A CASE STUDY OF THE IMPACT OF THE NEWFOUNDLAND AND LABRADOR CENTRE FOR APPLIED HEALTH RESEARCH (NLCAHR) CONTEXTUALIZED HEALTH SYNTHESIS RESEARCH PROGRAM (CHRSP) ON HEALTHCARE IN NEWFOUNDLAND AND LABRADOR

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Abstract

Applied health research, distinct from fundamental biomedical research, encompasses scientific exploration and a societal mission, emphasizing relevance to healthcare systems. Applied health services research specifically applies research methods to address real-world healthcare delivery, management, and policy issues, aiming to generate evidence-based solutions for improving quality, effectiveness, and accessibility.

This type of research often involves collaboration among researchers, healthcare providers, and policymakers, utilizing various methods such as randomized controlled trials, observational studies, and qualitative research. The findings contribute to informed decision-making, guiding policy development and practices to enhance population health.

The Contextualized Health Research Synthesis Program (CHRSP), introduced by the Newfoundland and Labrador Center for Applied Health Research (NLCAHR), is a vital initiative addressing the knowledge-to-action (KTA) gap with tailored evidence for Newfoundland and Labrador (NL). As the program surpasses its 15th year, assessing its impact, strengthening its mandate, and sharing lessons with other jurisdictions facing similar challenges is necessary.

The thesis aims to document key lessons from CHRSP, identifying pathways for increased impact. By evaluating the program's processes and impact through interviews with past and current clients, it seeks to provide insights for future improvements.

Some key findings highlighted the importance of contextualizing research evidence to improve healthcare outcomes, the role of CHRSP in decision-making, and the benefits of engagement in the research process. The study also identified barriers to change that must be addressed to improve healthcare outcomes in NL.

Key Words: contextualization, knowledge translation policy and decision making, case study

General Summary

The thesis focuses on the NLCAHR's CHRSP program, aiming to assess the state of KTA within NL’s health and community services system. The project's scope was refined through consultation, concentrating on the NLCAHR's mission to enhance the province's health and well-being through applied health research.

The importance of contextualization in decision and policymaking is emphasized, defined as the interpretation of project findings in the specific context of NL Contextualization, understanding events within their broader context, is crucial for drawing accurate conclusions about their causes and impacts. It is applicable across various disciplines, including history, anthropology, sociology, and political science, facilitating a comprehensive understanding of complex and interrelated factors shaping events.

The study explores the CHRSP and assesses how contextualization benefits participating organizations. The goal is to enhance decision-making processes by considering the social, cultural, historical, economic, and political conditions influencing events, ultimately contributing to more effective and informed policies and interventions.

Authorship Statement

I, Daniel Conway, hereby state that I have put in a substantial amount of work during the four major steps of this research. First, I had to become familiar with the literature. This included reading all relevant background information and conducting a systematic literature review, which informed my research aim, questions, and overall research design. Second, I had to recruit participants and conduct interviews; I also completed some key document reviews. Third, I had to analyze and position the data within the existing literature. Fourth, I had to create key recommendations based on the findings. I have also written the different drafts of this thesis until its completion.

This project was accomplished in collaboration with my supervisor and data custodian, Dr. Rick Audas, and committee members Dr. Brenda Wilson and Dr. Stephen Bornstein. Dr. Audas provided guidance throughout forming the overall structure and outline of this thesis project, along with the literature review, forming the definition of the research aim and questions, methodology, and interview guides. His position as director of the NLCAHR and his contacts were instrumental in recruiting key informants with expertise and knowledge about the program and its promotion. I would also like to acknowledge Dr. Diana Gustafson for improving my scholarly writing competencies through her Health Science Writing and Grantmanship course. It has provided me with the tools and in-depth knowledge of scholarly writing and influenced this thesis's structure, delivery, critical appraisal, and delivery.

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List of Abbreviations

AHRKM - The Applied Health Research & Knowledge Mobilization Lab

AHSR – Applied Health Services Research

CADTH – The Canadian Agency for Drugs and Technologies in Health

CFIR – Consolidated Framework for Implementation Research

CHRSP – Contextualized Health Research Synthesis Program

CIHI – Canadian Institute for Health Information

CIHR – Canadian Institutes of Health Research

CSSD – Department of Children, Seniors and Social Development

DoHCS – Department of Health and Community Services

EBDM – Evidence-Based Decision-making

EBIs – Evidence-Based Interventions

EIC – Evidence in Context Reports

HPSR – Health Policy and Systems Research

HREA – Health Research Ethics Authority

HSP – Health Systems Partners

HTA – Health Technology Assessment

ICES – Institute for Clinical Evaluative Sciences

iKT – Integrated Knowledge Translation

INESSS - The Institut National d'excellence en Santé et en Services Sociaux

ISD - Integrated Service Delivery

KI – Key Informants

KT – Knowledge Translation

KTA – Knowledge-to-Action

MCHP – Manitoba Center for Health Policy

NCDDR – US National Center for the Dissemination of Disability Research

NL – Newfoundland and Labrador

NLCAHR – Newfoundland and Labrador Centre for Applied Health Research

NLCHI – The Newfoundland and Labrador Centre for Health Information

NLHS – Newfoundland and Labrador Health Services

OMRU – Ottawa Model of Research Use

PCAC – Patient and Caregiver Advisory Council

PRISMA - Program of Research to Integrate the Services for the Maintenance of Autonomy

REG - Research Exchange Group

RHA – Regional Health Authority

SEARCH - Swift Efficient Application of Research in Community Health

TAU – Technology Assessment Unit

TCPS2 – Tri-Council Policy Statement

WHO – World Health Organization

Chapter 1: Introduction

Healthcare policy and decision-making are increasingly evidence-based and reliant on rigorous experimental, observational, and qualitative data analysis. This requires timely access to this evidence and the capacity to appraise and synthesize it critically. NL have significant assets to facilitate research and improve decision-making; however, these resources are only sometimes organized in a coordinated way, representing a lost opportunity for more efficient policy and decision-making.

Applied Health Services Research (AHSR) is primarily undertaken to inform healthcare policy. However, the relationship between policy and AHSR is more complex (Ettelt & Mays, 2011). Many policies are developed without consulting the available evidence. Walt et al. (2008) point out that 'policy' can be defined in many ways, with varying implications for its study. Walt et al. (2008) define health policy as "embracing courses of action (and inaction) that affect the set of institutions, organizations, services and funding arrangements of the health system" (p. 310).

In Canada, it has become apparent that research must be made more relevant to stakeholder needs and policy-maker priorities (Gobel, 2021). It is also essential that increasing attention is given to evidence-based decision-making. Research needs to be effectively disseminated to help close the knowledge gap between researchers, policy, and decision-makers (Anderson, Cosby, Swan, Moore, & Broekhoven, 1999).

1.1 Healthcare in Newfoundland and Labrador

Healthcare spending in NL has seen a 130 percent increase since 2001 and is the highest in the country per capita (Government of Newfoundland and Labrador, 2020). Healthcare spending in NL makes up approximately 40 percent of the provincial budget. Nevertheless, the province has some of the country's poorest health outcomes (Government of Newfoundland and

Labrador, 2020). The Government of NL is committed to stabilizing healthcare spending by adopting better management practices and focusing on sustainability, value, and prevention. The province's fiscal reality requires costs to be contained while maintaining a high standard of healthcare. Better use of health evidence is seen as a pillar by which more efficient health outcomes can be achieved (Government of Newfoundland and Labrador, 2020).

