the cost of the facility and other costs of offering the service outside of a public facility (i.e., costs typically covered by a service budget when they are delivered in a public facility) or whether to create a new code associated with a higher amount that is essentially the sum of those two amounts (i.e., physician time and other associated costs). These are all key decisions that the government will need to make should they decide to transition fertility services to a private clinic.

Yet another important difference between a public clinic and a private clinic is that the latter needs to ensure that their revenue is greater than or equal to their costs. Therefore, the last thing demonstrated in this section is the financial viability of a private clinic.

Table 17 provides a breakdown of the revenue that a private clinic in NL could expect to generate at StartUp. The calculation is based on the estimated fees and client volumes for specific fertility services that have been discussed in this report. Caseload estimations assume that clients received financial support from the government in some form to cover IUI, IVF, and semen analysis.

Table 17. Revenue by procedure at StartUp

Procedure description	Cases / year @ Start Up	Fee per case	Total revenue
Diagnostic semen analysis	622	$225	$139,950
Sperm preparation for IUI (fresh)	500	$800	$400,000
Sperm preparation for IUI (donor)	122	$875	$106,750
IVF	200	$10,500	$2,100,000
ICSI supplement	120	$1,850	$222,000

Retrograde ejaculate analysis	2	$450	$900
Frozen embryo transfer	180	$2,700	$486,000
Sperm cryopreservation (per specimen)	50	$300	$15,000
Total			$3,470,600

The total estimated in Table 17 represents a very conservative estimate of the potential revenue a private clinic would generate because this report does not have caseloads for all of the services for which it has estimated costs. For a list of more services that would be provided and their recommended fees, see Appendix G. Moreover, private clinics can generate additional revenue by offering specialized services such as complementary and alternative medicine (CAM) (e.g., acupuncture or massage therapy) or by providing advanced diagnostics not commonly available in public health care settings. Therefore, while the projected revenue from the set of services for which this report has caseloads ($3,470,600) is lower than the estimated cost of operating a private clinic at StartUp ($4,253,689), it is imagined these other potential revenue streams could make a private clinic financially viable.

That said, this projected revenue is based on caseloads that assume that there would be financial support for the procedure. Therefore, if these fees were left for clients to cover, it is expected that it would be more challenging for the clinic to cover its costs as they would remain roughly the same (i.e., because a clinic would require the same facility and equipment, and staff and products costs would be similar).

Lastly, this section looks at the financial viability of a private clinic at FutureMax. Table 18 provides a breakdown of the projected revenue at FutureMax.

Table 18. Revenue by procedure at FutureMax

Procedure description	Cases / year @ Future Max	Fee per case	Total revenue
Diagnostic semen analysis	1555	$225	$349,875
Sperm preparation for IUI (fresh)	1250	$800	$1,000,000
Sperm preparation for IUI (donor)	305	$875	$266,875
IVF	500	$10,500	$5,250,000

ICSI supplement	200	$1,850	$370,000
Retrograde ejaculate analysis	10	$450	$4,500
Frozen embryo transfer	450	$2,700	$1,215,000
Sperm cryopreservation (per specimen)	250	$300	$75,000
Total			$8,531,250

Again, it is believed that this is a lower bound of the amount of revenue that a private clinic would generate because this report does not have caseloads for all of the services for which it has estimated costs. Nonetheless, it can be seen that the total, $8,531,250, is greater than the estimated cost of operation at FutureMax, $7,425,694. This report is therefore confident that a private clinic would be financially viable at FutureMax, at least if the government were to cover the cost of one cycle of IVF and all IUI cycles. As a reminder, estimates of these costs are included in the “Potential Cost to The Government” section of this report.

In conclusion, the analysis indicates that a private fertility clinic can indeed be financially viable, as evidenced by the projected revenue figures. At StartUp, the conservative revenue estimate of $3,470,600 already approaches the operational cost of $4,253,689, suggesting potential viability even without accounting for all services. Furthermore, at FutureMax, the conservative revenue estimate of $8,531,250 comfortably exceeds the estimated operational cost of $7,425,694. These figures underscore the potential for financial sustainability, especially when considering additional revenue streams and government support for essential procedures like IVF and IUI. However, ongoing government backing remains crucial for long-term viability, emphasizing the delicate balance required within the health care landscape.

CRITICAL DECISIONS IN FERTILITY CARE

Critical Decisions in Fertility Care: Exploring Aspects of Future Models of Care

In evaluating the landscape of fertility care in NL, three pivotal decisions emerge as critical in shaping the future trajectory of fertility services in the province:

1. Should NL provide IVF services in the province?
2. How will financial barriers be addressed to improve access to fertility care?
3. Is a public or private setting optimal for the delivery of Fertility Services?

The answers to each of these questions represent a distinct pathway for the future of fertility in the province, impacting the accessibility, affordability, and quality of fertility care in NL. This section of the report will review the evidence surrounding these pivotal decisions.

EXAMINING THE IVF SERVICE GAP

In-vitro fertilization services are not currently offered within the province. Residents seeking IVF must travel to other provinces to access treatment. Currently, most NL residents are referred to fertility clinics in Calgary, Ottawa, or Halifax to undergo IVF treatment. The purpose of this section of the report is to provide evidence to support decision-making regarding whether or not NL should provide IVF services in the province.

National Context

Most Canadians have access to IVF in their home province. Newfoundland and Labrador, and PEI are the only Canadian provinces where IVF services are not available, highlighting a regional disparity in fertility care access.[161]

IVF as a Treatment

There are numerous causes of infertility. In about 15% to 30% of cases, the cause of infertility cannot be identified; this is referred to as unexplained fertility.[162] The recommended approach to treating infertility varies considerably based on the specific

diagnosis and individual factors. The three main types of treatment are medicines to assist fertility, surgical procedures, and assisted conception.[163]

When it comes to assisted conception, the available treatments include IUI and IVF. As outlined in the report's current state section, IUI stands as the sole assisted conception treatment offered in NL. This procedure involves the direct placement of processed semen into the uterus, increasing the likelihood of sperm reaching the fallopian tubes for fertilization, with the ultimate aim of achieving pregnancy.[164]

In contrast, IVF, which is not covered by the provincial insurance program, is a considerably more costly and invasive procedure.[165] It begins with the administration of drugs to stimulate egg production, followed by the retrieval of eggs from the ovaries through minor surgery. These eggs are then combined with sperm in a laboratory setting, sometimes involving direct sperm injection. Subsequently, the resulting embryos are cultured and monitored for growth before viable embryos are transferred into the uterus in the hopes of achieving pregnancy.[166]

While the optimal treatment for infertility varies depending on the individual diagnosis, IVF is often recognized as a more effective ART than IUI. Success rates for IVF are notably higher than those of IUI.[167] Reported success rates for IUI typically range from 5% to 15%, contingent upon various individual factors. In contrast, IVF boasts a live birth success rate of around 40% or higher.[168]

Quality of Care

The absence of in-province IVF can impede patients' access to the most appropriate care. It is generally accepted that IVF should be considered after 3 to 4 unsuccessful cycles of IUI.[169] The Canadian Fertility and Andrology Society guidelines for treating unexplained infertility suggest that IVF should be recommended after three cycles of IUI have failed.[170]

Newfoundland and Labrador currently see higher IUI cycles per client than the medically recommended threshold before pursuing IVF. Insights gleaned from interviews with NLFS staff suggest some clients have undergone as many as 11 IVF cycles.

Currently, there is no cap on the number of IUI cycles that NL residents can complete at NLFS; in contrast, IVF is costly and is currently unavailable in the province. Clients are choosing to continue with IUI cycles rather than moving to IVF because they view IUI as their only viable option due to financial constraints and the fact that IVF is not currently available locally.

For those who could afford the procedure or who have private health insurance that covers fertility treatment, having IVF available in the province would allow clients for whom IVF is a more appropriate treatment to access that option sooner.

For some individuals, the inability to access IVF within the province isn't about accessing the best treatment for them; instead, it is about accessing their only viable treatment option. For example, IVF is often the only treatment option for individuals with severe tubal disease where both fallopian tubes are blocked. Similarly, for same-sex couples where both partners are biologically male and single men, IVF represents an often-sought avenue to parenthood. For transgender individuals, as well as those whose fertility has been compromised by cancer treatments and who require egg preservation, the absence of IVF options in-province signifies a significant barrier to accessing essential care.

Fertility Preservation

Fertility preservation, including the extraction and freezing of eggs for future IVF use, is an integral component of IVF services. Having IVF in the province ensures individuals are provided with the opportunity to safeguard their reproductive options for the future through egg preservation. This ensures that those facing circumstances such as cancer treatments or other medical interventions that may impact fertility can proactively preserve their ability to pursue parenthood through IVF when they are ready. Therefore, bringing IVF services into the province must encompass fertility preservation to offer a holistic approach to reproductive health care.

Approximately nine percent (9%) of individuals assigned female at birth with new cancer diagnoses are between the ages of 15 and 45 and could be seeking egg preservation. Eighty percent (80%) of this group will be affected by reduced fertility. Most people in that range who are going through cancer treatment would be advised about the potential impact on fertility and counselled that the adverse effects of anti-cancer therapy on the ovaries and uterus have a significant impact on future fertility. Research shows us that around 70 to 75% of people at the time of diagnosis are interested in fertility preservation. In the case of oncology patients assigned female at birth, egg extraction is required for fertility preservation, a service not currently available in the province. [171]

Challenges Faced by Fertility Service Clients

A survey of NLFS clients revealed varying levels of confidence in accessing fertility care and services within the province. Approximately 35% of respondents expressed no confidence at all, citing concerns such as high treatment costs, prolonged wait times, limited services, and the absence of IVF treatment within NL. Additionally, dissatisfaction with treatment outcomes was often attributed to the necessity of out-of-province travel for IVF procedures. These consistently reported challenges underscore significant barriers to accessing fertility services within NL, particularly the inability to access IVF treatment within the province.

Feasibility of Introducing IVF Services

The feasibility of introducing IVF services in NL was thoroughly examined, considering factors such as demand, infrastructure requirements, staffing needs, and training considerations. Demand for IVF treatment within the province was estimated at approximately 200 to 500 cycles annually, representing a significant portion of individuals seeking fertility treatment.

Infrastructure and Staffing Requirements

Infrastructure upgrades, including new construction and equipment acquisitions, were projected to incur substantial costs, totalling approximately $10 million for construction and $2 million for equipment. Additionally, staffing requirements, such as nursing, patient care coordination, laboratory management, and lab staff, were identified to meet the demands of IVF services. The estimated operating cost for a fertility clinic offering a full spectrum of services, including IVF, is $4,253,689 annually at StartUp. These figures assume provincial coverage for one round of IVF per client. Continuing to provide existing services with some improvements based on the recommendations in this report is estimated to cost $2,499,262.

Based on these projections, the introduction of IVF to fertility services in the province is expected to incur an additional annual cost of $1,105,868. This expense is anticipated to rise over time with increased demand as is shown in the calculations for FutureMax in the finance section.

Training and Competency Maintenance

While specific guidelines for maintaining competency in IVF procedures were not established, given the evolving landscape of reproductive medicine and the significance of maintaining proficiency in ART, it is recommended that Reproductive Endocrinologists and Infertility (REI) specialists undergo a process to demonstrate competency before integrating IVF services into a fertility clinic in NL. However, it should be noted that scope and competency fall under the jurisdiction of the profession's regulatory bodies.

The introduction of IVF services will require new laboratory expertise (Embryologists and Andrology Laboratory Technician). At present, one of the current NLFS staff is training to be an Embryologist. To optimize efficiency, it is advisable to offer training to the current MLTs to fill the required Andrology Laboratory Technician positions. This training can be completed in 10 months.

While nurses may not directly perform IVF laboratory procedures, it's imperative that they receive training to ensure a basic understanding of laboratory protocols, quality control measures, and safety precautions. Nurses play a crucial role in educating patients about the IVF process, including pre-treatment preparation, medication administration, and post-procedure care. Therefore, their training should encompass education on the principles and procedures involved in IVF, such as ovarian stimulation protocols, oocyte retrieval, fertilization techniques, embryo transfer procedures, and cryopreservation methods. These competencies can be acquired through professional development opportunities.

Summary of the Exploration of the IVF Service Gap

In examining the IVF service gap within NL, it becomes evident that the absence of in-province IVF services poses significant challenges to residents seeking fertility treatment. This lack of accessibility forces residents to seek IVF treatment in other provinces, resulting in increased financial burdens, prolonged wait times, and dissatisfaction with treatment outcomes. Moreover, the absence of IVF services within NL impedes individuals' ability to access the most appropriate care, particularly for those for whom IVF represents the sole viable treatment option. The estimated demand for IVF treatment within the province is substantial, and while infrastructure and staffing requirements may pose initial challenges, they are surmountable with proper planning and investment. By providing IVF services within NL, the province can address the unmet needs of residents seeking fertility treatment, improve access to appropriate care, and ensure reproductive health care is more equitable and accessible for all.

FINANCIAL BARRIERS

Exploring Financial Support Options for Fertility Treatments

A single round of IVF can cost approximately $12,000, which is a significant barrier to fertility treatment for NL residents. To help with these costs, NL has a Fertility Subsidy Program that offers a subsidy of $5,000 per IVF cycle that can be accessed a maximum of three times. Funding from this program can be used to help pay for frozen embryo transfer, donor egg cycles, donor embryo cycles, oocyte cryopreservation, intracytoplasmic sperm injection (ICSI), and gestational carrier cycles, as well as medications associated with these services.[172]

Although the current subsidy offers some financial support (e.g., decreasing financial pressures and lowering client stress), it is not enough to drastically improve access to services for those who cannot afford them outright.

This section provides evidence to support decision-making regarding financial support and funding of fertility services, specifically IVF.

Fertility Service and Medical Necessity

Before discussing possible financial support for fertility services, it is important to understand why fertility services like IVF are not currently covered by provincial health insurance. Public health care refers to a model of care in which medical services are provided by the government using public funds. The public health care system in Canada is governed by the Canada Health Act, which is the federal legislation that outlines the principles and criteria that provinces and territories must adhere to in order to qualify for federal funding for their provincial health insurance programs. Each provincial and territorial health insurance plan must cover **medically necessary** hospital and doctors' services that are provided on a prepaid basis, without direct charges at the point of service.

The Canada Health Act does not provide a clear definition of 'medically necessary' treatments but notes that they are those essential for maintaining health, preventing diseases, or diagnosing and treating injuries, illnesses, or disabilities.[173] The provinces and territories have the ability to decide what is and is not medically necessary based on that definition. IVF is not considered medically necessary under the definition in the Canada Health Act. In most provinces, funding support lies with a program that is outside of provincial insurance coverage.

International Context

Although the extent of support ranges, there is some state funding or reimbursement for ART in almost all EU member states. The extent of support varies from around 90% in Belgium, France, Greece, Netherlands, and Slovenia to 20-30% in Bulgaria, Romania, and Spain.

National Context

As of the writing of this report, most Canadian provinces offer funding for IVF; the three territories, Alberta, and Saskatchewan, do not. Funding programs range in eligibility criteria and the amount of support, whether the funding is through reimbursement or does not require direct charges at the point of service. Specifics on funding criteria and extent of support for IVF can be found in the jurisdictional scan. As previously noted, in most cases, IVF is not funded through the provincial health insurance programs but through separate funding programs or tax credits.

Quality of Care

As previously noted, IVF success rates are notably higher than IUI, with research citing live birth success rates of 40% or more in initial cycles, while IUI success rates typically range from 5% to 15%.[174]

These extensive gaps in the ranges are due to variables such as age, height and weight, type of fertility issues, egg retrieval versus donor eggs, number of egg retrievals and embryo transfers, etc., but it is clear that the higher success rate of IVF makes it a significantly more effective treatment in certain situations. However, it is not a financially viable option for many.

In NL, clients often undergo over 6, and sometimes up to 11, IUI cycles. This is because IUI is a more financially accessible treatment option compared to IVF and is currently the only option available in the province.

Introducing IVF in-province and providing financial support for residents is expected to decrease dependence on IUI when it is not the optimal treatment.

Client Voice

According to the client survey conducted as a part of this review, 91% of respondents faced challenges in accessing fertility treatment. Some of the most frequently cited obstacles included high costs of treatments and procedures (13%), additional costs such as travel expenses and loss of income due to procedures (12%), and lack of insurance coverage or limited coverage for fertility treatments (11%).

The second most common suggestion given when asked, “How could services at NLFS be improved?” was to reduce cost barriers, and when asked, “What they felt was most important for the future of fertility services in NL?” 26% suggested reducing costs.

In 2023, NLHS conducted an evaluation of the first year of the IVF subsidy program.[175] Several design improvements were proposed to the IVF subsidy that address some of the challenges previously cited, including:

1. Enhanced Financial Support: This involves providing greater financial assistance, such as increasing the lifetime total beyond $15,000, considering more than $5,000 for each application, and allowing for more than three applications.
2. Flexible Fund Allocation: Allowing patients the flexibility to decide the release of funds that best support them in accessing treatment, for example, accessing all the allocated money for a single trip or a one-shot opportunity.
3. Upfront Financial Support: Providing money upfront so that patients do not have to seek alternative modes of financing or pay interest on financing while awaiting reimbursement.

By implementing these design improvements, the report suggested that NLFS could effectively address the identified challenges and enhance accessibility to fertility treatment services for individuals in NL. However, as noted previously, funding for out-of-province access to IVF does not improve access for all NL residents seeking fertility care. Specifically, the solution of providing funding does not necessarily improve access for oncology patients who require fertility preservation but may be advised not to fly due to their condition.

The Impact of Funding Design

Funding design can have a significant impact on access. In the client engagement work completed for this review, it was clear that reimbursement-based funding models still present significant barriers for the most at-risk groups; the impact of a model of funding support that does not require payment at the time of service can be seen in Quebec’s

journey through funding IVF. For example, funding that is structured around tax credits does not allow clients to claim the credit until the following tax period, leaving residents having to absorb costs for a long period before any financial relief (tax credit) is received.

Prior to 2015, Quebec covered up to 3 IVF cycles. The three-cycle coverage was cancelled in 2015, it was claimed as unsustainable by the new provincial government, and the publicly funded IVF program ended and was replaced with tax credits (a reimbursement model).

The switch to the tax credit had a significant impact on access and increase in multiple births. Only one year after the funding changes went into effect, the number of IVF procedures greatly decreased.

In 2021, Quebec switched to funding a single IVF cycle under the medically assisted reproduction (MAR) program, which provides a medical solution for individuals and couples who are unable to conceive a child. This model provided full funding for one cycle of IVF and did not require clients to pay at the time of service. [22]

Reducing Additional Costs to The Health Care System Through Restrictions Tied to Funding

Funding conditions are also an important piece of funding design that can have a significant impact on positive outcomes and costs to the overall health care system.

In 2009, an expert panel convened by the government of Ontario found that the high cost of private IVF was the biggest barrier to people wishing to build their families through assisted reproduction and that it also contributed to elevated rates of multiple births, as patients often opted for multiple-egg transfers knowing they may only be able to afford a single round of IVF.

It is worth noting that although legislation for independent health facilities exists, Ontario currently lacks specific legislation addressing assisted reproduction. However, regulatory measures can be taken by linking them to funding requirements. The Ontario

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[22] If a person does not meet Quebec's criteria for insured treatment and has to pay out of pocket, they are still eligible for tax credits that will cover between 20 and 80 per cent of the costs, not surpassing $20,000 per year depending on their income.

IVF funding program only allows for one embryo transfer under its mandatory single embryo transfer policy.

This is meant as both a safety and money-saving measure aimed at cutting the roughly 30 per cent multiple-birth rate that results from IVF. Tying funding to single embryo transfer has been recommended as public policy in the literature.[176]

Funding Fertility Treatment Return on Investment

Positive economic benefits have been found from public financing of IVF. A review of research examining economic impact of IVF funding in developed countries found a positive impact.

A study in Austria showed that coverage for women aged 42 and under had a return on investment of up to 5 rounds of IVF. The provision of fertility treatment is valued highly by taxpayers and at least five publicly funded treatment cycles seem to provide good value for money in most age groups based on the assessment of this study.

A study in South Africa found positive long-term economic benefits of providing IVF funding. The research showed that based on the average IVF investment cost needed to achieve one live birth, the fiscal return on investment (ROI) for the South African Government was 5.64 times the investment.

Assisted reproductive technology is expensive from a patient perspective but not from a societal perspective. There is some research to support the assertion that funding mechanisms should maximize efficiency and equity of access while minimizing the potential harm from multiple births.

Summary of Exploration of Financial Support Options for Fertility Treatments

The expense of IVF is a significant barrier for individuals and families seeking fertility treatments. Since 2020, the number of provinces providing financial support for IVF has doubled, increasing from 4 provinces to 8. Studies indicate that funding models that do not require payment at the time of purchase are more effective at removing financial barriers than rebate programs. In addition, implementing restrictions on treatments linked to funding allocations has the potential to curtail future costs to the health care system. The evolution towards increased funding for IVF and increasing research on the value of that funding represents a pivotal stride in fostering equitable access to reproductive health care services across Canada.

FUTURE SERVICE DELIVERY MODELS:
The Evidence for a Public or Private Fertility Service

The public health care system in Canada operates under the Canada Health Act. The Act permits NL to engage private (for-profit or not-for-profit) providers in delivering health care services, provided that patients are not charged for medically necessary services covered under the provincial insurance plan.[177]

As previously discussed, the term 'medically necessary' is not clearly defined in the Canada Health Act but generally distinguishes between treatments aimed at averting adverse health outcomes and those not considered essential. In the context of fertility services, this typically means that treatment for underlying health issues leading to infertility may receive public funding, while support for ART is subject to provincial discretion. This places fertility clinics in a unique position, offering a combination of insured and uninsured services. Services leading to a diagnosis of infertility are often covered by provincial insurance, while treatments such as IVF and fertility preservation services require out-of-pocket payments.[178]

This section examines alternative delivery models for fertility care in NL, specifically comparing public and private health care settings. The analysis aims to provide evidence-based insights into the most suitable approach for delivering fertility services in the province.

National Context

The jurisdictional scan conducted for this review revealed that while publicly administered fertility clinics were operating in some provinces, the landscape has since shifted towards private operation nationwide. A small number of assisted-reproduction centres that provide some insured fertility services such as diagnostics and some medically assisted reproduction treatments exist. There are currently no publicly operated fertility clinics that offer IVF in Canada.

Rationale For Moving Uninsured Services from Public to Private Models

While precise information on the shift towards private fertility clinical models is limited, insights were gleaned from interviews with NLFS and NLHS staff, interviews conducted as part of the jurisdictional scan and an online letter posted by Alberta Health Services

on the rationale for the move of uninsured fertility services from a public setting to a private setting.[179]

Responsibility to Taxpayers: The medical necessity of treatment for infertility is still being debated. As a result, fertility clinics often offer a mix of insured and uninsured services. While cost recovery models may exist for non-insured services, there are still overhead costs that are subsidized by the health care system. Redirecting these resources towards publicly funded services may lead to more efficient use of public funds. With limited funds and competing priorities, it is important to ensure that public funds are dedicated to supporting insured services.

Patient Need, and Resource Allocation: Publicly funded services are expected to prioritize the needs of the general population and ensure efficient resource allocation. Prioritizing insured services allows for better responsiveness to patients accessing publicly funded health care. Shifting non-insured fertility services to a private clinic can free up valuable resources such as space, equipment, and staff. These resources can then be redirected toward high-priority areas within the health care system, where the need may be greater.

Wait Times and Service Improvement: As demand increases for fertility services wait times increase. Moving uninsured services out of the public system may reduce wait times for fertility clients. A publicly-funded clinic may find it challenging to adequately meet this demand, in particular when fertility services will always be deprioritized against more acute care. Moved to a private clinic, fertility would be the sole focus with no other competing demands.

The Contradiction of Fee-Based Services within a Public System: The coexistence of fee-based services alongside insured services within a public clinic can create a challenging dynamic for clients to navigate. The juxtaposition of fee-based services alongside insured services within a public clinic can be perceived as contradictory to the fundamental principles of fairness, access, and equal treatment that underpin public health care. This highlights a potential for disparities in access, and even though that care is based on uninsured services, it is still set within the health care system, which could undermine public trust and confidence in its ability to provide equitable services to all individuals.

Public Model Considerations

Public health care refers to a model of care in which medical services are provided by the government using public funds.

The current model of fertility services in NL is a public model supported by NLHS and the Provincial Government. The Department of Health and Community Services provides a leadership role in the Children and Women's Health Program and policy development for the province, while NLHS is responsible for operational aspects and service delivery of NLFS.[180]

Strengths of the Current Public Health Care Setting

One of the primary strengths of any public health care setting is its commitment to patient-centred care, prioritizing accessibility, and access. By funding fertility treatments, public clinics ensure that financial barriers do not hinder individuals from accessing necessary care. As noted, not all fertility treatments are insured; however, the public setting does ensure a cost recovery model for uninsured services that require out-of-pocket costs.

Public health care infrastructure also benefits from economies of scale not available to private clinics, allowing for the pooling of expertise and resources. Additionally, public health care settings adhere to rigorous regulatory standards, ensuring quality and safety in service delivery.

The current public model is already operating and would require minimal administrative effort to continue. Although the gap analysis highlights opportunities for improvement, these would require less effort than to transition to a private model. The financial and human resource implications of maintaining the public model can be found in the next section.

Challenges of Public Health Care Setting:

While the public health care setting boasts notable strengths, challenges persist, as indicated in the current state, and further expanded on in the rationale for the shift of uninsured fertility services toward privatization. Through interviews with NLHS staff, analysis of the current state of fertility services in the province, and examination of human resources and financial data, specific risks, and barriers to the continued operation of fertility services within a public model have been identified.

Risks/Barriers:

1. Limited resources and competing priorities:

The constraints of limited resources and competing priorities pose significant barriers to meeting the specialized needs of fertility treatment in public settings. In situations where medical interventions are required to address life-threatening conditions or acute illnesses, such as trauma, cancer, or infectious diseases, the allocation of resources naturally gravitates toward these critical areas. This inherent prioritization of life-saving measures can inadvertently relegate fertility care to a secondary position, despite its profound impact on individuals' well-being and quality of life.

For example, consider a scenario where a patient undergoing fertility treatment requires regular blood tests to monitor hormone levels and assess ovarian response during the course of treatment. In the same health care system, another patient is experiencing symptoms of severe anemia and requires urgent blood tests to assess hemoglobin levels. The limited availability of diagnostic equipment and laboratory resources means that both patients are competing for the same services.

2. Agility:

The field of assisted reproductive medicine is a young field with rapidly changing technology, and being agile is critical to maintaining optimal care for patients. Bureaucratic processes involved in budgeting and purchase approvals can hinder the timely adoption of cutting-edge technologies. For example, the use of a phase contrast microscope with a teaching head is an addition to the current lab that would allow for more accurate semen analysis but has not yet been approved for purchase. [181] Operating with the most up-to-date equipment and methodologies for patient care can increase the accuracy of diagnosis and improve outcomes.

3. Efficiency:

Optimizing laboratory processes for fertility testing is essential to expedite results and reduce turnaround times, thereby enhancing overall clinic efficiency. Efforts to optimize efficiency are often hindered in a public setting due to various factors. For instance, as noted in the current state and gap analysis, the laboratory currently lacks essential equipment such as safety cabinets and storage tanks, which are necessary for providing current services. In some cases, requests for needed equipment updates have been in place for years, highlighting resource constraints or bureaucratic delays.

4. Staffing Challenges:

In a public health care setting, the challenge of retaining qualified staff, particularly reproductive endocrinologists, and infertility specialists, is multifaceted. One of the primary risks involves the potential loss of these specialized professionals if IVF services are not provided within the province. IVF represents a cornerstone of modern fertility treatments, and its absence may deter reproductive endocrinologists from remaining in a system where they cannot fully utilize their expertise.

Beyond the absence of IVF, other challenges such as maintaining the right staffing mix and ensuring adequate resources further compound the issue. In a public setting where resources may be constrained, it becomes difficult to offer competitive salaries, provide ongoing training opportunities, or invest in cutting-edge technology—all of which are crucial for retaining top-tier reproductive endocrinologists and infertility specialists.

Moreover, without opportunities to enhance their skills and knowledge or advance their careers within the public healthcare system, these specialists may be inclined to seek employment elsewhere. Private clinics or healthcare facilities in other regions or countries that offer comprehensive fertility services and professional development opportunities could become attractive alternatives.

The departure of reproductive endocrinologists and infertility specialists due to these challenges not only leads to a loss of specialized expertise but also disrupts continuity of care for patients, potentially impacting their access to fertility treatments and overall quality of care. Therefore, addressing the retention of such critical staff members requires a comprehensive approach that includes not only the introduction of IVF services but also strategic investments in staffing, resources, and professional development opportunities within the public healthcare system.

5. Preparing for Increased Demand:

The utilization of ART is increasing, driven by rising rates of infertility and the advancing age of conception among both men and women.[182] Preparing for increased demand for fertility services is crucial to meet patient needs. Delays in treatment can exacerbate emotional distress for individuals and couples already experiencing the stress of infertility. Additionally, as fertility declines with age, prolonged wait times can significantly reduce the chances of successful conception. A public setting may struggle to accommodate future demands given their constrained budgets and bureaucratic decision-making processes. The gap analysis conducted for this report reveals deficits in current laboratory space and equipment (i.e., biological safety cabinets or laminar

flow hoods) to meet current demands, in addition to requests for additional staff to meet current demands. The challenges faced by public clinics in meeting future demand for fertility services are rooted in systemic constraints within the public healthcare system.

6. Incongruence of Fee-for-Service Care:

As noted previously, the incongruence between services that carry an out-of-pocket cost and insured services in a public setting may pose navigational challenges for clients. This juxtaposition may also be perceived as contradictory to the core principles of fairness and equal access in public healthcare and will lead to disparities in access to care being delivered at a public institution. The combination of insured and uninsured services within a public fertility clinic could erode public trust in its ability to deliver equitable care to all.

In an article explaining the transition from a pay-out-of-pocket hospital-based public clinic to a private clinic in Alberta, one of the biggest concerns was that the public clinic operated on a cost-recovery model while the private clinic charges on a for-profit basis. One of the doctors at the public hospital clinic noted many of their patients would not be able to afford the 20—25% higher fees at the private clinic. The transition of valuable staff and skills out of the public system to the private clinic was also a concern. Patients involved in the move reported very high stress over the need to move to a privately run clinic despite receiving reimbursement for the transfer cost from Alberta Health Services.