1.2 Overview of The Newfoundland and Labrador Centre for Applied Health Research (NLCAHR) and the Contextualized Health Research Synthesis Program (CHRSP)

1.2.1 The Newfoundland and Labrador Centre for Applied Health Research (NLCAHR)

The mission of NLCAHR is to contribute to the effectiveness of NL's health and community services system. It aims to do this by supporting the development and use of applied health research in the province. NLCAHR seeks to collaborate with other local, provincial, regional, and national organizations with similar objectives.

NLCAHR is funded primarily through an annual grant from the Department of Health and Community Services of the Government of NL. The Centre also receives project funding from various granting agencies and financial and administrative support from the Faculty of Medicine at Memorial University.

1.2.2 The Contextualized Health Research Synthesis Program (CHRSP)

CHRSP is an initiative introduced by NLCAHR to shrink the KTA gap with evidence that is contextualized for the province of NL and specifically to its four Regional Health Authorities (RHAs), the Department of Health and Community Services (DoHCS) and the Department of Children, Seniors and Social Development (CSSD) (Bornstein et al., 2017). As of April 1, 2023, the four regional health authorities and the Newfoundland and Labrador Center for

Health Information (NLCHI) were amalgamated into one entity, Newfoundland and Labrador Health Services (NLHS).

Kitson & Straus (2010) describe the KTA gap as the difference between the knowledge or evidence and the actual practice of policy and decision-making. Measuring the “gap” between evidence and actual practice or policy-making is one of the first steps in knowledge translation (Kitson & Straus, 2010). Evidence refers to the best research-based findings, ideally from high-quality practice guidelines or systematic reviews (Kitson & Straus, 2010). Gaps between evidence and action usually reflect systems-related issues, not solely providers' performance.

With the CHRSP operating in its 15th year, it is an excellent time to examine the impact this program has had on the healthcare system in NL, how it can strengthen its approach and what lessons NLCAHR can share with other jurisdictions facing the same challenge of trying to embed tailored evidence into practice.

Using a case study approach, the activities of CHRSP will be examined, primarily through key informant interviews with current and past stakeholders, to examine where this research program has had its most significant impact and where this could be strengthened. The process will examine how projects are initiated and conducted, how findings are contextualized to the province, and how these projects have impacted healthcare delivery and policy. In consultation with NLCAHR staff, a list of key informants will be developed, including senior officials and employees in RHAs, health-related ministries in the Provincial Government, NLCAHR staff, and former CHRSP participants.

The first CHRSP project was published in 2008 to synthesize and contextualize health research for use in NL. Recognizing the importance of engaging stakeholders, the NLCAHR established partnerships with the provincial healthcare system, community partners, patients, and caregivers to identify questions that could be informed by evidence.

The CHRSP program follows a specific approach to contextualizing research. The program focuses on specific issues rather than broad research themes, which helps narrow the scope of each study. The program fields topic submissions from its health system partners and then seeks to refine these into answerable questions that can be addressed through a review of the evidence**.** The program also uses research expertise to formulate research questions specific to the context of NL.

A CHRSP Evidence in Context (EIC) project aims to address two fundamental questions: “What works?” and “What will work here?” These questions may refer to interventions such as a treatment, a health service, a program of services or an approach to resolving a problem or a policy. The first question will be familiar to most in the policy community, but the question of context, whether an intervention will work here, may be new to many. To find out “What will work here?” the analysis in a CHRSP project includes synthesizing the scientific literature findings and the 'contextualization' of the synthesis results (NLCAHR, 2020) through interviews and focus groups with key stakeholders in the province.

The CHRSP utilizes integrated knowledge translation (iKT) to generate and disseminate its research findings. iKT is a research method involving decision-makers and knowledge users as members of the research team in all stages of the research process. The local knowledge users choose topics to maximize the use of limited locally available resources and expertise to use the research recommendations in practice or policy. iKT approaches are used to improve the relevance and impact of research.

Once a specific issue is chosen and research questions developed, the CHRSP team synthesizes quality research literature (systematic reviews, meta-analyses, health technology assessments) and tailors the syntheses to the local context (challenges, capacities). The research results are reported quickly and in usable formats to health system partners. CHRSP considers the local capacities and limitations of the healthcare system in NL. It recognizes what might or might not work in a specific demographic in NL. An external reviewer is tasked with reviewing the results to ensure the rigour of the research results and provides feedback to the CHRSP research team. CHRSP also utilizes the services of an external scientific leader.

Additional information about CHRSP is included in Appendix 1.

1.3 CHRSP Products

1.3.1 Snapshot Reports

Snapshot Reports are reviews of policies, programs, and practices established in other Canadian provinces or in comparable health systems worldwide. These reports are intended to provide decision-makers with a comprehensive understanding of potential policy directions that may be useful in the province's development of policies.

1.3.2 Rapid Evidence Reports

Rapid evidence reports are conducted to support expedited decision-making in the NL healthcare system. These reports are designed to provide a brief overview of the research evidence on a high-priority research topic selected by decision-makers in the province. These reports aim to provide decision-makers with an overview of the scope and nature of the scientific literature on the chosen topic. Reports highlight the strengths and gaps in the literature and reviews the key points of agreement and disagreement among researchers. They also briefly describe the contextual factors that need to be considered.

1.3.3 Evidence in Context (EIC) Reports

Evidence in Context reports synthesize research findings from high-level research such as systematic reviews, meta-analyses, and health technology assessments. CHRSP collaborates with researchers, health authorities, and government representatives to identify topics of interest and filter and prioritize research topics with substantial quality research available. The team then contextualizes the findings to NL’s requirements, resources, and circumstances.

Knowledge users and producers work together throughout the research process, and knowledge translation and exchange occur from the beginning to the end of the project. A critical process stage is hiring an external research expert to guide the project. Research results are communicated to decision-makers and health professionals in formats and forums designed to maximize their uptake.

1.4 Integrating Knowledge Translation using CHRSP

Using the CHRSP method, both knowledge users and researchers are engaged. This process typically starts with forming a research question and finishes with disseminating the research results. Knowledge translation and exchange happen throughout the research process, and both at the start and finish of the research process. CHRSP communicates results to the province’s decision-makers and other key stakeholders. The results are presented in a format designed to maximize their uptake and impact on the local decision-making process.

1.5 CHRSP Evaluation

Health research can only have an impact when researchers and healthcare professionals work together to enhance uptake. Feedback is critical for improving research practice. Feedback questions help better understand how CHRSP reports are utilized in healthcare policy decisions.

The CHRSP team has published an evidence-in-context report presenting health system/knowledge user feedback from CHRSP studies from 2008 to 2014. CHRSP requests feedback from stakeholders and decision-makers once enough time has passed from the publication of the results to uptake by the health system partners to apply the results. This typically takes one to five years after publication and dissemination. The timeframe is dependent on the topic and the interventions under consideration. Gathering feedback allows CHRSP to evaluate its impact on the health system partners.

This thesis will gather feedback on the CHRSP program from health system partners through semi-structured interviews. The primary lines of inquiry will be the usefulness of the CHRSP program, the impact of the CHRSP program, CHRSP's influence on decision-making within the healthcare system in NL, the engagement process, and the impact/usefulness of contextualization of these reports.

1.6 Contextualization Factors and Placing Research Findings in Context

Contextualization factors include patient-client factors, design or site-of-service factors, human resource factors, organization of health service factors, other department, organization, or system factors, economic factors, and political factors.

These factors are typically grouped as follows. Patient-client factors play an essential role in determining the effectiveness of an intervention. The CHRSP team considers the geography and demographics of NL (where the patient-client populations live), the impact and the anticipated cost-effectiveness of the studied intervention/approach. They also examine if cultural elements may enhance or detract from the expected clinical effectiveness of the studied intervention.

Design or site-of-service factors must also be considered. The CHRSP team evaluates if the location of the site of the proposed intervention makes it challenging for the approach to work effectively. They also examine whether the design of the services is feasible in the context of the existing infrastructure within some or all of NL's regions.

Human resources factors are another set of contextualization factors that play a role in determining suitability for an intervention. CHRSP researchers must consider if the province has the number of appropriately trained and qualified practitioners to provide the proposed service.

Organization of health services is another set of factors. Researchers must identify if the organization of existing and related front-line health services accommodates or conflicts with the studied intervention/approach. It is essential to determine if the existing management organization can incorporate the studied intervention or if a significant reconfiguration is required.

Other departments, organizations and system factors must be considered. Researchers must ask if the intervention requires information or action from other government departments or provincial organizations and whether that information or action will be available. Economic and political factors are crucial factors in implementing change. For proposed changes to be implemented, researchers must assess if the intervention requires resources under the jurisdiction of other government departments or agencies and the province's financial situation.

These contextual factors must be assessed when evaluating whether a particular intervention suits a specific situation. The CHRSP team asks, "What will work here?". They evaluate the question in three parts:

1. A factor that may impact an intervention's health equity is the differential effectiveness of an intervention for different sub-groups in the population.

2. A factor may impact the feasibility of implementing an intervention.
3. A factor may impact the stakeholder acceptability of an intervention.

1.7 Implications for Decision Makers

The CHRSP project team identifies “key findings” from the evidence synthesis and highlights these at the beginning of each report. These findings are then considered in terms of the contextualization results to develop a list of the “implications for decision-makers.” CHRSP has chosen to use the term “Implications” rather than the more common “Recommendations” as they point out that health system partners may be wary of “recommendations” which would require action on their part. Bornstein et al. (2017) point out that using the term implications acknowledges that research-based evidence is only one of the multiple types of input that health-system decision-makers need to consider.

1.8 Thesis Objectives

Using a collective case study approach, the impact of CHRSP will be assessed, primarily through key informant interviews with current and past stakeholders, to examine where CHRSP has had its most significant impact and where this could be strengthened. The collective case study approach involves studying multiple cases simultaneously or sequentially to generate a broader appreciation of a particular issue (Crowe et al., 2011; Yin, 2018). This approach uses a variety of data sources to ensure the issue is explored through various lenses, allowing for multiple facets of the phenomenon to be revealed and understood. Baxter & Jack (2008) highlight that the case study approach is valuable for health research to develop theory, evaluate programs, and develop interventions because of its flexibility and rigour. The process will examine how projects are initiated and conducted, how findings are contextualized to the province, and how these projects have impacted healthcare delivery and policy.

The thesis will document the critical lessons learned from CHRSP and identify potential pathways for increased impact in the future.

1.9 Chapter Summary

This chapter explored the relevance of contextualization in health research policy and decision-making and the need to leverage evidence to make better, more succinct decisions. This chapter outlined the research aim and questions, the relevance of contextualized health research, and the significance of the study. In Chapter Two, relevant literature will be reviewed. Chapter Three will describe the methods used to evaluate CHRSP. Chapter Four will summarize the content of the key informant interviews. Chapter Five will discuss the implications of the findings and provide a conclusion.

Chapter 2: Literature Review

This chapter provides an overview of challenges in the use of evidence in health policy decision-making; current knowledge translation concepts and approaches and evidence for their effectiveness in improving the use of evidence in health policy decision-making; examples of mechanisms set up with this intent in Canada and elsewhere; and a discussion of how these inform the evaluation of CHRSP. While the approach was a narrative literature review, I used an explicit search strategy, as found in Appendix 2. Chapter 2 concludes with a presentation of the rationale for this thesis project and its aims and objectives.

2.1 Barriers to The Use of Evidence in Health Policy Decision-Making

2.1.1 Characteristics of The Health System Context

Healthcare and public health are complex adaptive systems – decision-making is rarely linear and may have to handle many competing perspectives, make trade-offs between different desirable goals, and may be done under conditions of uncertainty and/or where the outcome is difficult to predict (Braithwaite et al., 2017).

There are competing factors in all decisions – institutional constraints (resources, physical/organizational/human resource capacity), balancing needs of different stakeholder groups, the importance of personal values, the importance of political context, the need to respond to unanticipated events, etc. (Braithwaite et al., 2017).

Several frameworks have been developed to guide the implementation of KT. The Knowledge-to-Action Framework is one of the most widely used (see Figure 1).

There are gaps between evidence and practice, and the field of knowledge translation has emerged to bridge these knowledge-practice gaps (Esmail et al., 2020). CIHR defines knowledge translation as “a dynamic and iterative process that includes the synthesis, dissemination, exchange, and ethically sound application of knowledge to improve the health of Canadians, provide more effective health services and products, and strengthen the healthcare system" (Canadian Institutes for Health Research, 2020).

Bottorff (2015) discusses how, along with rapid advances in knowledge, have come expectations for speedy translation of research into improvements to healthcare services, new diagnostic tools and interventions, and innovations in health promotion to improve patient and health system outcomes. Although researchers hope that healthcare end-users will quickly use their research, there is still a lag time of about 17 years for research evidence to be widely put to use (Bottorff, 2015; Morris, Wooding, & Grant, 2011). Some lag is reasonable to ensure safety and efficacy; however, time lags in research are little understood, and the ability to understand lags has been limited by the weaknesses of the existing data (Grimshaw, Eccles, Lavis, Hill, & Squires, 2012; Morris et al., 2011).

Closing the KTA gap is a complex process, which has led to a growing field of research focused on understanding this process of knowledge translation (Bottorff, 2015). While researchers hope their published studies will immediately impact clinical and public health practices, this field recognizes that knowledge translation is not simply about providing information but a complex social process influenced by local context, interactions, and relationships. To improve knowledge translation and ensure that health research benefits patients, families, and communities while enhancing the effectiveness of healthcare systems, it is necessary to understand these complex social processes. By understanding these complexities, areas for improvement can be identified, and strategies developed to enhance the translation of health research into practice.

2.1.2 Decisions Are Made by People Who Are Subject to Inherent Cognitive Biases

A range of cognitive biases influences decisions made by healthcare decision-makers. These biases can affect how healthcare professionals, administrators, policymakers, and patients choose medical treatments, resource allocation, and health policy. To understand this phenomenon, we can relate it to Daniel Kahneman's book "Thinking, Fast and Slow," specifically focusing on heuristics and biases.

Kahneman's work distinguishes between two modes of thinking: System 1, which is fast, intuitive, and relies on heuristics, and System 2, which is slow, analytical, and deliberative. Healthcare decision-makers often use both systems, but System 1 thinking, characterized by heuristics and biases, can have a significant impact on their choices:

1. **Availability Heuristic**: People tend to overestimate the likelihood of events based on their availability in memory. In healthcare, this overestimation could occur when decision-makers give undue weight to recent and easily recalled cases, leading to skewed perceptions of disease prevalence or treatment outcomes. For example, a few high-profile medical errors may lead to overreactions and policy changes disproportionate to the actual risk.
2. **Representativeness Heuristic**: This bias occurs when individuals make judgments based on how closely something resembles a prototype. In healthcare, it may lead to misdiagnoses or inappropriate treatment decisions if a patient's symptoms resemble a common stereotype of a disease rather than considering the full range of possibilities.
3. **Confirmation Bias**: Healthcare professionals may selectively seek or interpret information that confirms their preconceptions or initial diagnoses while ignoring

contradictory evidence. This bias can lead to diagnostic errors and suboptimal treatment decisions.