Table 19. Risks/barriers of the public healthcare system and mitigation strategies

Risks/Barriers	Mitigation
1. Limited resources and competing priorities	• Increase funding specifically earmarked for fertility services. • Consider the operation of fertility services outside of a public setting.
2. Agility: The ability to keep up with rapid tech advances/new equipment needs	• Implement streamlined procurement processes specifically tailored for acquiring new equipment and technology. This involves reducing bureaucratic red tape and expediting approval processes to ensure timely acquisition of necessary equipment.

	• Allocate flexible budgets or reserves specifically designated for adopting new technologies and addressing equipment needs in fertility clinics. This allows for quick decision-making and funding availability to keep up with rapid tech advances. • Implement budgeting frameworks that allow for reallocation of funds based on emerging priorities and technological advancements within the fertility field. • Allow more autonomy or independence in management of the clinic
3. Efficiency: The ability to optimize laboratory processes to expedite results and reduce turnaround times, improving overall operational efficiency.	• Optimize laboratory processes for fertility testing, such as blood tests, ultrasound, and semen analysis, to expedite results and reduce turnaround times.
4. Staffing Challenges	• Maintaining status quo and not bringing IVF in province could result in the loss of fertility specialists
5. Meeting Future State Demands	• Capacity planning and demand projections in this report will help meet future demands but additional facility capacity, equipment and staffing are needed
6. Non-insured services in a public setting is incongruent with insured services	• Consider the operation of fertility services outside of a public setting

Private Model Considerations

Private healthcare settings differ significantly from their public counterparts, as they are not government-operated; instead, they are owned and managed by private entities. These private healthcare clinics and facilities have the flexibility to operate on either a for-profit or not-for-profit basis. Although patients in private clinics typically cover the

costs of treatments and procedures out-of-pocket, it's noteworthy that provincial governments can enlist private providers to deliver insured healthcare services. In such instances, patients wouldn't be required to pay out of pocket for insured services, despite their provision in a private healthcare setting. The financial and human resource implications of maintaining the private model can be found in the next section.

Strengths of Private Healthcare Setting:

The private healthcare setting offers advantages such as flexibility, autonomy, and efficiency. Private fertility clinics can quickly adapt to market demands and patient preferences, offering personalized treatment plans and innovative services. Moreover, streamlined administrative processes may reduce wait times and enhance the overall patient experience.

Additionally, private clinics may more easily leverage collaborations with other healthcare providers to expand access to specialized care and support services.

The interviews conducted in the jurisdictional scan and with NLHS and NLFS staff highlighted the difficulties of operating fertility care within a public healthcare system noting fertility care is a service with unique demands that require more agility than most healthcare services.

Public healthcare institutions are tasked with judiciously allocating resources, ensuring that essential medical needs take precedence over non-essential treatments. While fertility treatment is not deemed medically necessary, it imposes significant demands on resources and time. Operating within a private model dedicated to fertility, free from competition with life-saving healthcare treatments for resources and priorities, offers a more suitable environment for the demands of fertility care.

Challenges of Private Healthcare Setting:

The private healthcare setting does present challenges, including affordability and equity concerns. Out-of-pocket costs may limit access to fertility treatments for individuals with limited financial resources, exacerbating health disparities. Moreover, the pursuit of profit may prioritize financial considerations over patient well-being, raising ethical and transparency concerns.

Risks/Barriers:

1. Concern about high costs to the province and the public:

There is apprehension regarding the potential financial burden on the province and the public due to the introduction of a private fertility clinic. Private clinics may charge higher fees, which could limit access to fertility services for certain demographics.

2. Lack of Regulation - Maintaining quality of care:

Federal regulations for licensing and monitoring IVF clinics were introduced in earlier versions of the Assisted Human Reproduction Act. However, the Supreme Court invalidated these provisions in 2010 due to their infringement on provincial jurisdiction.[183] [184] The absence of stringent regulation raises concerns about the quality of care provided by private clinics. Ensuring consistent standards of care across both public and private sectors is essential.

3. Staffing Challenges:

Recruiting and retaining skilled staff, particularly for specialized fertility treatments, poses a significant challenge for both public and private clinics.

4. Transition Challenges:

Transitioning from the existing public healthcare model to an integrated public-private system presents administrative and logistical challenges.

5. Private Clinic Viability:

Questions arise regarding the sustainability and financial viability of private clinics, especially in the absence of direct financial support for IVF procedures.

The integration of private healthcare models for fertility services alongside the existing public healthcare system in NL presents both opportunities and challenges. Mitigation strategies outlined in this report can guide policymakers in effectively addressing concerns while maximizing the benefits of this integration for patients and the healthcare system.

Table 20. Risks/barriers of the public healthcare system and mitigation strategies

Risks/Barriers	Mitigation
Concern about high costs to the province and the public	• NL Gov can negotiate pricing agreements or contracts with a private clinic to ensure fair and reasonable costs for fertility services. This could involve establishing cost-sharing arrangements or reimbursement models that balance affordability for patients with fair compensation for clinics. • Regulation and policy would be required. • Set up independent clinic as a not-for-profit clinic • NL Gov could require private clinics to provide transparent pricing information to patients upfront. This includes detailing all costs associated with treatments, consultations, procedures, and any additional services.
Lack of Regulation - Maintaining quality of care	• There are many options for regulation/monitoring quality of care • A private clinic would still be regulated to a degree and would need to meet standards of any private clinic • Provincial fertility legislation/regulation could be developed • The College of Physicians and Surgeons may need to be consulted to determine standards of care • Funding could be contingent on obtaining accreditation and adhering to certain stipulations (single embryo transfer etc.)
Staffing - will a private clinic be able to maintain staff/get required staff for new treatments	• Current trends shows maintaining nursing staff is more difficult in public settings and many staff are seeking employment outside of the public sector • Train existing MLTs to become embryologists
Transition challenges	• Continuing fee-for-service compensation for physicians providing fertility services in NL in a private model could be accomplished, but would be complicated and would require significant regulatory, policy, and payment schedule changes.
Private clinic viability	• Aside from this model being proven to be viable across the country, the financial analysis has shown viability even without financial support for IVF

Client Voice

Clients are advocating for enhanced accessibility to fertility care, which involves alleviating financial obstacles and ensuring access to IVF treatments within the province. Both public and private models offer potential avenues to meet these needs. It is important to note that NL residents' views on the delivery of fertility services in a public versus private setting were not assessed as a part of this review.

Research on Public Versus Private Care Models

Private healthcare delivery is often touted for its efficiency and sustainability, while public sector healthcare delivery is praised for its equity and accountability. However, there is no clear-cut consensus in the scientific or peer-reviewed literature regarding the universal superiority of either private or public healthcare in regard to patient care, outcomes, cost models, efficiency, or access.[185]

Summary of the Evidence for a Public or Private Fertility Service

In evaluating the potential delivery models for fertility care in NL, a thorough examination of public versus private healthcare settings reveals both opportunities and challenges.

Public Healthcare Setting: The current public healthcare model in NL prioritizes patient-centred care, accessibility, and equity. By funding fertility treatments, public clinics ensure financial barriers do not impede individuals' access to necessary care. A fertility service in a public healthcare setting also benefits from economies of scale, rigorous regulatory standards, and minimal change required to maintain the current model. However, challenges within the public setting include limited resources and competing priorities, agility in adopting new technologies, optimizing efficiency, preparing for increased demand, and navigational challenges for clients.

Private Healthcare Setting: Private healthcare settings offer flexibility, autonomy, and efficiency, enabling quick adaptation to market demands and personalized treatment plans. Streamlined administrative processes may reduce wait times and enhance the patient experience. However, affordability and equity concerns arise due to out-of-pocket costs, potentially limiting access to certain demographics. Moreover, questions about financial viability, lack of regulation, staffing challenges, transition complexities, and client trust in equitable care delivery pose significant challenges to the sustainability and effectiveness of private clinics.

Mitigation Strategies: Mitigation strategies to address these challenges include negotiation of pricing agreements, transparent pricing information, regulation, policy and monitoring of quality of care, incentivizing staff retention, and ensuring the financial viability of private clinics through proven models and careful financial analysis.

Client Voice and Research: Clients advocate for enhanced accessibility to fertility care, emphasizing the importance of alleviating financial obstacles and ensuring access to IVF treatments within the province. While research comparing public and private fertility models lacks a clear consensus on superiority, ongoing evaluation and adaptation based on evidence-based insights remain crucial.

Ultimately, the decision on the most suitable delivery model for fertility services in NL should consider a balance between accessibility, equity, efficiency, and sustainability, guided by evidence-based insights, client needs, and careful consideration of potential risks and mitigation strategies.

MODEL FOR ENHANCED FERTILITY CARE IN NL:

RECOMMENDATIONS FOR CONSIDERATION

Model for Enhanced Fertility Care in NL:

Recommendations for Consideration

The following recommendations, summarized in Table 21, encompass a blend of elements that contribute to shaping a comprehensive model of fertility care, as well as strategies to enhance existing services. While a model of care typically outlines the overarching framework and principles guiding the delivery of services, it can also include specific strategies and initiatives aimed at improving various aspects of service delivery. Both types of recommendation contribute to the overall goals and objectives of improving fertility care in the province.

Key elements of the recommended model include making IVF and fertility preservation for persons assigned female at birth available in province, enhancing financial support for individuals seeking access to fertility care, fostering inclusivity and sensitivity within the service, and enhancing leadership and governance structures to maintain high standards of care.

The evidence provided in this report encompass a thorough examination of both public and private healthcare settings in the context of fertility care in NL. The decision between public and private models of care involves balancing key considerations around accessibility, affordability, regulation, quality of care, and patient outcomes and aligning them with the overarching goals of improving fertility care in NL. While no single argument definitively establishes the superiority of a private over public model of care, the combination of factors discussed in this review make a private model of care the strongest choice for the future of fertility care in the province.

Several key points underscore the rationale for transferring fertility services from a public to a private setting, including:

- Responsibility to Taxpayers: Redirecting resources from uninsured fertility services in public clinics towards publicly-funded services may optimize the use of public funds.

- Patient Need and Resource Allocation: Prioritizing fully-insured services in public clinics allows for better responsiveness to patient needs and efficient allocation of resources.
- Wait Times and Service Improvement: Moving fertility services to private clinics may reduce wait times for fertility clients by allowing focused attention on fertility care.
- The Contradiction of Fee-Based Services within a Public System: The Coexistence of fee-based and insured services in public clinics may create navigational challenges for clients and undermine trust in inequitable service delivery.

Although it is recommended that NL adopt a private model of fertility care, it is important to note that this would be a significant undertaking and not without challenges. The transition to a private model of care will require careful planning, including legislative and policy changes to support billing for services under MCP, as well as oversight mechanisms to ensure quality and accountability. Additionally, the continuation and enhancement of public subsidies and support programs will be crucial to ensure that accessibility is maintained, particularly for lower-income residents.

Regardless of the setting, the recommendations outlined in this report aim to establish a comprehensive and inclusive system that meets the diverse needs of the population, enhances accessibility, and improves reproductive health outcomes for individuals and families across the province.

It is important to note that all recommendations in this report are intended to be implemented in accordance with current legislation and regulatory requirements, including, but not limited to, the Assisted Human Reproduction Act, the Canada Health Act, and privacy and confidentiality laws applicable in NL. Additionally, if accepted, recommendations related to the staffing and training of regulated professions should undergo further consultation with relevant regulatory bodies to ensure they meet professional standards and gain necessary support before implementation.

Table 21. Recommendations for Consideration

Leadership and Governance
1. Address Legislative, Regulatory and Policy Gaps 2. Accreditation of the Fertility Clinic and Lab 3. Implement Integrated Leadership Between the Clinic and the Lab 4. Prioritizing Capital Investments for Improved Outcomes 5. Creation of a Decision-Making Framework
Health Workforce
6. Adjust Staffing Base to Meet Current Needs or to Expand to Offer IVF 7. Support Nursing Staff with Ongoing Professional Development
Service Delivery
8. Expand Range of Services to Include IVF, Egg Extraction, Preservation and Storage 9. Create a More Inclusive Fertility Service 10. Increase Mental Health Supports 11. Establish a Patient Navigator 12. Greater Emphasis on Trauma-Focused Patient-Oriented Care 13. Create an Onboarding Process for New Clients 14. Mobilize Rural Fertility Care: Assess Opportunities for Localized Services
Medical Facilities and Products
15. Expand Lab Space
Health Information Systems
16. Explore Opportunities to Improve Electronic Information Sharing
Financing
17. Fertility Preservation Coverage for Oncology and Transgender Patients 18. Reduce Upfront Costs for Clients Accessing IVF and Fertility Preservation 19. Explore Options to Increase Funding for IVF Using a Direct Payment Model 20. Match Industry Standard for Out-of-Pocket Lab Costs 21. Implement a System to Pay at Time of Service

Leadership and Governance

1. Address Legislative, Regulatory and Policy Gaps

It is crucial to ensure that fertility services in the province maintain the highest quality of care. One way to achieve this is by reviewing and addressing legislative and regulatory gaps. Presently, the only ART legislation in Canada is the Assisted Human Reproduction Act of 2004. While the Act has undergone revisions to strengthen its provisions, with the latest update taking effect in 2020, the primary responsibility for regulation still lies with the provinces.

Private Fertility clinics in Canada adhere to the same regulatory standards as other private healthcare facilities nationwide. Medical professionals working within these clinics are governed by their respective licensing bodies. However, despite the expertise of physicians, consultants (e.g., the lab scientific director), and other healthcare professionals (e.g., RNs, MLTs), clear and specific legislation tailored to the unique challenges and complexities of ART is required. More broadly, with some healthcare services now being delivered within private clinics (e.g., cataract surgery), and the decision to keep fertility care within the public system or allow it to be offered in a private setting being considered, legislation around the operation of private healthcare clinics in the province is needed.

Legislation and regulation around ART and the operation of private healthcare clinics within the province are paramount to ensuring the consistent, safe, and ethical delivery of ART services. They provide standardized guidelines for practitioners to follow, safeguarding the well-being of patients and upholding the integrity of ART practices.

RECOMMENDATION: It is recommended that the NL government review and address legislative and regulatory gaps around the delivery of fertility care in the province. Specifically, it is recommended that the NL government consider the following:

a. **Legislation:** The NL government should consider enacting specific legislation addressing ART and fertility care in the province. This legislation should encompass all aspects of fertility treatment. For example, the legislation should consider mechanisms for ongoing quality assurance and monitoring, including mandatory reporting of clinical outcomes and adverse events to ensure transparency and accountability, as well as provisions for financial and insurance considerations, ensuring equitable access to care. Furthermore, the legislation should incorporate ethical oversight and safeguards to protect the rights of clients and vulnerable populations and address what should be

insured and what should not.

Additionally, it is recommended that legislation should be developed governing the operation of private healthcare clinics within the province. This legislation should aim to rectify the current absence of adequate monitoring and quality control mechanisms in the provision of healthcare services through private clinics. Legislation in this area should establish clear guidelines for quality assurance, patient safety, and ethical conduct across all healthcare services offered within private clinics, ensuring consistency, transparency, and accountability in the delivery of care.

By implementing comprehensive legislation, the government can uphold standards of transparency, accessibility, and ethical practice in fertility care services, ensuring the well-being of all individuals seeking fertility treatments in the province.

b. **Regulatory Framework:** Establishing a regulatory framework that outlines the standards, procedures, and protocols for delivering fertility care within the province is recommended. This framework should cover areas such as patient eligibility criteria, informed consent procedures, laboratory protocols, storage and handling of gametes and embryos, and the ethical conduct of fertility treatments. Legislation on the insurability of fertility services should also be reviewed.

c. **Policy Standards:** It is recommended that policy standards be developed to complement legislation and regulatory frameworks, providing guidance, best practices, and benchmarks for healthcare professionals, fertility clinics, and regulatory agencies.

d. **Contracts/Service Agreements:** In the event that fertility care is transferred to private clinics for delivery, it is recommended that clear contracts or service agreements between the government or relevant healthcare authorities and the private clinics be established. These agreements should outline the terms of service, responsibilities of each party, quality standards, reporting requirements, and mechanisms for oversight and accountability. By formalizing these arrangements, the government can ensure that the delivery of fertility care remains consistent with regulatory and policy standards, safeguarding the interests of patients and upholding the integrity of the healthcare system.

2. Accreditation of the Fertility Clinic and Lab

Accreditation is another mechanism that is often used to ensure quality in service delivery. Currently, most provinces do not require any additional oversight of private

clinics, nor is accreditation for fertility clinics and labs at the federal or provincial level mandatory. Currently, both the NLFS lab and clinic maintain accreditation through Accreditation Canada.

RECOMMENDATION: To ensure public confidence in the continued adherence to high standards and alignment with best practices, it is recommended that accreditation is maintained and that any private fertility clinic and lab in NL maintain accreditation. If a private clinic model were pursued, a service agreement would need to be put in place with the NL government to ensure that the private clinics' services align with the overall healthcare framework for the region. The requirement for accreditation could be incorporated into the service agreement, which would also likely include aspects such as reimbursement, standards of care, data sharing, and adherence to regulations.

3. Implement Integrated Leadership Between the Clinic and the Lab

The current management structure of NLFS is characterized by a distinct separation between the lab and clinic. This structure leads to operational silos, making it more challenging to adopt a cohesive strategy for providing fertility services. With divided management, resources may not be optimally utilized, and NLFS lacks an advocate who understands how the functioning of the lab impacts clinic services and vice versa.

RECOMMENDATION: A management or liaison role should exist with the responsibility for overseeing the integrated functioning of the laboratory and clinic. This individual would serve as an advocate for cross-departmental collaboration, possessing a comprehensive understanding of how the operations of each department impact one another. This role would facilitate decision-making processes and ensure that resources are optimally utilized, that the functioning of the lab and clinic are mutually supportive, and that the interests of both departments are represented at the managerial level. Ideally, the role should be filled by an individual with experience in the fertility domain.

If fertility services remain in a public setting, the current workloads of management in both the Children and Women's Health Program and Laboratory Medicine may necessitate the hiring of a new managerial position with oversight of both the lab and clinic.

4. Prioritizing Capital Investments for Improved Outcomes

Given budgetary constraints in NLHS, requests for essential equipment have been rejected. Operating within a public setting, fertility services compete with life-saving

services for resources, which may make it less likely to receive prioritization when capital expenditures are required. However, the inability to update aging equipment and adapt to evolving technology profoundly impacts patient outcomes. While acquiring new equipment may not directly save lives, it is pivotal in offering optimal care and enhancing success rates. Neglecting equipment updates not only compromises care quality but also undermines the healthcare system's effectiveness, burdening patients emotionally and financially while inflating healthcare costs.

RECOMMENDATION: If fertility services in NL were provided through a dedicated private clinic focused solely on fertility care, as recommended, the issue described above would be resolved so long as the clinic made ongoing investments to equipment and technology to maintain high standards of care and support optimal patient outcomes. If fertility services remain in a public setting, NLHS should allocate a specific budget for NLFS to procure essential equipment and technologies that have been identified in this review. This dedicated budget should be separate from general healthcare funding to ensure that fertility clinics have access to the necessary resources without competing with other healthcare services.

In addition, critical equipment needs based on technological advancements, patient demand, and clinical evidence should be developed and incorporated into existing prioritization frameworks for capital expenses. This framework should enable fertility clinics to identify priority equipment purchases that have the greatest impact on patient outcomes and clinic efficiency. With a prioritization framework in place, the fertility clinic can allocate its resources more effectively. Instead of submitting requests for various equipment without a clear rationale, the clinic can focus on prioritized purchases that align with its strategic goals and have the greatest impact on patient care and operational efficiency.

5. Creation of a Decision-Making Framework

The ambiguity of roles in decision-making and decision-making authority has led to operational inefficiencies and instances of conflict, which have lowered staff morale.

RECOMMENDATION: Establish a clear decision-making framework that outlines who has the authority to make decisions in various scenarios. The created framework should include guidelines on how nurses can question or provide input on medical advice given by doctors, ensuring a collaborative approach to patient care. The agreed-upon decision matrix should be rolled out to staff through training that also emphasizes the importance of open communication and teamwork in the clinic's operations. One possible

framework that could be adapted is the RACI (Responsible, Accountable, Consulted, and Informed), which is a model frequently used in healthcare to establish role clarity in decision-making.

Health Workforce

6. Adjust Staffing Base to Meet Current Needs or to Expand to Offer IVF

During interviews, lab staff shared that MLTs currently need to stagger their shifts on days that they need to complete six sperm washes due to only having one hood, with which they can only complete five washes during regular lab hours, and that they would need another MLT if their requests for a second hood were approved. Moreover, it was learned that MLTs have to work overtime when they are required to complete sperm washes on Saturdays. Interviews also revealed MLTs need to spend more time than they should be completing clerical tasks as the lab does not currently have any clerical staff. On the clinic side, through interviews, it was heard that there are times only one nurse is available to attend to clients. Therefore, the PCC must fill in for absent nurses. As a result, the PCC has less time for her responsibilities within her role. Moreover, including the PCC, there are times when there are fewer than three nurses available to care for clients. Ideally, three nurses and the PCC should be working at all times within the clinic to deliver care to clients properly.

RECOMMENDATION: Detailed recommendations regarding staffing requirements and expertise are outlined in the Human Resources section. Recommendations are presented for two scenarios 1) maintaining current services and; 2) expanding services to include IVF in the province.

7. Support Nursing Staff with Ongoing Professional Development

Interview data revealed that nurses at NLFS previously received more training than is currently offered. The availability of training for NLFS nurses is important because RNs are not taught ART during their postsecondary education. The former PCC used to train new nurses; however, such training stopped with the hiring of a new PCC. It was also noted that in previous years, NLFS nurses were provided the opportunity to attend a conference each year; more recently, however, NLFS nurses have not had this professional development opportunity. Initial and ongoing training will be particularly

important if NLFS expands its services to include IVF. At present, only one NLFS nurse has been trained to support REIs in delivering IVF.

RECOMMENDATION: It is recommended that nurses who work in ART receive initial and ongoing professional development. This training could be delivered at NLFS (e.g., by the PCC), off-site, or online.

Service Delivery

8. Expand Range of Services to Include IVF, Egg Extraction, Preservation, and Storage

The current travel situation that requires individuals to travel outside the province to access IVF, imposes not only financial burdens but also considerable emotional and mental stress for those undergoing fertility care. The lack of local services has led to notable sex-based inequities and inequality for transgender patients seeking gender-affirming care. Specifically, the inability to access egg extraction, preservation, and storage while sperm preservation and storage are available creates inequity for individuals with ovaries. Additionally, this situation adversely affects individuals with ovaries who are undergoing oncology treatments and urgently need to preserve their fertility. There is also a strong and vocal demand from patients advocating for the availability of these essential fertility services within the province.

RECOMMENDATION: It is recommended that current service offerings are expanded to include IVF and egg extraction, preservation, and storage within the province. Offering these services would improve access to fertility treatments within the province. However, offering these services would require constructing a new lab space (i.e., private clinic/public clinic) with additional equipment, obtaining additional staffing and expertise (e.g., embryologists), and a transition of services during the introduction process.

9. Create a More Inclusive Fertility Service

There is an imbalance in the provision of services and funding between those who contribute eggs and those who contribute sperm in the fertility process. In addition, there is a perception of discrimination in the triage process and waitlist. NLFS uses a structured protocol to determine patient prioritization and waitlist management based on greatest need, but this process is not readily apparent to clients. Improved

communication about current practices and more inclusive service delivery is needed, ensuring that NLFS caters effectively and sensitively to a diverse range of clients, regardless of their gender, sexual orientation, cultural background, or family structure.

RECOMMENDATION: It is recommended that a policy framework is developed to ensure the creation of a more inclusive fertility service. In the context of addressing issues related to cultural competence, gender sensitivity, and inclusivity in fertility service, a policy framework would provide guidelines, principles, and procedures that would support a more structured approach to:

Training Initiatives: It would outline the necessity of ongoing training programs for staff to ensure they possess the knowledge and skills required to recognize and respect various family structures, gender identities, and cultural backgrounds. The framework would specify the content, frequency, and methods of delivering these training sessions.

Non-Discrimination Policies: The framework would incorporate explicit policies against discrimination and establish procedures for addressing any instances of discrimination that may arise. This includes ensuring all staff members understand their responsibilities in promoting a respectful and inclusive environment and providing mechanisms for reporting and addressing discriminatory behavior.

Communication and Transparency: The framework would emphasize the importance of transparent communication with clients regarding the organization's protocols, including the process for wait-list procedures. It would outline strategies for effectively communicating these processes to clients, ensuring they understand how patient prioritization is determined and why certain decisions are made.

Inclusive Services: It would mandate the development and implementation of services that cater effectively and sensitively to a diverse range of clients, regardless of their gender, sexual orientation, cultural background, or family structure. This may involve revising existing practices, introducing new services, or providing additional support to address the specific needs of different client groups.

Review of Digital and Print Communication Materials: It is recommended NLFS regularly reviews and updates all clinic communication materials, such as brochures, websites, and forms, to ensure the language is inclusive and reflective of diverse family models.

By establishing a policy framework that addresses these key areas, NLFS can proactively address issues related to discrimination, improve communication with

clients, and enhance the inclusivity of its services, ultimately fostering a more supportive and equitable environment for all individuals seeking fertility treatment.

In addition to developing a policy framework, engaging in partnerships with local 2SLGBTQIA+ organizations and cultural groups, and support organizations will allow NLFS to gain a deeper understanding of community needs, and develop programs that address these needs as well as offer a spectrum of treatment options tailored to diverse clients, including single parents, 2SLGBTQIA+ individuals, and people from various cultural backgrounds.

10. Increase Mental Health Supports

Fertility issues and undergoing IVF treatments can be emotionally taxing. The process can be stressful and emotionally draining. The system does not currently provide adequate mental health support for patients navigating these challenges. Psychological care is crucial, as the emotional well-being of patients directly impacts their overall health and treatment experience. Currently, the responsibility for psychological care rests with one clinical psychologist whose time is divided among three areas of women's health: the case room (where babies are delivered), the obstetrics and gynecology inpatient units, and fertility services. Clients have noted a gap in psychological support that current resources are not able to meet. Clients emphasized an overall need for additional mental health resources.

While there is mixed research on the connection between mental health and fertility outcomes, some evidence strongly indicates fertility patients are at higher risk of negative mental health outcomes – especially if ART does not result in a live birth.

RECOMMENDATION: It is recommended that a dedicated mental health support role be created to provide counselling support to individuals and couples undergoing fertility treatments. The role should be at minimum a .5 FTE but would ideally be a 1.0 FTE. Preferably, this service should be available at the fertility clinic to facilitate client access. If the entirety of the position cannot be fulfilled in full at the clinic location, at least a portion of the FTE should be involved in clinic time to ensure equitable access. Integrating this service into the clinic would facilitate a more integrated care approach, allowing for immediate, on-site support.

The professional(s) appointed to this role should possess specialized training and an understanding of the unique challenges faced by fertility clients. This includes knowledge of the emotional impacts of infertility, the stress of treatment cycles, and the complexities of decision-making in fertility treatments.

11. Establish a Patient Navigator

Currently for patients undergoing IVF out of province, they are often required to interact with multiple clinics, physicians, and nurses throughout their treatment journey. Clients expressed uncertainty about where to go for information and answers to their questions throughout the treatment process.

RECOMMENDATION: A patient navigator role is recommended to serve as a single point of contact throughout their IVF journey. A patient navigator would assist patients in navigating the complexities of the healthcare system. They would provide guidance, support, and resources to patients and their families. Patient navigators could help coordinate care between different healthcare providers, explain medical procedures, advocate for patients' needs, and connect patients with community resources such as financial assistance or support groups. The navigator's primary goal would be to support clients on their fertility journey ensuring patients receive appropriate, timely information and are connected with the various supports they may require throughout treatment. This role would reduce the volume of phone calls to the clinic and decrease the amount of time spent by nursing on non-nursing (patient navigation) tasks.

12. Greater Emphasis on Trauma-Focused Patient-Oriented Care

Client data revealed the need for a more compassionate and understanding approach toward clients who have experienced past trauma. This encompasses not just physical trauma, but also emotional and psychological distress, often linked to fertility challenges. The journey through fertility treatments can be fraught with emotional upheaval, including feelings of loss, failure, and profound stress. These emotional experiences can significantly impact a patient's mental and emotional well-being, thereby affecting their overall treatment experience and outcomes. In particular, clients voiced a desire for greater recognition of individual experiences throughout the treatment process especially for those who have experienced pregnancy loss.

RECOMMENDATION: All healthcare providers, including doctors, nurses, and support staff, should receive training or a refresher in trauma-informed care. This training will equip them to recognize signs of emotional distress and teach empathetic listening and communication practices.

13. Create an Onboarding Process for New Clients

Onboarding is the process of orienting a client into a program or system. It involves providing them with the necessary knowledge, tools, resources, and support to navigate their own personal journey. The goal of onboarding is to help clients understand the services and begin to take steps to prepare for their initial consultation.

Currently, clients do not receive confirmation that a referral has been received by NLFS or any information from NLFS during the waiting period between their referral submission and their initial consultation appointment. In some cases, referrals that were missed are not caught for long periods because a referring healthcare provider mistakenly believed the form had been received. There is an opportunity to reassure clients by implementing a referral confirmation notification system. This would also be an opportunity to provide preparatory education and information on actions that could benefit clients in advance of their initial consultation appointment.

RECOMMENDATION: It is recommended that a notification system is implemented to inform clients when a referral has been received. Additionally, it is recommended that an information package is created for clients on the waitlist that could be distributed upon referral. An information package should include essential information on charting and timing menstrual cycles, dietary recommendations, and lifestyle adjustments, among other helpful tips. The package should also include an overview of what to generally expect during the initial consult and throughout the fertility treatment process. Onboarding packages should be easily understandable and accessible, including digital versions for convenience. Implementing a notification system and an information-sharing package would not only alleviate uncertainty but could also empower clients to actively prepare for their initial consultation and subsequent treatment.

As a component of this work, it would also be necessary to provide education for referring healthcare providers. The education should focus on teaching healthcare providers about the importance of early patient preparation for fertility treatments and the referral process, including when to refer as well as specific referral criteria.