4. **Anchoring and Adjustment**: Decision-makers often anchor their judgments to a specific piece of information, even if it's irrelevant. This anchoring can lead to errors in setting treatment goals or resource allocation decisions. For example, a hospital administrator may anchor their budget discussions to the previous year's figures without critically assessing their appropriateness.
5. **Overconfidence Bias**: Healthcare professionals may overestimate their own expertise or the effectiveness of their treatments, leading to unwarranted optimism about patient outcomes. This bias can result in missed opportunities for improvement or unnecessary risks.
6. **Loss Aversion**: Decision-makers in healthcare may be overly cautious when faced with potential losses, such as adverse outcomes or financial penalties. This aversion can lead to a reluctance to adopt new, evidence-based practices or technologies, even if they could improve patient care.
7. **Status Quo Bias**: Healthcare systems often resist change due to the comfort of the status quo. This bias can hinder the adoption of new treatments, technologies, or policies that could lead to better outcomes.
8. **Groupthink**: In healthcare decision-making bodies, group dynamics can reinforce biases as individuals conform to the dominant views within the group. Groupthink can stifle dissenting voices and lead to suboptimal choices.

To mitigate these biases, healthcare decision-makers can benefit from an awareness of their existence and potential impact. Implementing systematic decision-making processes that encourage critical thinking and data-driven analysis can help counteract the influence of heuristics and biases. Additionally, fostering a culture of openness to feedback and diverse perspectives can reduce the risk of groupthink and confirmation bias.

Healthcare decision-makers, like all individuals, are subject to inherent cognitive biases that can impact their choices. Recognizing these biases and taking steps to counteract them is crucial for improving the quality of healthcare decisions and ultimately enhancing patient care.

2.1.3 Barriers to Using Evidence in Decision-Making

In evidence-based decision-making, the utilization of research findings and evidence is essential. However, several barriers often hinder the effective incorporation of evidence into the decision-making process. This section explores some of the key challenges related to how evidence is presented and accessed, shedding light on the complexities that decision-makers face when seeking to utilize evidence in their decision-making processes.

Kneale et al. (2017) identified barriers to evidence use highlighted in the literature. These barriers include access, capacity to analyze and interpret evidence, availability and relevance and knowledge of different sources and types. Campbell et al. (2009) reviewed qualitative and mixed methods studies and identified that other barriers include a need for more communication exchange between researchers and policymakers and a better understanding between researchers and policymakers. The latter is often regarded as a significant contributor to the failure to consider the relevant evidence.

In their review, Field et al. (2014) noted that the studies integrated into their consideration examined various ways of integrating the Knowledge to Action (KTA) Framework, with a focus on the Action Cycle. These studies aimed to improve knowledge or awareness, consistent with the prevalence of professional or educational knowledge translation strategies employed in interventions promoting evidence uptake. Nine of the studies in their review reported assessing barriers to change, with knowledge-related barriers being the most common. These barriers include factors such as lack of time, resources, and expertise. Their findings suggest that educational strategies are effective in addressing knowledge-related barriers.

Only one study reported using decision support tools as a knowledge translation strategy. Knowledge translation strategies can include various elements, such as linkage and exchange, audit, and feedback (reviewing a course or curriculum), informatics (the science of how to use data, information, and knowledge to improve service delivery), and patient-mediated approaches (information and educational resources for health care practitioners, patients and policymakers and organizational interventions).

A knowledge broker is an intermediary (an organization or a person) that aims to develop relationships and networks with producers and users of knowledge by providing linkages, knowledge sources, and in some cases, knowledge itself to organizations and individuals.

The importance of organizational or external factors and the ability to influence them is well recognized in the literature. Field et al. (2014) discuss how authors identified many barriers relating to ‘environmental’ factors, such as lack of time and resources. Generally, it was difficult to ascertain whether the methods used captured and addressed the full range of barriers. It may be that when people are consulted, they identify those barriers they feel able to influence, such as knowledge or awareness, rather than organizational barriers, which could be perceived as more problematic or distant.

In the field of KT, confusion arises due to the use of multiple terms to describe the process, with some of the more common terms being knowledge translation, knowledge transfer, knowledge exchange, research utilization, implementation, dissemination, and diffusion. These terms are often used interchangeably. Despite the growing interest in the topic, it is challenging to find consistent and meaningful definitions for these terms (Esmail et al., 2020; Graham et al., 2006).

In contrast, the US National Center for the Dissemination of Disability Research (NCDDR) emphasizes the collaborative and two-way nature of the interaction. Knowledge Transfer, the most used term, is sometimes interpreted as a unidirectional process from knowledge producers to stakeholders. Still, it is considered by some to be a two-way process, going from researchers to knowledge users and vice versa (Graham et al., 2006).

There are potentially several barriers to the uptake of contextualized reviews by organizations, including the need for more resources to implement recommended changes, competing organizational priorities, the lack of trained staff, and the lack of dedicated resources to implement the recommendations effectively.

Despite the call for increased use of research evidence in policymaking worldwide, Moat et al. (2013) highlight two main categories of barriers that constrain the use of research evidence in health policymaking processes. First, research evidence is only one of several factors competing for policymakers' attention, along with institutional constraints, interest-group pressure, values, and external events. Second, research evidence is not always easy to use, and how results are packaged and presented often is unhelpful for the types of decisions that policymakers face and the settings in which they work.

2.2 Theories, Models, Frameworks, and Approaches in Knowledge Translation

Numerous theories, models, frameworks, and approaches have been developed to delineate and elucidate the concept of Knowledge Translation (KT), each offering unique concepts and practical applications (Alberta Health Services, 2022).

It is worth noting that although these terms—theories, models, frameworks, and approaches—have distinct definitions, they have often been used interchangeably and inconsistently in the literature. Instead of fixating on the terminology, focusing on their intended functions is beneficial. KT has no universally accepted standard theory, model, framework, or approach. The following section highlights prevalent and valuable KT theories, models, frameworks, and approaches.

Applying KT theories, models, and frameworks is one method for successfully incorporating evidence into practice. Esmail et al. (2020) systematically compiled existing full-spectrum KT theories, models, and frameworks (TMFs) used by study authors to inform their KT work. They identified 36 TMFs, categorizing them into five approaches: process models, determinant frameworks, classic theories, implementation theories, and evaluation frameworks.

Many KT TMFs need more guidance on which ones to select, which can make it difficult for users to choose one that best suits their needs. Esmail et al. (2020) systematically compile existing full-spectrum KT theories, models, and frameworks in their scoping review of full-spectrum knowledge translation theories, models, and frameworks, categorizing them into different approaches and comparisons in a user-friendly way.

2.2.1 Theories

A KT theory endeavours to explain and predict how and why KT achieves success, exemplified by Rogers' Diffusion of Innovation Theory (Rogers, 2003).

Examples of Theories Used in KT

Planned action theory is a set of logically interrelated concepts that explain, in a systematic way, how planned change occurs (Graham & Tetroe, 2010). It also predicts how various environmental forces will react in specified change situations. It helps planners or change agents control factors that increase or decrease the likelihood of implementing change.

The Diffusion of Innovation Theory focuses on how innovations spread and are adopted by individuals or groups. While originally developed for technology adoption, it has been widely applied to healthcare and other fields. The theory identifies several key elements that influence the adoption of innovations: innovation, communication channels, time, social system, and perceived attributes of the innovation (Rogers, 2003). The Diffusion of Innovations Theory highlights the importance of effective communication, identifying early adopters and opinion leaders, and understanding the characteristics of the innovation itself.

2.2.2 Models and Frameworks

A model serves as a simplified representation of a theory, aiming to describe a phenomenon without necessarily providing an explanation (Nilsen, 2015). A KT model outlines steps, stages, or phases involved in translating research into practice, as exemplified by the Knowledge-to-Action Model (Graham et al., 2006).

A framework is concerned with identifying and defining factors believed to influence KT's outcomes. Typically, a KT framework compiles and organizes factors that impact various aspects of KT.