14. Mobilize Rural Fertility Care: Assessing Opportunities for Localized Services

A significant barrier to accessing fertility services in NL is the geographic spread of the NL population. Even if IVF were added to the current services, many residents would still need to travel to avail of the service. Clients find it financially and logistically challenging to travel for treatments. There is a call from both healthcare professionals and clients to be able to conduct more diagnostic testing and care in their respective

regions. However, the existing infrastructure and capacity in rural areas often fall short of meeting these demands.

RECOMMENDATION: Initiate a review aimed at identifying the spectrum of fertility services that could be feasibly provided within each region of the province. This review should encompass an assessment of the required training, infrastructure, and equipment necessary to facilitate the delivery of these services locally. Furthermore, continuing to leverage advancements in telemedicine and virtual care technologies should be explored as potential solutions to bridge the gap in access to fertility care for rural residents. This approach will not only alleviate the burden of travel and associated costs but also empower individuals in rural communities to proactively manage their fertility health closer to home.

Medical Facilities and Products

15. Expand Lab Space

The existing lab space is not sufficient to properly place the existing equipment. Insufficient space compromises sterility, risking decreased success rates and increased treatment failure. In addition, the lab currently does not contain enough space to store the cryotanks that house sperm samples in the way that best practice would recommend. During interviews with lab staff, some noted that there is a storage closet that could be renovated to create an appropriate storage area.

RECOMMENDATION: It is recommended that any lab, including the continuation of current lab services, should have adequate space to ensure storage of equipment. At minimum, a minor renovation of the storage closet space is recommended to be completed as soon as possible to ensure the placement of lab equipment is in line with best practice and poses no risk to treatment outcomes.

Health Information Systems

16. Explore Opportunities to Improve Electronic Information Sharing

At present, limited information is shared between NLFS and family physicians. Family physicians lack information on treatment plans once patients become clients of NLFS

and are subsequently unable to answer questions or fully support their patients to the extent that they would like. Improving information-sharing pathways between NLFS and family physicians could improve the overall client journey by enabling family physicians to provide support that is in-line with a patient's fertility treatment plan.

Furthermore, within the province there is currently a picture and archiving communication system (PACS), however, scans for fertility clients are not currently integrated within this system. Integrating digital scans into PACS would allow for better retrieval of results, and improved dissemination of the results among all care providers.

RECOMMENDATION: It is recommended that the provider of fertility care establish an electronic information system. It is recommended that NLFS explore opportunities to improve electronic information sharing. An integrated system would improve access to clients' health records for all care providers. As a first step. implementing PACS would allow for better information sharing. Integrating digital scans for fertility clients within the provincial PACS system would cost approximately $30,000. Having diagnostic scans and reports available electronically for specialists and family physicians is an essential element of collaborative care.

Financing

17. Fertility Preservation Coverage for Oncology and Transgender Patients

Fertility preservation is crucial for both oncology patients undergoing treatments like chemotherapy and radiation, and transgender individuals undergoing gender affirming treatment. However, coverage for fertility preservation is currently lacking for both groups. Fertility preservation for oncology and transgender patients varies across Canada in terms of what is covered and in what circumstances.

RECOMMENDATION: To provide equitable care, it is recommended that fertility preservation be insured or that financial support is provided through some other means (e.g. the subsidy program) for oncology and transgender patients.

18. Reduce Upfront Costs for Clients Accessing IVF and Fertility Preservation

At present, the province funds up to $5,000 per IVF cycle for a maximum of three cycles, or $15,000 total, throughout a client's lifetime. However, many clients are not able to avail of this subsidy because they do not have the upfront funds to pay for

treatment. Individuals assigned female at birth who are oncology patients or seeking gender-affirming treatments are facing the same challenges.

RECOMMENDATION: Modify the funding mechanism to directly support service providers. Instead of expecting clients to furnish upfront payments, allocate funds directly from the province to cover IVF treatment costs for service providers. By facilitating direct financial support to service providers, clients are relieved of the burden of upfront costs, ensuring equitable access to fertility treatments for those who may struggle to afford them under the existing subsidy scheme. This adjustment is poised to enhance accessibility to fertility treatments and potentially broaden the client base benefiting from such services.

19. Explore Options to Increase Funding for IVF Using a Direct Payment Model

Research on AHR demonstrates that the most substantial barrier to accessing IVF care is the cost. For a significant portion of the population, covering $5,000 of the cost of a cycle of IVF does not increase access, as many residents are unable to afford to pay the significant remaining amount. Therefore, access remains restricted, particularly for those in lower-income brackets. On average, an initial IVF cycle costs $12,000, medication for that cycle ranges between $5,000 to $7,000, and travel costs vary based on clinic location but typically range in the thousands of dollars. To create a more equitable service, individuals living in rural or remote locations and those who must travel out of province for IVF feel that the subsidy should be increased to reimburse up to $20,000 for costs incurred in a single round of IVF. This amount is in line with what is typically needed to cover average IVF costs, including medication.

RECOMMENDATION: Explore options to increase funding for IVF for costs incurred up to $20,000 using a direct payment-to-service provider model. This funding could be structured in multiple ways to ensure flexibility and equitable access:

1. Coverage for One IVF Cycle: Allocate funding for one IVF cycle for all residents. The cost of a single IVF cycle will vary by case. However, offering full funding for at least one round of IVF with direct payment to the service provider to avoid upfront costs for clients is recommended to ensure equal access for all individuals struggling with infertility. Although the specific services included in an IVF cycle may vary, Ontario, Quebec, and British Columbia currently provide or plan to provide funding or coverage for one IVF cycle, setting a precedent for equitable access across Canada.

2. Income-Based Allocation for One Cycle: Implement a sliding scale based on financial need, where lower-income households receive higher levels of financial support up to $20,000 for one IVF cycle. This tiered system ensures those in the lowest income brackets can access the procedure, managing government expenditures effectively to ensure sustainability while providing equitable access.

3. Coverage Across Two Cycles: Providing funding of up to $20,000 split across two IVF cycles. Given that many individuals may require more than one cycle to achieve a successful outcome, this option considers and supports those who may not be successful on their first attempt.

In all scenarios, the definition of services included in the IVF procedure should be clearly outlined to ensure comprehensive coverage and transparency.

20. Match Industry Standard for Out-of-Pocket Lab Costs

Out-of-pocket lab costs at NLFS are currently lower than industry standard costs across Canada. This is leading to excessive sperm storage in the province and lost revenue.

RECOMMENDATION: Whether fertility care is provided in a public setting through NLHS or in a private clinic model, lab costs for services such as sperm wash, sperm wash and thaw, and sperm freezing should match industry standards. In the case of private clinics, it is important to ensure that rates are not set excessively high, as this could limit public access to care. If fertility care remains in a public setting, NLHS should adjust out-of-pocket lab costs for these services to match industry standards. Three years of storage should also be allowed for transgender and cancer clients at no cost and the costs of donor sperm storage should be adjusted to align with industry standards.

21. Implement System to Pay at Time of Service

Currently, clients of NLFS are invoiced for out-of-pocket expenses. This process is time-consuming and has resulted in late or unpaid invoices (totalling $35,000 as of December 2023).

RECOMMENDATION: If fertility care remains in a public setting, it is recommended that NLFS purchase a point-of-sale system or other method to obtain direct payment at the time of service

IMPLEMENTATION CONSIDERATIONS

Implementation Considerations

The way in which many of the recommendations in this report will be implemented depend heavily on the three critical decision areas:

1. Should NL provide IVF services in the province?
2. How will financial barriers be addressed to improve access to fertility care?
3. Is a public or private setting optimal for the delivery of Fertility Services?

Once final decisions regarding the future state of fertility services in NL have been reached, a detailed implementation plan should be developed to guide this work. As noted previously, all the recommendations contained in this report are subject to governmental review and approval. While they offer a framework for action, it is imperative to understand that the implementation of any proposed changes within the province depends on final approval from the appropriate authorities before being implemented.

The table below offers a rough timeline prioritizing recommendations that can be taken in the short, medium, and long term based on their feasibility and impact. This provides a rough roadmap for achieving more accessible and improved fertility services in the province.

Table 22. Implementation Timeline

Quick Wins – Short-Term Actions Initiated within 0-3 months of recommendation being accepted
Implementation will proceed contingent upon the acceptance of the recommendation and should commence within three months of approval. • Accreditation of the Fertility Clinic and Lab • Implement Integrated Leadership Between the Clinic and the Lab • Creation of a Decision-Making Framework • Support Nursing Staff with Ongoing Professional Development • Create a More Inclusive Fertility Service • Increase Mental Health Supports • Establish a Patient Navigator

- Greater Emphasis on Trauma-Focused Patient-Oriented Care
- Create an Onboarding Process for Clients
- Expand Lab Space
- Fertility Preservation Coverage for Oncology and Transgender Patients
- Match Industry Standard for Out-of-Pocket Lab Costs
- Implement a System to Pay at Time of Service

Medium-Term Actions
Initiated within 3-6 months of recommendation being accepted

Implementation will proceed contingent upon the acceptance of the recommendation and should commence within 3 to 6 months of approval.

- Prioritizing Capital Investments for Improved Outcomes
- Mobilize Rural Fertility Care: Assess Opportunities for Localized Services
- Explore Opportunities to Improve Electronic Information Sharing
- Reduce Upfront Costs for Clients Accessing IVF and Fertility Preservation

Long Term Actions
Initiated within 12 months of recommendations being accepted

Implementation will proceed contingent upon the acceptance of the recommendation and should commence within 12 months of approval.

- Address Legislative, Regulatory and Policy Gaps
- Expand Services to Include IVF, Egg Extraction, Preservation and Storage
- Adjust Staffing Based to Meet Current Needs or to Expand to Offer IVF
- Explore Options to Increase Funding for IVF Using Direct Payment Model

Although specific implementation details will depend on the three critical decision areas, general considerations and best practices for implementation are presented. These considerations will facilitate planning, execution, monitoring, and evaluation of the implementation activities needed to support an expanded service and funding model for fertility services in NL.

Oversight and Governance

The first step in the development of the implementation plan is establishing a formal project management structure including appropriate governance and various levels of leadership. Determine senior leadership involvement as well as the day-to-day

leadership that will be needed throughout the implementation. Dedicated change management support is highly valuable throughout an implementation process as a way of monitoring progress, identifying risks, and working to engage stakeholders that are directly involved and/or impacted by the changes.

Resource Allocation

The current report includes an in-depth analysis and presentation of the resources needed to expand fertility services in NL and increase funding for these services. This information in conjunction with any additional resources required during the implementation must be specified. Resources can include human resources, financial resources (e.g., budget), equipment, and materials. Anticipating and allocating resources appropriately early on ensures that necessary resources are available or can be sourced when needed throughout the implementation. Having dedicated human resources for implementation is valuable. Large-scale implementation and change management require considerable work that is not easily completed off the side of someone's desk. Existing workloads should be considered and dedicated resources allocated to ensure equitable distribution of work.

Define Roles and Responsibilities

Following setting the governance structure and allocating human resources, specific individuals, and teams responsible for each task or phase of the implementation must be identified. Roles should be clearly delineated to prevent confusion and to ensure accountability. For every phase of the implementation, a Responsibility Assignment Matrix should be completed. These matrices are common project management tools that facilitate execution. The RASCI model can be used to map out responsibilities, project roles, and stakeholder or personnel resource engagement at every level (e.g., project oversight, task execution, etc.). RASCI's are done using a spreadsheet or table that lists each stakeholder involved in the implementation and their specific level of involvement in each task. This is denoted with the letters R (responsible), A (accountable), S (support), C (consulted), or I (informed). Once roles are assigned specific tasks or assignments can be delegated to the various stakeholders and work should commence. Typically, a complex implementation such as this will require multiple RASCI tables for various levels and stages of the process.

Responsible: Who is responsible for the completion of a) the overall project, b) a particular area or stage of work, and c) each task? (i.e., The person/team who will do the work to complete the project/stage/task.)

Accountable: Who is the ultimate leader/decision maker for this work? Who will delegate the work and review progress? The person who ensures those responsible for completing the work understand the expectations and desired outcomes, have the resources they need, and can complete the work according to a defined timeline. There should only be one person accountable for each task/stage of work. This person should be on the implantation team and have a leadership role. For oversight of the overall project, this person could be the scientific Director. For various stages of work or specific tasks, this person might be an assistant Scientific Director or Committee Chair.

Support: Who will provide support/help/resources in the execution of each stage/task? (i.e., Individuals and/or teams that provide support to the responsible person/team)

Consulted: Who needs to be consulted for advice/information/input/feedback at each stage? (I.e., Subject matter experts). Not necessary for every task but stakeholders should be identified to determine if and when they should be consulted throughout the implementation.

Informed: Who needs to be kept informed at each stage? (E.g., project stakeholders, those impacted by the work).

Risk Management

For optimal success, identify potential risks and challenges that may arise during the implementation process, along with strategies to mitigate them. Contingency plans should be developed to address unforeseen issues.

Monitoring and Evaluation

Evaluation criteria should be determined prior to the start of the implementation. Define key performance indicators (KPIs) to measure progress and success throughout each phase of the implementation. As much as possible, KPIs should be objective, quantifiable indicators that are relatively easy (i.e., not overly complex or time-consuming) to measure and track. Establish mechanisms for monitoring progress and evaluating the effectiveness of the implementation plan. Routine monitoring throughout each phase will enable the detection of missed targets and/or ineffectiveness. Having mechanisms in place to share evaluation feedback in real-time with leadership and the implementation team is beneficial for quickly adapting to challenges and ensuring overall efficiency. Identifying milestones and other implementation achievements are equally as important and should be shared with leadership and the implementation

team. Celebrating successes throughout the process is highly motivating and helps renew commitment to the end goal.

Integrated Communication Plan

A detailed communication plan is critical to any change initiative and should be considered early in the implementation process. Clear, effective, and well-timed messaging will directly impact stakeholder perceptions (e.g. buy-in). Internal communication will be essential for equitable access and proper uptake of services. External communication with the public and clients will also be imperative for the overall success of implementing larger recommendations, should they be accepted, such as bringing IVF services to the province. The communication plan should specify what communication channels will be used and for what purposes/to reach which audiences, the frequency of updates, and what stakeholders need to be involved versus informed throughout the duration of the implementation.

Client-Focused

Maintaining a client-focused approach to implementation is important given the context of this work. Client needs should be the priority focus throughout the implementation and especially when managing delays or challenges. Consideration of client need should be top of mind when making decisions and navigating the transition from the current services and funding model to the chosen future state.

APPENDICES

Appendices

Appendix A: Patient Survey Results

A survey was developed to understand current, past, and prospective client experiences with NLFS. Barriers, challenges, and successes with fertility services in NL were discussed, and opportunities for improving access and patient care were identified.

In total, 114 residents of NL completed the survey. The greatest number of respondents (66%) were between 25 and 34 years of age, followed by individuals aged 35 to 44 years (27%). The majority of respondents (99%) identified as female at the time of the survey, while 98% had an assigned sex of female at birth. More than half (57%) reported living in the Eastern-Urban zone, 32% indicated they live in Eastern-Rural, 6% in Central, and 4% in Western. Almost all respondents (99%) indicated they are married (75%) or in a common-law relationship (24%).

At the time of the survey, 43% of respondents were current patients of NLFS. Past patients of NLFS accounted for 28% of the sample, 11% were waiting for an assessment, 11% were not currently nor had ever been a patient of NLFS, 4% considered treatment but did not proceed, and 3% did not specify.

Respondents who indicated they considered treatment with NLFS but ultimately did not pursue treatment were asked to indicate the primary reasons why they chose not to avail of treatment services through NLFS. The high cost of treatment, long wait times, and limited services (no IVF), were the most commonly reported reasons why individuals did not engage NLFS for treatment services. When asked to provide additional details about why respondents chose not to pursue treatment with NLFS, specific responses included the following:

- Services in NL were bypassed, and the residents went directly out of province for IVF treatment with the perception being that they would experience less of a wait for treatment.
- Conception occurred naturally while waiting for their intake appointment. Information provided by other healthcare providers (e.g., timing cycles) often facilitated this outcome.
- The costs associated with donor sperm and clinic policy prohibiting the use of known donor sperm for IUI.

The same respondents (i.e., individuals who considered treatment with NLFS but chose not to pursue it) were asked whether they had any suggestions for how NLFS could make the process more accessible to those considering treatment. Proposed improvements suggested by the same group of respondents were to provide increased funding for treatment that includes covering the cost of medications and adding satellite services across the province to reduce the interprovincial travel burden for those living outside St. John's.

Respondents who indicated they are not currently patients of NLFS were asked how confident they felt in their ability to access fertility care and services in the future. Thirty-five per cent (35%) indicated they were not at all confident that they would be able to access fertility care and services in the future. Twenty-nine per cent (29%) were slightly confident, 26% were moderately confident, 8% were very confident, and 2% were extremely confident in their ability to access fertility care and services in the future.

All respondents were asked how well the fertility services offered by NLFS met their needs. Forty-seven per cent (47%) reported that current fertility services did not meet their needs. Thirty per cent (30%) said their needs were met moderately well by the services offered, 15% said current services met their needs very well and 6% felt current services met their needs extremely well.

Respondents were also asked how well they think the fertility services offered by NLFS meet the needs of diverse groups. Over half (59%) of respondents felt the current services were not meeting the needs of diverse groups, 33% felt their needs were met moderately well, and 7% felt the needs of diverse groups were met very or extremely well by the current service offerings.

When asked whether they faced challenges in accessing fertility services, 81% of respondents said yes, they had faced challenges. The following is a summary of the challenges experienced by current, past, and prospective patients of NLFS (rank ordered by frequency):

- Long wait times for initial consults, appointments, tests/diagnosis, and treatment.
- Challenges accessing fertility services due to lack of family doctor/NP.
- Difficulty balancing work and home demands (e.g., unable to get adequate time off work, limited sick leave, missed pay, no childcare, etc.)

- Scheduling challenges (e.g., no say in when appointments are scheduled, clinic only operational on certain days, uncertainty around travel time required due to variable treatment timelines.
- Cost (e.g., travel within and outside of province, treatment, inadequate subsidy, lack of upfront financial support, medication, donor sperm, etc.)
- Limited services (e.g., IVF not offered in Province, no embryo freezing)
- Clinic coordination challenges (sending of sperm/paperwork/lab results)
- Cannot utilize known donor sperm
- Lack of 2SLGBTQI+ informed care, system is heteronormative, non-inclusive environments/language/forms/processes
- Lack of information and resources
- Access and timeliness of blood work (worse in rural areas)
- Lack of mental health supports
- Inconsistency among physicians and staff with regard to “bedside manner”/compassion
- Age and weight (BMI) restrictions

The number one suggestion when asked “How could services at NLFS be improved?” was to increase access and availability of fertility services in and across NL by bringing IVF in province. The second most common suggestion was to reduce cost barriers, and the third was to reduce the wait times by streamlining and speeding up the diagnostic, referral, and treatment processes. Other suggestions for improvement included offering more mental health supports, ensuring continuity of care, improving consistency of care and access to time-sensitive testing, privatizing fertility services, and improving 2SLGBTQI+ care for staff.

When current and past patients were asked what worked well during their fertility services experience(s) they indicated the value and skill of excellent staff and physicians, and they reported living in close proximity to the clinic is what made their experience better.

When it came to satisfaction with the process of accessing the NLFS clinic (i.e., communicating with the clinic, booking appointments, meeting with doctors, etc.), 4% were very dissatisfied, 16% were somewhat dissatisfied, 14% had a neutral level of satisfaction, 46% were somewhat satisfied, and 20% were very satisfied.

When asked to rate the emotional and psychological support provided during their fertility treatment, 18.5% of current and past clients indicated it was excellent, 18.5% said good, 34% said it was average, 23% rated it as poor, and 6% indicated emotional and psychological supports were very poor.

Emotional and psychological supports that would have been beneficial during treatment as reported by respondents include:

- More empathy/compassion from physicians, nurses, and staff
- Counselling/access to psychologist/social worker
- Acknowledgments of past trauma/experience from physicians/staff during appointments
- Support groups (available across province)
- A list of psychologists/therapists/counsellors who specialize/are trained in fertility issues/trauma
- Regular updates while waiting
- Online peer support groups organized/offered/promoted by NLFS
- Patient navigator or clinically informed point of contact
- Phone call check-ups

When asked how long they waited for an initial assessment, 1% of respondents reported waiting less than a month, 5% waited 1 to 3 months, 20% waited 3 to 6 months, 31% waited 6 to 9 months, 19% waited 9 to 12 months, 13% waited 1 to 1.5 years, 3% waited 1.5 to 2 years, 6% waited 2 to 2.5 years, and 2% waited more than 3 years.

Treatment outcomes varied with 22% of respondents indicating they became pregnant through IUI treatments at NLFS, 11% became pregnant through IVF supported by NLFS, 1% became pregnant through IVF not supported by NLFS, 43% were still engaged in treatment at the time of the survey, 9% became pregnant through other interventions (e.g., timed intercourse), 10% stopped treatment without becoming pregnant or carrying to term, and 1% were pregnant at the time of the survey but pregnancy loss was expected.

The number one reason respondents gave for being unsatisfied with their treatment outcomes is the amount of out-of-province travel required to access IVF treatment. Other reasons for dissatisfaction included treatment not resulting in pregnancy/live birth, lack of alternative treatment options, prolonged wait times, poor continuity of care following pregnancy loss, and lack of resources.

When asked what they felt was most important for the future of fertility services in NL, 60% of respondents said bringing IVF in province. Twenty-six per cent (26%) also suggested increasing funding/coverage for services and reducing costs. The remaining respondents simply said there is a need to improve access but did not specify how they felt that should be accomplished.

Appendix B: Physician Survey Results

A physician survey was developed to gather insight from physicians on the current challenges with fertility services in NL and to identify opportunities for improving access and patient care.

In total, 8 physicians from the Eastern-Urban region completed the survey in full. The majority of respondents were oncologists while the remaining were general practitioners, the survey was also completed by REIs. Each of the physicians reported previously referring clients to NLFS. When asked their perceptions of how well the existing in-province fertility services met the needs of their patients, 62.5% felt existing services met patient needs moderately well, while the remaining 37.5% felt patient needs were not very well met. Almost 90% of physicians surveyed indicated they had clients who considered engaging with NLFS but decided not to. Reasons physicians indicated their clients did not avail of services through NLFS were reported as follows:

Table 23. Reasons for not accessing fertility services through NLFS

Reason for not accessing fertility services through NLFS	% of physicians whose patients experienced each barrier
Cost of treatment/procedures	43%
Lack of financial support	29%
Additional costs (travel, loss of income)	86%
Distance to fertility clinics/treatments	29%
Limited treatment options	29%
Lack of information on accessing fertility options	14%
Health conditions that complicate access and/or effectiveness of fertility treatments	29%
Pursued alternative treatments/services	14%

When asked at what frequency they support or conduct assessments for remote patients of NLFS all General Practitioners indicated they do this occasionally. 67% of oncologists indicated they never do this, while 33% reported doing this only on an occasional or rare basis. Of those that occasionally or rarely supported assessments for remote patients of NLFS, 50% felt virtual and remote services increased access to fertility services in the province. In contrast, 25% felt virtual care did not increase access and the remaining 25% reported being unsure. Suggestions for improving fertility services support for remote patients included: expanding fertility service offerings by bringing new services (e.g., IVF, egg extraction, and preservation) to the province, continuing to offer virtual services, and by supporting family physicians and OBGYNs across the province to do more fertility related diagnostics and treatment.

Several challenges related to fertility services in NL were identified by physicians. The most common challenge reported was not having access to IVF along with egg extraction and preservation in the province. The cost of accessing fertility treatments was the second most noted challenge with physicians commenting on the cost of treatment and the cost of travel required to avail of treatment. Despite the current subsidy physicians indicated that patients need more financial support. The other challenge described by a smaller subset of physicians was the referral process to NLFS. Some physicians were not clear on referral criteria and felt more information about this needed to be communicated.

To improve fertility services in the province physicians advocated for more physician-led decisions. It was noted that the specialists working in fertility services should be supported to lead changes to the system and that those changes should include expanding service offerings in the province. Along with IVF, egg retrieval and preservation services were noted as essential and should be provided to reduce gender inequities in the health system. Oncologists also strongly advocated for (insured) coverage for egg retrieval and preservation for oncology patients and argued that by not providing these services NL is not meeting the standard of care for oncology patients. Lastly, family physicians are seeking better information sharing. To better support their patients during a fertility journey by answering questions and providing information, they would like access to consult notes and treatment plans from NLFS.

Appendix C: Jurisdictional Scan

1.0 Services

1.1 Fertility Investigation/assessments

Most clinics in Canada offer some form of fertility investigation or assessment. These investigations are typically taken at the beginning of a client's fertility journey. Out of the main Canadian clinics of interest both Atlantic Assisted Reproductive Therapies and Alberta's Regional Fertility Program offer fertility investigations. Many clinics in the United States also offer fertility investigations or assessments when meeting clients who are experiencing infertility. Clinics such as Overlake Reproductive Health and the Centre for Reproductive Health at Mission Bay offer these initial assessments. Several Australian clinics, such as Cairns Fertility Centre and MiFertility offer fertility assessments.

Almost all clinics in Sweden offer fertility assessments or investigations to clients who wish to avail of fertility services. Some clinics, such as Manchester Fertility within the United Kingdom also offer fertility assessments at the beginning of a client's journey. A few clinics in Greece offer fertility assessments to their clients, clinics that do include Athens Reproduction and Gyn IVF Care.

1.2 Fertility Treatments

All countries offer IVF and over half offer IUI, donor IVF, frozen embryo transfer (FET), insemination, and ovulation stimulation through their clinics. Table 24 documents the services that were noted as available on the websites reviewed as part of this scan. Table 24 details the services identified on the reviewed clinic websites during this scan. Additional services that are not listed may also be available.

Table 24. Fertility Treatments Offered by Country (Based on Clinic Information Available Online)

	IVF	Mini IVF	Natural Cycle IVF	Reciprocal IVF	Donor IVF	IVF For HIV Positive	Drug free IVF	Remote IVF	Low cost IVF	Repeated IVF Failure	Blastocyst embryo transfer
CA	✓				✓						
US	✓	✓		✓	✓	✓					
UK	✓				✓	✓					
AUS	✓	✓							✓		✓
SWE	✓				✓						
GRE	✓		✓		✓		✓	✓		✓	✓

	Frozen embryo transfer (FET)	Asynchronous embryo transfer	gamete intrafallopian transfer (GIFT)	zygote intrafallopian transfer (ZIFT)	Inseminati on	IUI	Micro Inseminati on	In-vitro Maturation	Ovulation stimulation /induction	Invocell (IVC)	
CA	✓				✓	✓		✓	✓		
US	✓				✓	✓			✓	✓	
UK					✓	✓		✓			
AUS	✓		✓			✓			✓		
SWE					✓				✓		
GRE	✓	✓	✓	✓		✓	✓	✓	✓		

1.3 Surrogacy

Surrogacy and gestational carriers are legal within Canada and are available through Canadian clinics, payment to surrogates in Canada is illegal, though reimbursement for certain expenses due to pregnancy is allowed. (Government of Canada, Assisted Reproduction Act, 2023). Many clinics in Canada offer surrogacy. Australia, the United States, the United Kingdom, and Greece all also offer surrogacy through their fertility clinics. Sweden does not offer surrogacy in its clinics as it is illegal in the country.

1.4 Male Fertility

All countries offer ICSI and over half offer semen analysis, surgical sperm collection, testicular biopsy, PESA MESA and vasectomy reversals through their clinics. Table 25 presents an overview of male fertility services available by country, as published on clinic websites

Table 25. Male fertility services offered by country (Based on Clinic Information Available Online)

	Semen Analysis	ICSI	Mature Sperm Selected ICSI	PICSI and IMSI	Surgical sperm collection	Testicular Biopsy/TESE	Micro TESE	PESEA	MESA	Vasectomy reversal	Oral clomiphene citrate (Clomid) or hCG injections	Varicocelectomy
CA	!	!			!	!	!	!	!	!		
US	!	!				!	!	!	!	!	!	!
UK		!			!							
AUS	!	!			!	!			!	!		
SWE	!	!										
GRE	!	!	!	!	!	!		!				

1.5 Egg and Sperm Donation & Cryopreservation

Clinics in Canada, the United Kingdom, and Sweden accept both egg and sperm donations and offer egg and sperm cryopreservation. While clinics in Australia offer egg, sperm, and embryo freezing, clinics also accept egg, sperm, and embryo donations. Greek and U.S. clinics accept egg, sperm, and embryo donation and offer egg, sperm, oocyte, and embryo cryopreservation. U.S. clinics also offer cryopreservation of ovarian tissue.

1.6 Fertility Testing

Over half of the countries reviewed offer genetic testing (i.e., PGD, PGT, PGT-A, PGT-M, PGT-SR), hormone testing, and blood testing through their clinics. Table 26 details the fertility tests offered by clinics within each country.

1.7 Diagnostic Tools

Over half of the countries offer ultrasounds, laparoscopies, hysteroscopies, and hysterosalpingograms through their clinics. Table 26 provides an overview of the diagnostic tools promoted by clinics in each country, based on information published on clinic websites.

Table 26. Diagnostic Tools/Assessments Available in Fertility Clinics by Country (based on clinic information published online)

	Ultrasounds	Pelvic Ultrasounds	Transvaginal Ultrasounds	Scrotal Ultrasounds	Laparoscopy	Hysteroscopy	Salpingography	Hysterosalpingogram	Hysterosalpingo-contrast sonography	Sonogram	Sonohysterogram
CA	✓				✓	✓		✓			✓
US	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
UK											
AUS	✓	✓	✓		✓	✓	✓	✓		✓	
SWE	✓										
GRE	✓				✓	✓	✓				

	Sperm DNA Testing	Hormone Testing	Blood tests	Antibody testing	Leucoscreen Testing	ERA testing	Genetic testing	Vital staining tests	PGD	PGT	PGT-A	PGT-M	PGT-SR	PGS
CA	✓	✓	✓			✓	✓		✓	✓	✓	✓		
US		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
UK							✓		✓	✓	✓	✓	✓	
AUS		✓	✓				✓		✓	✓	✓	✓	✓	✓
SWE	✓													
GRE						✓	✓		✓	✓	✓	✓	✓	

1.8 Emotional and Psychological Wellbeing

Clinics in Canada, Australia, Sweden, and Greece offer psychological support and/or counseling services to clients.