Frameworks are simpler than theories and are generally used to help organize thinking and act as guides for designing strategies in practice. The key potential benefit of applying a conceptual framework is a greater likelihood of changed practice by making the knowledge translation process more systematic and informing and promoting evidence-informed decisions (Field et al., 2014; Straus, Tetroe, & Graham, 2011; Votruba, Grant, & Thornicroft, 2020).

Examples of Commonly Used Models and Frameworks in KT

The KTA Framework is one of the most frequently cited conceptual frameworks for knowledge translation (Boyko, 2015; Field et al., 2014; Straus, Tetroe, & Graham, 2013). It was developed following a review of 21 planned action theories (Field et al., 2014; Straus, Tetroe, & Graham, 2013). The KTA Framework has two components: knowledge creation and action cycle (see Figure 1). Each component comprises multiple phases involving several steps that overlap and can be iterative. Action phases may be carried out sequentially or simultaneously. The action phase represents the activities needed to apply knowledge in practice. The knowledge phase is adapted to the local context, and barriers and facilitators to its use are explicitly assessed. The involvement of stakeholders and tailoring knowledge to the needs of people using it is considered crucial.

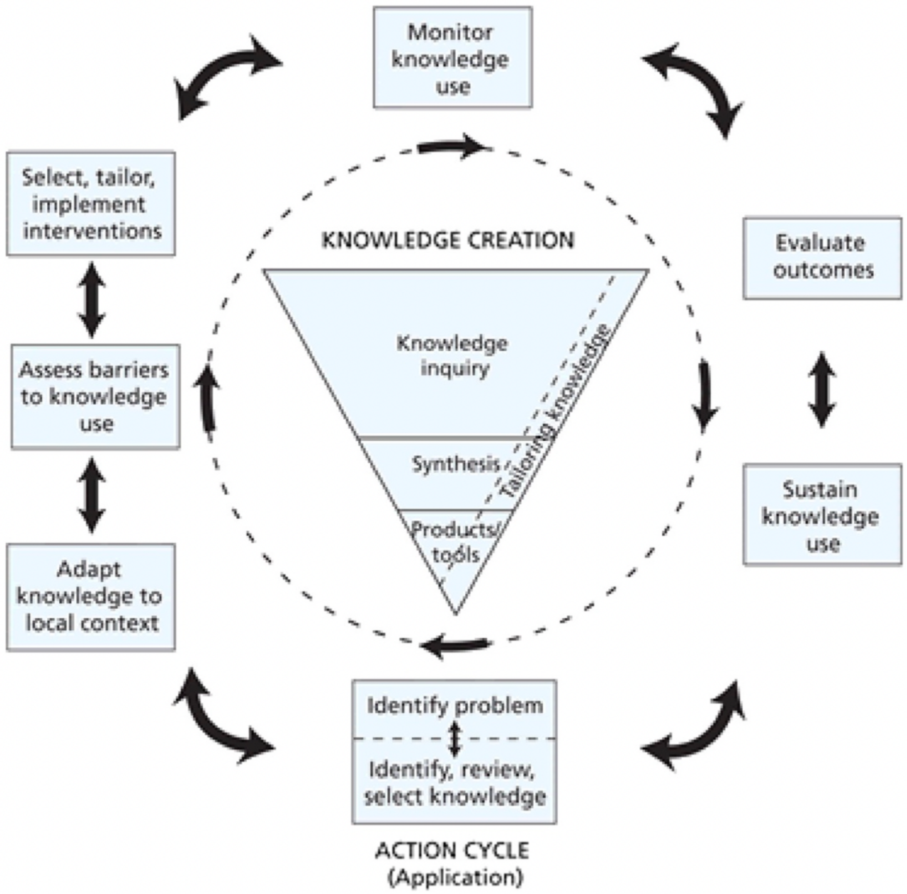

Figure 1. The Knowledge to Action Framework. From Graham I, Logan J, Harrison M, Strauss S, Tetroe J, Caswell W, Robinson N: Lost in knowledge translation: time for a map? The Journal of Continuing Education in the Health Professions 2006, 26, p. 19. Used with permission.

Field et al. (2014) reviewed the evidence of the real-world application of the KTA Framework. Of the 146 papers examined, only ten reported direct use of real-world application of the KTA Framework. In these studies, the KTA Framework appeared to provide a practical yet flexible guide to getting research findings into practice, allowing evidence to be applied in unusual ways, which illustrates the adaptability of the conceptual framework to different healthcare settings and topics.

Another example of a model is the Ottawa Model of Research Use (OMRU) framework (Graham & Logan, 2004). The OMRU views research use as a dynamic process of interconnected decisions and actions by different individuals relating to each model element. The OMRU and the KTA frameworks have the same overall purpose and view research as a dynamic process involving decisions and actions to transfer specific knowledge into practice. The OMRU emphasizes systematic assessment and monitoring throughout the research transfer efforts, while the KTA is a more flexible and interactive process of knowledge exchange involving stakeholders at different phases of the research process.

The OMRU and the KTA models aim to share and implement research knowledge with appropriate users in a specific context. Both models view research as a dynamic process involving decisions and actions to transfer specific knowledge into practice. The OMRU emphasizes systematic assessment and monitoring throughout the research transfer efforts, while the KTA is a more flexible and interactive process of knowledge exchange involving stakeholders at different phases of the research process. User involvement in co-creating, implementing, and evaluating research is crucial for effective translation, allowing for context-specific strategies that meet the specific needs of communities and users.

2.2.3 Approaches

In broad terms, an approach refers to a specific methodology and perspective adopted. For instance, the Canadian Institutes of Health Research (CIHR) employs end-of-grant KT and integrated KT approaches.

Approaches are more general descriptions of characteristics of a specific KT methodology or perspective rather than attempts to conceptualize processes or identify predictors of effectiveness.

Collaborative approaches

Collaborative approaches emphasize the importance of researchers/KT experts and knowledge users working together to facilitate the uptake of knowledge in practice. At the core of this approach lies a relationship between researchers and decision-makers, characterized by accountability, reciprocity, and mutual respect for each other's expertise (Canadian Institutes For Health Research, 2006).

Knowledge brokering

Knowledge brokering refers to a specific strategy whereby identified individual "knowledge brokers" (KBs) systematically and strategically establish connections between researchers and decision-makers to facilitate the utilization of evidence in health promotion and healthcare provision. KBs primarily focus on communication, are familiar with their respective areas of expertise, and are often selected because of their perceived high credibility in accessing and interpreting research. Their responsibilities may include locating relevant policy and practice research, synthesizing information, organizing seminars or meetings, fostering links between researchers and decision-makers, and building networks (Newman, Deforge, Van Eerd, Mok, & Cornelissen, 2020).

2.3 Integrated Knowledge Translation (iKT)

iKT explicitly engages knowledge users throughout the research process, which forces the research team to proactively think through how change is made and who needs to be involved in the research planning (Nguyen et al., 2020). iKT is unique in its emphasis on knowledge users, broadening inclusivity to multisectoral stakeholders and encouraging their involvement throughout the research process. iKT reformulates the linkage and exchange concepts, extending past its conceptual scope into research co-creation. It orients knowledge towards specific ends, such as improving health, providing more effective health services and products, or strengthening the healthcare system.

Nguyen et al. (2020) discuss how collaborative research with knowledge users is believed to be one of the best ways to support the rapid application of research evidence and generate a more significant impact on practice, policy, health systems and societal outcomes (i.e., effective knowledge translation (KT) and implementation practices). This logic bridges the 'know-do' gap by focusing research on the needs of those using it in the real world (i.e., knowledge users) to increase knowledge use and impact. The logic also implies that researchers and knowledge users learn from each other by working together on the research, breaking down barriers that typically divide researchers and knowledge users.

Nguyen et al. (2020) identify four distinguishing features of Integrated Knowledge Translation (iKT) worth noting. First, iKT is the only approach initially developed in a health research context by health research funders in Canada. Second, when viewed as an approach to research, iKT can be considered epistemologically neutral, as it can be used with any philosophy of science. However, when the focus is on the nature of the researcher-knowledge user research partnerships, the underlying epistemological stance is social constructivism. Third, iKT has typically been focused on increasing knowledge use, implementation, and impact. Fourth, iKT explicitly engages knowledge users throughout the research process, which forces the research team to proactively think through how change is made and who needs to be involved in the research planning to enact change.

Graham et al. (2018) highlight the importance of promoting iKT among knowledge users, knowledge user organizations, and researchers. They outline their research program to study iKT through a systematic and interdisciplinary approach involving various knowledge user groups such as executives, managers, policymakers, clinicians, and patients. The program uses existing relationships with organizations to conduct multiple case studies on iKT and establish a training and mentoring environment for researchers interested in the field. Through a meta-synthesis of case studies and strategic studies, the research demonstrates how iKT works, identifies its limitations and benefits and assesses its impact on health outcomes. The program also explores ways to promote iKT among knowledge user organizations and researchers and ultimately improve knowledge translation and the benefits of research. A detailed list of Canadian organizations that conduct iKT is provided in Appendix 3.

2.4 Contextualization

Contextualized health research considers the unique characteristics of the population, the availability of specific resources and the culture in the setting in which the knowledge is to be applied. It recognizes that health problems and solutions are shaped by social, cultural, economic, and political factors (Bornstein et al., 2017) and that the availability of local resources and capacities needs to be considered, such as the availability of trained staff, infrastructure, and expertise.

There are several approaches to conducting contextualized health research, including community-based participatory research, which involves the active engagement of community members in all stages of the research process (Moat et al., 2013). Another approach is implementation science, which is concerned with understanding how to implement evidence-based interventions in real-world settings effectively.

It is essential to consider contextualization factors when seeking to implement research findings. Not meeting the contextualization needs has been identified as a critical factor driving decision-makers to seek out non-academic sources of evidence. Kneale et al. (2017) indicated that only one of the 23 studies included in their systematic scoping review discussed the importance of having evidence specific to the locality was deemed to outweigh concerns about the evidence's methodological rigour, resulting in a preference for locally sourced evidence over other forms of evidence (Wye et al., 2015).

According to Kneale et al. (2017), decision-makers may emphasize the uniqueness of their local areas and public health challenges instead of highlighting commonalities with other regions. Several studies suggested that some of the most compelling evidence on local public health decision-making was generated through local evaluation activities (Kneale et al., 2017; Wye et al., 2015).

A simple approach to contextualization is the development of user-friendly policy-relevant research syntheses, often referred to as ‘evidence briefs’ or ‘policy briefs’ (Moat et al., 2013; World Health Organization, n.d.). Evidence briefs focus on a specific policy issue and then draw on a variety of synthesized research and local evidence to help policymakers fully understand the problem, potential solutions, and implementation considerations. Focusing on priority policy issues, evidence briefs are thought to help policymakers overcome barriers that may prevent them from fully utilizing research evidence (Moat et al., 2013).

The degree to which the demand for and usage of evaluation evidence, evidence from experts, and locally embedded evidence are linked needs to be clearly expressed in the literature. Frequent deployment of local experts in public health decision-making may be because of their ability to blend national and international sources of research evidence with knowledge gained from local evaluation and experience.

Along with these barriers, challenges arise between researchers and decision-makers. These challenges include the need for researchers to develop a much deeper understanding of evidence requirements from decision-makers' perspectives. The current body of literature and the solutions and facilitators to increasing research evidence use identified tend towards understanding decision-makers' needs from the researchers’ perspective. This means that prioritized types of evidence should “fit” into informing decisions rather than approaching the issue from the perspective of the types of decisions where insights and knowledge from the evidence are needed but where this need is unmet.

Adapting knowledge to the local context is part of several knowledge-to-action frameworks, and clarity is needed on how the contextualized knowledge synthesis differs. The process of adaptation involves a systematic approach considering the modification of guidelines for implementation in different contexts while preserving evidence-based principles. Despite the intention of adaptation to enhance efficiency and uptake, evidence supporting these outcomes is scarce (Darzi et al., 2017; Moore et al., 2021).

The decision on a suitable framework should consider factors such as time, human and financial resources, prior experience, methodological expertise, and team-building capacity. Organizations developing guidelines from the beginning are encouraged to structure their recommendations transparently, facilitating later adaptation (Darzi et al., 2017).

According to Moore et al. (2021), research on guideline adaptation is a valuable opportunity to explore how contextual variables, including culture, organizational structures, and societal values, influence the translation of evidence into practice recommendations. A comprehensive understanding of the methodology, rigour, efficiency, and transparency of adaptation approaches, along with identifying barriers and facilitators, is essential for future studies.

Efficiency in implementing interventions in new contexts can be achieved by leveraging existing evidence, but success often hinges on contextual adaptation. Moore et al's (2021) guidance offers a systematic framework and checklist for adapting interventions and promoting transparency in reporting. This consensus-informed guidance, developed through systematic reviews, qualitative interviews, consultations, and formal consensus methods, aims to facilitate the synthesis of effective adaptation practices. It provides stakeholders with a starting point for advancing the ongoing debate surrounding intervention adaptation, activating positive changes in research behaviour, and reducing research waste through more focused evaluations (Moore et al., 2021). Accumulating adaptation studies based on this guidance and other approaches will contribute to refining recommendations grounded in empirical evidence over time.

2.5 Effectiveness of KT Strategies in Health Policy Decision-Making

We can turn to academic literature and published evidence to evaluate the effectiveness of systematic, planned KT strategies and the use of specific theories, models, frameworks, or approaches. Numerous studies have demonstrated the value of systematic, planned KT strategies in bridging the gap between research and practice. Some key findings include Grimshaw et al. (2012) systematic review of KT strategies, which analyzed 235 studies, and found that tailored KT interventions (e.g., educational outreach, audit, and feedback) were more likely to lead to practice change compared to no intervention. The study emphasized the importance of tailoring strategies to the specific context. Giguère et al. (2012) show that KT interventions, such as educational outreach visits and reminders, can improve healthcare professionals' adherence to guidelines and recommendations, leading to better patient outcomes.

The KTA Framework (Graham et al., 2006): The KTA framework is a comprehensive model that outlines the entire KT process, from knowledge creation to action. It emphasizes the importance of selecting appropriate KT strategies based on the nature of the knowledge and context.

The Consolidated Framework for Implementation Research (CFIR) (Damschroder, Reardon, Widerquist, & Lowery, 2022): CFIR provides a framework for understanding and evaluating the factors influencing successful implementation, which is a crucial aspect of KT. Researchers and practitioners can use CFIR to identify barriers and facilitators to implementation.

The Behavior Change Wheel (Michi, Van, Stralen, & West, 2011): This framework helps in designing behaviour change interventions, which are often a key component of KT strategies. It provides a systematic way to understand and address the factors influencing behaviour change.

Newman et al. (2020), using a mixed-methods approach, provided insights suggesting that KBs can be effective in establishing relationships that enable knowledge users to access research evidence and improve their practices. Larocca, Yost, Dobbins, Ciliska, & Butt (2012) suggest that a knowledge translation intervention delivered by KBs can lead to improvements in evidence-informed decision-making knowledge, skills, and behaviours.