The United Kingdom offers counseling services through many of its clinics, several clinics also have dedicated counselors and require donors to avail of counseling. Clinics in the United States offer psychological support and services, as well as other services (i.e., mind-body stress reduction, yoga classes, massages).

1.9 Additional Fertility Services

Over half of the countries offer oncofertility services, cycle monitoring or ovulation tracking, assisted hatching, and treatment for recurrent pregnancy loss through their clinics. Table 27 details any additional services offered by clinics in each country, based on information available online.

Table 27. Additional Fertility Services Offered by Country (based on clinic information available online)

	Oncofertility	Cycle monitoring or ovulation Tracking	Remote Treatment	Ovarian, Vaginal or Uterine Rejuvenation	Assisted Hatching	Laser-Assisted Immotile Sperm selection	Family Building	Gender selection
CA	✓	✓			✓			
US		✓			✓		✓	✓
UK								
AUS		✓		✓	✓			

	Magnetic Cell Separation	ZyMōt®	Time-Lapse Technology	RI Witness	mechanical endometrial injury (MEI)	G-CSF installation	Electronic Security Tagging	Recurrent Pregnancy Loss Treatment
SWE	✓		✓					
GRE	✓	✓	✓	✓	✓	✓		✓
CA								✓
US							✓	✓
UK								
AUS					!	!		!
SWE								
GRE	!	!	!	!				!

1.10 Other Services

Outside of offering fertility services many clinics in varying countries offer care within other health disciplines. The most common services provided are within obstetrics and gynecology. A list of those disciplines, services offered, and countries in which they are offered is provided below.

Gynecology & Obstetrics includes, but is not limited to, endometriosis and PCOs treatment, ovarian hyperstimulation syndrome treatment, uterine polyp, and fibroid removal, adenomyosis treatment, myomectomies, tubal reversal, abnormal menstruation treatments, preventive gynecology, reproductive surgery, breastfeeding support, pregnancy care and support, and reconstructive fallopian tube surgery. At least some of which are offered at clinics in Canada, the United Kingdom, the United States, Australia, Sweden, and Greece,

Andrology includes, but is not limited to, diagnosing testosterone deficiency and testicular cancer, surgical andrology, andrology labs, azoospermia treatment, vasectomy reversal, reproductive surgery, hypospadias treatment and, penile and testicular disorders. At least some of which are offered at clinics in the United Kingdom, the United States, Australia, Greece, and Sweden.

Pharmacy includes pharmacy services such as medication administration and medication instruction and advice is offered in both Canada and Greece.

Immunology includes, but is not limited to, immunological treatment for IVF, implantation immunology, pregnancy immunology, immunological investigation, immune system treatment, endometrial immunological testing, and enriched platelet-rich plasma (PRP) injections. At least some of which are offered at clinics in the United States and Greece

Endocrinology includes, but is not limited to, reproductive endocrinology, hormonal evaluations, and care for endocrine disorders. At least some of which are offered at clinics in the United States, Australia, and Greece.

Genetics includes, but is not limited to sperm DNA analysis, PGD, PGS, PGT, genetic typing, freezing of genetic material, genetic carrier screening, genetic testing of parents, prenatal genetics, Array Comparative Genomic Hybridization (aCGH), polymerase chain reaction (PCR), fluorescent in situ hybridization (FISH). At least some of which are offered at clinics in Canada, the United Kingdom, the United States, Australia, Sweden, and Greece.

Health & Wellness includes, but is not limited to, offering vitamins and herbs, yoga classes, acupuncture, health checks, massages, fertility assessment, and health and wellness programs. At least some of which are offered at clinics in the United States, Australia, and Greece

Nutrition & Dietetics includes, but is not limited to, dieticians and nutritional support. At least some of which are offered at clinics in Canada, Australia, and Greece.

Fertility Research Some clinics also conduct fertility research alongside treating clients, countries that have clinics that conduct research include the United Kingdom, Sweden, and Greece.

2.0 Financing

Countries differed in the funding available to support fertility treatments. Canada and the United Kingdom both offer some publicly funded coverage for fertility treatments. For Canada coverage varies by province, and in the United Kingdom only specific clinics offer coverage for some treatments.

In Australia, support for IVF varies by state. In Victoria, individuals are insured for up to two IVF cycles per person, while in New South Wales the Government supports access to affordable fertility treatments under the NSW Affordable IVF Initiative which includes a rebate for out-of-pocket expenses related to pre-IVF fertility testing, a fertility treatment rebate to help with the costs of IVF and other ART treatments, publicly supported lower IVF clinics and statewide fertility preservation services for patients with a medical need.[186][187]

In Sweden, childless couples and single women can access publicly funded IVF. But in Sweden, it's only possible for involuntarily childless couples (i.e., those without children and experiencing infertility) and single women to get publicly financed fertility treatment. In cases where the person requires sperm or eggs from a donor, the legislation demands a special assessment of their suitability as parents.[188][189]

In the United States and Greece, most fertility clinics are private and fertility treatments are either paid out of pocket or covered by a client's private medical insurance. In Greece, no services (i.e., treatments, surgeries, scans, or testing) are insured if they are for the purpose of fertility.

For financial support across Canada, the common viewpoint is that IVF is often considered not medically necessary, so it is not always financially supported within every province. In all provinces physician assessments and investigations leading to a diagnosis of infertility are covered. Two of the four clinics spoken to were situated in provinces and countries that offer financial support for IVF. A little over half of the Canadian provinces and territories (i.e., eight provinces) offer or intend to offer some form of financial support for IVF.

Nova Scotia offers a refundable tax credit equal to 40 per cent of the cost of eligible fertility treatments provided by a Nova Scotia-licensed medical practitioner or infertility treatment clinic and for surrogacy-related medical expenses. It offers a maximum annual claim of $20,000 and a maximum annual tax credit of $8,000 so that helps in financially supporting

those who avail of these services. Manitoba offers a similar tax credit but recently increased the maximum annual tax credit to $16,000.[190]

Quebec and Ontario offer provincial government financial support of one IVF cycle per client. In Ontario, eligible individuals (e.g., assigned female at birth, under age 43, with an OHIP card) receive funding for one IVF cycle in their lifetime, with clinics billing the Government of Ontario for this service. Medication and storage are not covered under the funding provided by either province. In Ontario, the clinics receive a certain basket of money for IUI/IVF, they cannot bill directly, and they use this money till it runs out. In other provinces and countries, there is no funding for IVF.

Quebec had various types of funding offered to residents availing of fertility services over the past 20 years. Quebec started to offer a tax credit to support residents availing of IVF in 2000, they switched in 2010 to offer support for up to three full IVF attempts. The three-cycle coverage was cancelled by the government in 2015 and the publicly funded IVF program ended and was replaced with tax credits for one full IVF attempt.[191] Interestingly the switch to the tax credit from funding three cycles of IVF drastically decreased access to the treatment. Only Quebec residents without children could access the tax credits, which ranged from 80 per cent to 20 per cent of costs depending on income. A year after the funding changes went into effect, the number of IVF procedures greatly decreased.[192] In 2021 Quebec switched to insuring a single IVF cycle under the medically assisted reproduction (MAR) program which provides a medical solution for individuals unable to conceive a child. If a person does not meet Quebec's criteria for IVF coverage and has to pay out of pocket, they are still eligible for tax credits that will cover between 20 and 80 per cent of the costs, not surpassing $20,000 per year depending on their income.[193]

Alberta offers no coverage for IVF but does cover some services leading to a diagnosis of infertility, and British Columbia intends to offer coverage for a single round of IVF starting in 2025.

Table 28: Canadian Coverage for IVF (as of 2024)

Province	Subsidy/Program(s)	Coverage	# of Fertility Clinics
NS	Fertility and Surrogacy Rebate	Tax rebate of 40% of costs of fertility treatments provided by a provincially licensed medical practitioner or infertility treatment clinics. Maximum annual claim of $20,000 for maximum annual tax rebate of $8,000.	Atlantic Assisted Reproductive Therapies
MB	Fertility Treatment Tax Credit	Tax credit of 40% of costs of fertility treatments provided by a provincially licensed medical practitioner or infertility treatment clinics. Maximum annual claim of $20,000 for maximum annual tax credit of $16,000.	2
NB	NB health insurance covers some of a single IVF treatment cycle per household & Special Assistance Fund	Special Assistance Fund offers up to $5,000 to eligible patients (this includes IVF-related costs, IUI procedures, or pharmaceutical products).	Conceptia
PE	Fertility Treatment Program	This program offers up to a maximum of $10,000 funding, and is tiered based on annual family income (<$50,000: $10,000 funding; between $50,001- $100,000: $7,500 funding; over $100,001: $5,000 funding).	0
QC	Provincial Health Insurance	Offers coverage for one IVF cycle per patient.	> 10
ON	Provincial Health Insurance	Offers coverage for one IVF cycle per patient at participating fertility clinics (this coverage does not include genetic testing, storage of embryos, eggs, or sperm, or required fertility drugs).	> 10
SK & AB		No coverage for IVF by provincial healthcare – however, many fertility assessment services are covered.	2 >10
BC		No coverage currently, however BC intends to start funding one cycle of IVF in 2025	>10
NT, NU, & YT		No coverage	0

3.0 Additional Details

From the 145 clinics reviewed, four clinics were investigated in more depth. The information presented in these 'Additional Details' case studies is based on interviews with subject matter experts as reported by the interviewees.

Halifax

Name: Atlantic Assisted Reproductive Therapies (AART)

Governance: Private, non-profit, founded by and works closely with the department of gynecology & obstetrics at the hospital

Services:

Initial Assessment, COH/IUI, IVF/ICSI, Donor Insemination, PGT, Egg Freezing, Sperm Freezing, Donor Egg, Known sperm donation for fertility treatment, Gestational Carrier, 2SLGBTQI+, Satellite services, Era Testing, Male infertility investigations, microTESE, Vasectomy reversal, PESA, MESA, Transrectal sperm aspiration, fertility treatment scans, psychological and genetic counselling, pharmacy services

315 IVF cycles last year, roughly 500 frozen embryo transfers, and 290 IUI cycles

Workforce:

Admin – 6 people = 6.0 FTE (including 3.0 FTE front desk, 1.0 FTE finance, 1.0 FTE admin team lead/admin support, 1.0 FTE COO)

Nursing – 9 people = 6.0 FTE (including 1.3 FTE LPN, 4.7 FTE RN)

Lab – 7 people with 6 working in both Embryology & Andrology Laboratory Technicians = 6.1 FTE (including 0.9 Lab Director and 1.0 Apprentice Embryologist).

Physicians – 6 people = 3 REIs from the Department, 1 semi-retired REI who does clinics only, one part time general Gyne, one part time family physician)

Pharmacy – 2 people = 2.0 FTE (including 1.0 FTE pharmacist and 1.0 FTE pharmacy assistant, not including 2 back-up pharmacists for vacation and sick time).

Financing:

Once a person starts treatment nothing after that is covered publically under the system, however diagnostic tests and scans are publicly covered.

Offers a refundable tax credit equal to 40 per cent of the cost of fertility care provided by a Nova Scotia-licensed medical practitioner or infertility treatment clinic and for surrogacy-related medical expenses. Offers a maximum annual claim of $20,000 and a maximum annual tax credit of $8,000

Ottawa

Name: Ottawa Fertility Centre

Governance: Private

Services:

Pre-testing, bloodwork and ultrasound, Initial consultation, Natural Conception services, Ovarian Stimulation and Insemination, Donor Insemination, (IVF), Surrogacy, Fertility Preservation, PGT, Egg Donation, male infertility investigations, Varicocele repair, Microsurgery to correct obstruction for men, Vasectomy reversal, PESA, TESE, microTESE, Trans-urethral resection of ejaculatory duct, satellite clinic/agreement with Kingston hospital, fertility treatment scans, gynecology, bloodwork/blood testing

Average # of clients/ year – 5,000

Average # of clients who would do an IVF cycle - 900

Average # of those clients who would do IUI - 800

Workforce:

8 physician/REIs, 2-3 fellows, 1 NP, embryologists, six sonographers, full gynecology unit, two urologists who visit (over 100 employees)

Financing:

Initial consultation before diagnosis is publically covered, once treatment starts it becomes private/not covered.

Every female client under 43 with OHIP card gets funding for one round of IVF for lifetime, and the clinic bills for that cycle. Medication and storage is not covered. They can pay to skip the waiting line of the funded people and get IVF faster, but it all has to be paid on their own. Can self-referral but pay out of pocket.

IUI/IVF Funding clinic gets a certain basket of money for these treatments, scans for these services, cannot bill directly, use money till it runs out.

Calgary

Name: Regional Fertility Program

Governance:

Private, none of the fertility care is delivered through the hospital, but the REIs do have hospital privileges for certain services (HSG, OR, admission)

Services:

investigations for women and men, recurrent pregnancy loss treatment, genetic testing, IVF, PGT, IUI, ICSI, surrogacy, transgender clients, donor sperm, cryopreservation, frozen embryo transfer, donor egg program, single parents' treatment, and same sex couple treatments, psychological counselling prerequisite for donor and surrogacy (most use in house counsellor), genetic counselling outside of the clinic

1100-1300 fresh embryo transfers last year, frozen embryo transfers were the same, IUI 2500/year

Workforce:

85 personnel, 6 REIs, 30 nurses and the minimum needed is 8 LPNs and 10 RNs just doing the clinical work, not administration, 8 full time embryologists, MOAs and NPs, no fellows, a head LPN, a nursing director, 2 pharmacists, a lab director

Financing:

Everything before the diagnosis is covered, once treatment starts it becomes private/not covered.

No provincial healthcare coverage for fertility treatments

Greece

Name: IVF Serum

Governance:

Private, none of the REIs work in hospital, all services are done by clinic doctors, things that aren't done in the clinic can be done by clinic doctors in a nearby private maternity hospital

Services:

Cryopreservation, (IUI), immunological treatment for IVF, Natural Cycle IVF, Stimulated IVF , Egg and Sperm Donor IVF, (ICSI), (IMSI), Physiological Intracytoplasmic Sperm Injection (PICSI), TESA), (PESA), (MESA), Fresh and Frozen Double Donation, Extended Culture and Blastocyst Transfer, Frozen Embryo Transfer (FET), PGD and PGS, Trophectoderm (TE) Biopsy, Assisted Hatching, Gestational Carriers (Surrogacy), Ovarian/ Endometrial and Ovarian Rejuvenation by PRGF (optimized PRP version), counselling, acupuncture, nutritional support

Roughly 1000 IVF cycles last year, approximately 2000 clients seen

Workforce:

2 fertility doctors and 1 training gynecologists, 2 anesthesiologists (one full time), 8 embryologists (6 of them fully trained), 2 training biologists ,4 midwives , 8 coordinators, 6 secretaries, one lawyer, 5 people in accounting department, one driver, one psychologist and 2 cleaning ladies

Financing:

Nothing is insured, if it's for fertility and the government knows then it's not covered

No coverage for fertility treatments

Appendix D: Transition of AART From a Public to Private Model

Atlantic Assisted Reproductive Therapies (AART) is an example of a clinic that transitioned from a public model to a not-for-profit private model.