Numerous studies support the effectiveness of systematic, planned KT strategies and the use of specific theories, models, frameworks, and approaches in improving the translation of research into practice. However, it's important to note that the success of KT efforts can vary depending on the context, the nature of the knowledge being translated, and the stakeholders involved. Tailoring KT strategies to specific situations remains crucial for achieving uptake.

2.6 Relevance of Review Findings for Evaluation of CHRSP

Through this review, a methodological gap was identified: research on knowledge translation (KT) and evidence-based interventions (EBIs) contains limited studies where knowledge producers (researchers) and knowledge users (policy and decision makers) are interviewed based on their participation in contextualized health research processes. This thesis aims to contribute to the literature by helping to fill this gap by interviewing stakeholders. Through this, we can gain further insight into identifying real-world barriers that may exist, leading to health system inefficiencies, poor outcomes, and the uptake of contextualized health research.

While it is generally accepted that theories, models, and frameworks help facilitate change, their actual use in practice seems less common. One possible explanation is that only some studies adequately explain or justify their theoretical approach, and even fewer do so accurately. This makes it difficult for people who want to learn from these projects or conduct systematic reviews to understand how effective the tools are. Further research is needed to determine how these tools can improve implementation efforts and outcomes.

Only some studies include interviews with knowledge producers (researchers) and knowledge users (policy and decision makers) that link evidence to policy and decision-making. This creates an opportunity for research to consolidate and standardize previous descriptions to describe knowledge translation.

The specific characteristics of policy issues also are essential to determine how stakeholders and policymakers view research evidence as an input in the policy process. Different issues can result in very different reactions by the public and those involved in the policymaking process. As a result, it may either lead to - or halt - any related political activity (Moat et al., 2013). Taken together, both the context in which research is produced and the issues it addresses have implications for the types of policy-relevant information that will be viewed as valuable, along with the preferred presentation of this content.

KT is an increasingly important phenomenon in healthcare and medicine, where knowledge transfer can be challenging due to differing skills, competencies, and emotions among professionals and patients. Recent challenges in healthcare systems have sparked debates about stakeholder dialogue and how different actors can effectively engage and collaborate.

2.7 Barriers and Challenges in Promoting Evidence-Based Health Policy Decision-Making

Hasson, Leviton, & Von Thiele Schwarz (2020) propose methodological approaches to be used in research to increase the use of evidence-based interventions. They invite the research community to consider ways to optimize the trustworthiness and usefulness of the research findings. This is achieved by proposing a typology that provides some approaches to helpful EBIs for intervention researchers.

The typology presented by Hasson et al. (2020) proposes different research approaches aimed at enhancing the practicality of EBIs by improving the reporting of four key features in intervention studies: (1) the interventions themselves, including core components and relevant adaptations; (2) strategies to support the high-quality implementation of the interventions; (3) generalizations about the evidence across diverse contexts; and (4) outcomes based on the preferences and knowledge of end-users. These research approaches are divided into three levels: Description, Analysis, and Design. The Description level specifies the information that could be useful for end-users, such as details about the intervention, its implementation, context, and outcomes. The Analysis level presents alternative ways of analyzing data to enhance the accuracy of information provided to end-users. The Design level proposes more radical changes to research methods that could have significant implications for providing more practical information to end users. These approaches prioritize whether interventions can be effectively implemented and lead to anticipated outcomes in everyday practice instead of focusing on whether they work in highly controlled and optimal circumstances, partly reversing the order of efficacy and effectiveness (Hasson et al., 2020).

The levels originate from different research fields, and Hasson et al. (2020) summarize them to highlight their potential benefits. The typology consists of research approaches to increase the usefulness of EBIs by improving the reporting of four features in intervention studies. This includes the interventions themselves, including core components and appropriate adaptations; strategies to support–high-quality implementation of the interventions; generalizations about the evidence in various contexts; and outcomes based on end users' preferences and knowledge.

One of the significant obstacles to using research evidence in policymaking is the complex nature of the policy-making process itself. Policymakers must balance the importance of research evidence with competing factors such as institutional constraints, pressure from interest groups, personal values, and unexpected events. Furthermore, research evidence can be challenging to interpret and use, as it is often presented in a manner that does not correspond to policymakers' specific needs. These issues are compounded by a general need for more trust between policymakers and researchers and a tendency for policymakers to discount the value of research evidence in their decision-making.

One potential solution to these issues is using evidence briefs. Evidence briefs differ from other research syntheses in that they focus on a specific policy issue and then draw on a variety of synthesized research and local evidence to help policymakers fully understand the problem, potential solutions, and implementation considerations. Focusing on priority policy issues, evidence briefs help policymakers overcome some barriers that may prevent them from fully utilizing research evidence (Moat et al., 2013).

Evidence briefs are a promising strategy for increasing policymakers' likelihood of utilizing research evidence. (Moat et al., 2013; Polisena, Garritty, Kamel, Stevens, & Abou-Setta, 2015). Evidence briefs address the issue of timeliness by synthesizing research evidence quickly - in days or weeks - instead of the months or years required for traditional single studies or reviews. Additionally, they offer a platform for promoting interactions between researchers, policymakers, and other stakeholders, mainly when used with deliberative dialogues. Lastly, evidence briefs encourage policymakers to consider how their values, beliefs, and political objectives align with the best available research evidence.

Akl et al. (2017) discuss the importance of health policy and systems research (HPSR) in strengthening health systems and improving health outcomes. Using tools such as systematic reviews can help address gaps in the scientific literature on setting priorities for systematic reviews in health services research.

Systematic reviews of HPSR benefit decision-makers as they provide a more reliable and robust source of evidence than individual studies. To ensure that the best available evidence informs health policy decision-making, groups or institutions funding or conducting systematic reviews should prioritize topics according to the needs of policymakers and stakeholders.

Manson (2016) discusses the importance of having various evidence types and the importance of locally appropriate policy solutions. Policymakers faced with the globalization of disease risks, the unequal distribution of disease burden, and increased pressure on healthcare systems due to aging populations must identify and enact locally appropriate policy solutions. Access to diverse synthesized evidence with methods matched to policy objectives, issues, processes, and contexts can help ensure solutions are found and effectively implemented.

Evidence to inform policy options and implementation solutions can come from various sources, such as systematic reviews, summaries, guidelines, and large-scale evaluation studies.

Manson (2016) points out that an increase in demand for evidence-informed policy has created a growth in the literature in this area, with a considerable discussion about what constitutes the ‘‘best’’ evidence for policymakers. However, there remains no commonly understood definition of what it means for policy to be evidence-informed, which justifies this research project as it identifies a gap. This has been an ongoing problem. Even as far back as 1999, Anderson, Cosby, Swan, Moore, & Broekhoven (1999) discuss how there is little understanding of the extent to which local community-based agencies conduct internal research to improve their operational capacity. Campbell et al. (2009) also discuss how little is known about how researchers and policymakers work together or about barriers to increasing exchange.

Manson (2016) raises the point that researchers who promote the use of evidence in decision-making are challenged not only to understand their world of research but also that of policy and the media, and they must also speak the language of those who influence policy to promote the use of that evidence. These challenges mean that the communication of evidence may impact how evidence is tailored for the policy audience.

2.8 Knowledge Translation - Use of Strategies to Support Health Policy Decision-Making and Evidence of Their Effectiveness

While it is generally accepted that theories, models, and frameworks help facilitate change, their uptake in practice seems less common. One possible explanation is that only some studies adequately describe or justify their theoretical approach. There is an opportunity to learn about the utility of various strategies because not enough is known about how they are operationalized in practice, and evaluations are not completed. It is also difficult to know whether people are using planned theory-based strategies in practice or if they may be doing things ad hoc. This makes it difficult to learn from these projects or conduct systematic reviews to understand how effective the theoretical tools are. Further research is needed to determine how these tools can improve implementation efforts and outcomes.