AART started at the Grace Maternity Hospital (now IWK Health Centre) but was administered by the Dalhousie Department of Obstetrics and Gynaecology. AART moved out of the hospital in 2005.

AART was founded by the Department of Obstetrics and Gynaecology of Dalhousie University. The Department assumed the costs associated with relocating the clinic out of the hospital, amounting at the time to $1.6 million, and established it as an independent entity.

AART remains closely intertwined with the Department. Currently, all participating physicians are also members of the Department, working a portion of their time with AART and a portion of their time with Nova Scotia Health (NSH), but they could choose to hire an REI that was not tied to NSH. All other staff (e.g., nurses, embryologists) are hired by AART and are employees of AART. The Department's capital investment in AART is being recouped gradually over time.

Appendix E: Recommendations For Fee Restructuring

Table 29. Examples of Services and Prices by Clinic

Clinic	Consultation with physician	IVF**	IVF w/ICSI	IVF w/ICSI + PGT	ICSI	IUI**	IUI with frozen sperm	IUI with ovarian stimulation
CONCEPTIA - NB	$250.00	$8350.00	$6,900.00-$12,500.00		$1,980.00-$2,280.00	$6,900.00-$12,500.00		$1300.00
MOUNT SINAI FERTILITY -ON		$3,480.00-$6,480.00	$6,230.00-$9,230.00	$6,230-$9,230		$750.00-$1000.00		$1150.00-$2150.00
AART-NS	$250.00	$9,200.00	$11,100.00	$14,350.00-$14,850.00		$850.00	$1,050.00	
OTTAWA FERTILITY CENTRE		$9,500.00-$10,500.00			$2,000.00			
NL FERTILITY SERVICES	INSURED BY MCP (if part of Investigation of Infertility)							$200.00

Clinic	Sperm washing/Preparation	Donor Insemination	Sperm functional analysis	Cryo-preservation of sperm	Each additional sperm sample collection	Annual storage fee	Receiving & processing sperm	Shipment of sperm from/to the clinic
CONCEPTIA - NB				$830.00	$280.00	$450.00	$600.00	$330.00
MOUNT SINAI FERTILITY -ON								
AART-NS		$950.00	$350.00-$530.00	$650.00		$450.00	$500.00	$500.00

OTTAWA FERTILITY CENTRE	$850.00			$500.00-$900.00		$500.00-$600.00	$300.00 per unit	$1100.00
NL FERTILITY SERVICES	$200.00			$50.00	$50.00	$50.00	NO CHARGE	NO CHARGE

* a blank cell indicates that pricing information for that service is currently unavailable

**Variations in cost could be a result of differences in what services clinics considered included in IUI/

Appendix F. Gap Analysis

The gap analysis identifies opportunities for improvement in the province's current fertility services, considering data from the current state analysis, jurisdictional scan, and current barriers to access. For each issue, there is an outline of the current state, the ideal future, and a description of the gap between the two states. We also detail opportunities to close these gaps where possible.

Table 30. Gap Analysis

Current State	Gap	Future State	Opportunities for Optimization
1. Governance and Leadership			
Currently no legislative oversight for private clinics or fertility services	Absence of legislation to mandate or regulate fertility services. Regulation and monitoring of private clinics is currently lacking	Clear legislation, regulatory framework and policy standards provide guidance for fertility care. Legislation for private clinics should the service be moved to a private clinic or non-profit setting.	Address Legislative and Regulatory Gaps

Current State	Gap	Future State	Opportunities for Optimization
Lab and Clinic are both accredited and provide exceptional quality care	No requirement for Quality Assurance Mechanisms to Verify that Private Clinics Adhere to Government and Industry Standards of Care.	Lab and clinic are both accredited and are offered in a private setting. Accreditation is required by the province.	Accreditation of fertility clinic and lab: To ensure public confidence in the continued adherence to high standards and alignment with best practices, private fertility clinics and labs in NL could be required to obtain and maintain accreditation that meets or exceeds the standards of existing services. This opportunity is contingent upon pursuing a private clinic service delivery model.
Current management structure of fertility services separates lab and clinic at all levels	Operational silos and fragmented oversight	Integrated lab and clinic	Implement integrated leadership between the clinic and the lab
The lab's capacity for necessary improvements is hindered by an approval process that is slow to move. Several resource requests have been denied.	Lab is unable to operate at full efficiency/provide the best care due to unmet equipment and space requests that require expenditure approvals	Increased budget and ability to make necessary purchases to upgrade equipment, obtain new equipment to improve care.	Prioritizing capital investments for improved outcomes

Current State	Gap	Future State	Opportunities for Optimization
Unclear decision-making processes/lack of recognition of authority in decision-making	Decision-Making Conflicts	Role definition and understanding of decision making authority	Creation of a decision-making framework
2. Workforce			
Clinic Staffing: Physicians/REIs (1-1.5 FTE) Currently 3 physicians 2 currently working M/W/F all day, 1 T/Th mornings RN IIC / PCC (1 FTE) RN I (2.4 FTE) Clerk II (1.5 FTE) Secretary I (1 FTE) MSAs (0.5 FTE) Lab Staffing: MLT I (1 FTE) MLT IIB (1 FTE) MLT IIIA (1 FTE) Scientific Director - Contract (0.5 FTE)	Additional nursing staff Additional REI staffing Additional lab staff and Other administrative staff No physician there Saturday, some afternoons and Sunday	Additional staffing outlined below are estimated to meet the current workload effectively. Medical Director or Equivalent for Lab and Clinic Clinic Staffing RN I (0.6 FTE) MSAs (0.5 FTE) Lab Staffing MLT IIB (1 FTE)	Staffing optimization: If maintaining current service, increase clinic and lab staffing to accommodate for current workloads. If expanding to include IVF. hire workforce necessary to be able to provide IVF in-province
Current staffing does not allow for IVF to be delivered in province	IVF in Province	Clinic Staffing Medical Director or	

Current State	Gap	Future State	Opportunities for Optimization
		Equivalent for Lab and Clinic Clinic Manager (1 FTE) REI (0.5-1 FTE) IVF Patient Coordinator (2 FTE) RN I (.6 FTE) LPN (1.5 FTE) MSAs (0.5 FTE) Lab Staffing Lab manager (1 FTE) Assistants (1 FTE) Embryologists (2 FTE) Lab Andrologists (2 FTE) MLT IIB - (2 FTE) Note: There are 3 additional staff above the current MLT's. It is recommended that the 3 current MLT's	

Current State	Gap	Future State	Opportunities for Optimization
		be trained to take on these new roles of Embryologists and Andrologists.	
Nurses at NLFS have specific questions about care and Nurses in lack comprehensive training in fertility care and ART, emphasizing the necessity for ongoing initiatives.	Nurses working in ART, highlighted the need for comprehensive and ongoing training initiatives.	NLFS nurses who work in ART receive more initial and ongoing professional development.	Support nursing staff with ongoing professional development
3. Service Delivery			
Limited services within province (egg extraction, freezing and storage is not currently available)	Greater equity in access to services, faster access to fertility preservation for oncology patients assigned female at birth	Gender equity in access to services (no IVF or egg freezing storage)	Expand range of services to include IVF, egg extraction, preservation, and storage

Current State	Gap	Future State	Opportunities for Optimization
Some clients perceive discrimination, Currently, due to the necessity of ART to conceive same-sex couples are prioritized.	Communication. A one-size-fits-all approach may inadvertently perpetuate existing inequalities by failing to address specific barriers faced by underrepresented or marginalized groups.	A supportive welcoming service where clients do not feel supported and not discriminated against.	Prioritize inclusivity in care and increase communication of fertility service processes to avoid misinformation
Mental health needs are addressed by a clinical psychologist whose time is divided among three areas of women's health.	Timely Psychological support is not currently available	Increased availability of mental health supports for clients	Increase mental health supports for clients
Multiple contacts through patient journey. Clients unsure where to go for information and answers throughout treatment or while waiting for the initial consultation.	No information is provided to clients while on wait lists	Clients have customized support, guidance, and advocacy throughout their treatment journey.	Establish a patient navigator

Current State	Gap	Future State	Opportunities for Optimization
Some clients felt that their histories were not acknowledged resulting in care that may inadvertently re-traumatize or fail to support the specific needs of these individuals. Mental health needs and perceived prejudice were also cited.	Staff may lack awareness and skills in recognizing and appropriately responding to patients with trauma histories. Practices do not currently incorporate a patient-centred approach (NOTE: a client advisory group has been initiated)	A service guided by trauma-focused, patient-oriented care where patients are heard, histories are acknowledged, and staff feel confident in creating an inclusive and welcoming environment free of prejudice where patient needs are met.	Greater emphasis on trauma-focused patient-oriented care
Currently no information provided to clients prior to initial consults or following referral	Clients need pre-consult education to better prepare for initial consult and policy or practice of confirming referral	A service where clients are empowered with information and actionable steps to initiate care independently at home immediately, resulting in heightened satisfaction levels and productive use of time	Create an onboarding process for clients waiting for the initial consult

Current State	Gap	Future State	Opportunities for Optimization
		waiting for initial consultations.	
All services are located in St. John's, many clients in rural communities must travel. Clients and health professionals would like to be able to provide more care locally	Limited capabilities for diagnostics across the province (skill/knowledge /equipment)	A service that provides as much patient-centred care close to home as possible. A service that shows movement toward greater equity and access to care for geographically dispersed populations	Take steps to mobilize rural fertility care: Assess opportunities for localized care in rural areas
1. Medical Facilities and Products			
Current space is insufficient to provide fertility services required	Insufficient space	New Construction	New construction/renovation is required to meet current needs and expand lab space

Current State	Gap	Future State	Opportunities for Optimization
Current equipment allows for fertility services to be provided	Equipment needed to increase IUIs per day, support implementation and on-going competency for semen morphological assessment, and replace storage tanks past replacement date	Biological safety cabinet or laminar flow hood phase contrast microscope with teaching head Additional storage tanks	Purchase of additional storage tank, phase contrast microscope and laminar flow hood to meet current capacity and allow for best quality care
Storage space is running out	no policy around storage length	Policy is in place to determine length of time sperm, eggs and embryos are stored	Develop policy on sperm, egg, and embryo storage
Current equipment does not allow for IVF to be delivered in province	Equipment needed for IVF	Specialized IVF Lab Equipment: Fit-for-purpose equipment essential for gamete and embryo handling and development.	Obtain the needed equipment to deliver IVF in-province
2. Health Information Systems			

Current State	Gap	Future State	Opportunities for Optimization
Diagnostic scans are electronic and a provincial PACS system has been implemented however, scans for fertility clients are not integrated with the PACS system	Having diagnostic scans and reports available electronically so that they can be accessed by specialists and family physicians is an element of collaborative care	A service with easy and efficient collaboration and communication with specialists	Explore opportunities to improve electronic information sharing: Integrate scans for fertility clients into Picture and Archiving Communication System
Limited information shared between NLFS and family physicians	Family physicians lack information on treatment plans once patients are referred to NLFS/unable to answer questions or fully support patients	A service where records are seamlessly available and follow-up care is excellent due to the collaboration and communication with Family physicians leading to improved follow up care	Explore opportunities for electronic information sharing between NLFS and family physicians
3. Financing			

Current State	Gap	Future State	Opportunities for Optimization
Out of pocket lab costs are currently Sperm wash $75.00 Sperm wash and thaw $200.00 Freezing and 3 years of storage for trans and cancer clients $350.00 initial; $50.00/year after Storage of donor sperm $0.00	These costs are currently lower than industry standard costs within fertility are causing financial issues and leading to excessive storage in the province.	Non-insurable services are charged at market rates to increase financial inputs allowing for increased budget to purchase equipment updates etc.	Match industry standard for out-of-pocket lab costs
Clients can be reimbursed $5,000 per IVF cycle (towards travel), for a maximum of three cycles, or $15,000 total, throughout the client's lifetime.	Clients are not able to avail of the subsidy because they do not have the upfront funds to pay for treatment.	Increased access for clients for who financial barriers are preventing care	Provide upfront funding for IVF
Fertility preservation for oncology and transgender clients are not currently covered	Oncology and transgender patients do not have adequate coverage for fertility preservation	A service with equitable access where financial barriers to do prevent access to care	Fertility preservation coverage for oncology and transgender patients

Current State	Gap	Future State	Opportunities for Optimization
Currently clients are invoiced for any out-of-pocket expenses	Delay in payment of invoices for out of pocket (currently $35,000 outstanding)	Efficiency payment options for uninsured services and policies to pay at the time of service delivery to increase financial inputs allowing for increased budget to purchase equipment updates etc.	Implement system to pay at the time of service
Current amount of $5,000 per IVF cycle, for a maximum of three cycles, or $15,000 total, throughout the client's lifetime does not provide sufficient coverage	The currently available funding amount does not provide sufficient coverage	A service with equitable access where financial barriers do not prevent access to care	Explore options to increase funding for IVF using a direct payment model. Consider funding increase of up to $20,000 for one IVF cycle.

Appendix G: Fertility Service Cost Estimates

The cost of fertility services

The following are estimates of the cost of delivering fertility services in NL based on the costs of the same procedures at fertility services across the country.[23]

Table 31. Proposed fees for service to deliver each procedure in NL

Procedure description	Proposed fees	Notes
Diagnostic Andrology		
Diagnostic semen analysis	$225	
Sperm function testing	$320	
Sperm DNA fragmentation	$650	Plus shipping and processing if sent to outside lab
Retrograde ejaculate analysis	$450	
Post-vasectomy assessment		No fee estimate as not offered at any fertility clinics in Canada
Clinical Andrology		
Sperm preparation for IUI (fresh)	$800	
Sperm preparation for IUI (donor)	$875	
Surgical sperm retrieval (SSR) processing	$2,500	
Embryology		
IVF	$10,500	Assumes planned blastocyst culture for all cases
ICSI supplement	$1,850	Extra cost of using ICSI for insemination
Supplement for using SSR sperm	$2,250	Extra cost for SSR sperm using ICSI for insemination
Oocyte cryopreservation cycle	$8,500	For oocyte retrieval and cryopreservation
IVF/ICSI using cryopreserved oocytes	$7,200	Oocyte warming, insemination, and embryo culture
Frozen embryo transfer	$2,700	
Embryo biopsy	$1,750	Usually included in the fee for a PGT-A cycle

[23] These fee estimates and notes were prepared in consultation with Oozoa Biomedical, a Canadian company possessing specialized expertise in designing and establishing fertility laboratories.

Procedure description	Proposed fees	Notes
Diagnostic Andrology		
Diagnostic semen analysis	$225	
Sperm function testing	$320	
Sperm DNA fragmentation	$650	Plus shipping and processing if sent to outside lab
Retrograde ejaculate analysis	$450	
Post-vasectomy assessment		No fee estimate as not offered at any fertility clinics in Canada
Clinical Andrology		
Time-lapse incubation		Fee will depend on technology uses
Cryopreservation		
Sperm cryopreservation (per specimen)	$300	
Oocyte cryopreservation (per cycle)	$1,450	Just the cryopreservation procedure, excludes other fees for oocyte retrieval and culture
Embryo cryopreservation (per cycle)	$870	
Cryostorage fees - annual	$575	Per location (for sperm, oocyte, embryos)
Cryobanked specimen receiving	$400	Per client or donor
Cryobanked specimen shipping	$425	Per client

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