Bottorff (2015) emphasizes that the complex and social nature of knowledge translation requires the involvement of qualitative health researchers, whether it be to explore the determinants, processes, or outcomes of knowledge translation and to help make a significant contribution to reducing the lag time it takes research to translate into practice.

2.9 How CHRSP Fits in the Landscape of KT and Similar Programs and Initiatives

Many research synthesis programs and initiatives exist across Canada. These programs aim to consolidate and synthesize existing research evidence to inform policy and practice decisions. These initiatives may vary in focus and scope, addressing various health topics and priorities.

To understand how the CHRSP fits into the KT landscape, several factors need to be considered.

- **Scope**: What specific health topics or issues does CHRSP address, and how does this compare to other programs?
- **Target Audience**: Who are the primary users of the synthesized research, and how does this differ from other programs?
- **Geographic Focus**: Does the program have a regional or national focus, and how does this align with other initiatives?
- **Methodology**: What methods does the program use for research synthesis, and how does this differ or complement other approaches?

- **Partnerships and Collaborations**: Does CHRSP collaborate with other organizations, such as provincial health authorities or healthcare providers, to facilitate KT?

By comparing these factors, you can assess how the program's approach and objectives align with or differentiate from other KT initiatives in Canada.

2.10 Key Issues For Evaluating CHRSP

The literature on KT is quite extensive but still insufficient in providing clear evidence on which KT approaches are most likely to be useful in the NL policy decision-making context. This means that, actually, evaluating CHRSP could provide useful insights more generally.

The literature provides little useful guidance on developing the evaluation in any specific way, so the approach and methods have to draw on more general research literature than anything specific to the KT context. Here it is important to consider specific aspects of the CHRSP approach that the evaluation could usefully focus on. For example, whether other methods for contextualization should be considered or how the idea of 'collaborative' is operationalized.

CHRSP does a number of things well that are highlighted in the literature of knowledge translation:

- **Defining its Purpose:** Clearly articulating its objectives, such as synthesizing and disseminating health research findings to inform healthcare decision-making.
- **Identifying Target Audiences:** Specifying the key stakeholders, such as policymakers, healthcare practitioners, and the public, who will benefit from the synthesized research.
- **Describing Methods:** Outline the methodology used to synthesize research, including systematic reviews, meta-analyses, or other knowledge synthesis techniques.

- **Addressing Barriers:** Acknowledging and addressing barriers to effective knowledge translation, such as knowledge gaps, communication challenges, or policy obstacles.

CHRSP aligns with several best practices identified in the literature, including:

- **Engaging Stakeholders:** Involving relevant stakeholders (e.g., policymakers, healthcare providers, patients) in the research synthesis process to ensure that the findings meet their needs.
- **Tailoring Information:** Adapting the synthesized knowledge to the specific context and needs of the target audience, taking into account local healthcare systems, cultural factors, and policy frameworks.
- **Dissemination Strategies:** Implementing a well-defined strategy for disseminating the synthesized research, which may include peer-reviewed publications, policy briefs, interactive workshops, or online platforms.

2.11 Thesis Rationale

The literature review has identified an incomplete evidence base on the nature and impact of KT strategies and initiatives designed to improve the use of evidence in health policy decision-making. CHRSP was originally created as a core program in a centre established and funded to support evidence in decision-making in the NL health system context. It has existed for fifteen years, with consistent principles underlying its methodology. As the provincial health system is undergoing a major organizational change intended to be transformational in terms of improving health outcomes and resource use, it is timely to evaluate how well this model has worked and identify any changes likely to significantly improve its reach and impact.

2.12 Aims and Objectives

Specifically, this thesis project aims to evaluate CHRSP in terms of its impact on decision-making and on actual health-related policy in the province of NL. From this evaluation, key lessons will be learned which can be used to reinforce the positive effects that the program has had and address some of the deficiencies of the program. The research questions are as follows:

1. How do stakeholders who have been involved in CHRSP:
    a. characterize its impact on health policy decision-making within the NL health system.
    b. perceive as its strengths and weaknesses.
2. How useful are the different knowledge products produced by CHRSP considered to be by knowledge users, and how could they be improved?
3. What other opportunities exist for NLCAHR to use its existing resources more effectively to support health system decision-making in the province?

The main study research question is: What is the value added of the CHRSP program for providing contextualized health research for healthcare policy and decision-making in NL? The additional accompanying questions are:

- What is the impact of the CHRSP program in NL?
- What is the CHRSP's influence on decision-making within the health care in NL?
- What is the impact/usefulness of contextualization of these reports?
- How is the engagement process of being involved with a CHRSP report from start to finish?
- What other sources of information are healthcare policy and decision makers using to inform their decisions?

2.13 Chapter Summary

This literature review has explored the definitions, frameworks, and methods used in KT, evidence-based decision making (EBDM), and contextualized health research. These areas are all critical for improving health outcomes and healthcare delivery. While several challenges are associated with their implementation, there are also significant opportunities for advancing these areas and improving healthcare quality.

This literature review aimed to identify and synthesize what is known about evidence-based decision-making and how knowledge translation between researchers and decision-makers occurs and to use this to try to improve knowledge uptake in NL. In this thesis, the CHRSP will be evaluated regarding its impact on health-related policy and decision-making in the province. From this evaluation, key lessons will be learned which can be used to reinforce the positive effects that the program has had and address some of the deficiencies of the program.

Chapter 3: Methodology and Methods

This chapter provides a comprehensive overview of the research methodology employed in this study, focusing on the conceptual framework, philosophical assumptions, methodology, and methods that guide the investigation and explaining the theoretical underpinnings that shape the study's design and analysis. Methodological decisions are critical to the integrity and validity of any study, shaping the path through which knowledge is acquired, analyzed, and interpreted. The subsequent sections detail the sampling strategy, recruitment strategy, and data collection methods. The procedures for interviewing participants and the subsequent data analysis are highlighted here. The transcription, coding, and thematic analysis process is described in detail. The chapter concludes with discussions on theme development and reflexive thematic analysis for applied qualitative health research.

3.1 Conceptual Framework

This chapter describes the conceptual framework for the research design, data collection, and analysis. Maxwell (2005) points out that the purpose of a conceptual framework is to outline the "system of concepts, assumptions, expectations, beliefs, and theories that inform research" (p. 33). Conceptual frameworks are recommended as a way of applying theory to enhance implementation efforts.

3.2 Philosophical Assumptions

3.2.1 Ontology

The decision to include multiple perspectives from numerous interview participants and backgrounds derives from the ontological notion that reality is constructed and that experiences gain different meanings in the context of different biographies, disciplinary frameworks, and positions (Abma & Stake, 2014). Reality is known through many research tools that reflect both deductive (objective) and inductive (subjective) evidence.

3.2.2 Epistemology

The social constructivist ontology has influenced the understanding of how reality is perceived. An interpretive epistemology was used, which interprets the participants' experiences, which are co-created by working with NLCAHR staff and other participants such as health system partners and CHRSP participants. According to the constructivist perspective, individuals utilize discourses that are meaningful to them to construct their reality (Guba & Lincoln, 1994). The participants have shared their experiences with me, and I have collaborated with them to interpret these experiences. This involved identifying recurring themes and connecting them with existing literature related to these areas. The process of developing these overarching themes is described in detail in the Data Analysis section.

Utilizing various methods of data collection in confirming the epistemological stance of the researcher. Values are discussed because knowledge reflects the researchers' and the participants' views. The case study approach enables close collaboration between the researcher and the participant while allowing participants to describe their experiences. Ensuring these philosophical assumptions are congruent with the interpretative framework is essential. According to Abma & Stake (2014), although gaining a complete and fixed portrayal of reality is impossible, there is an understanding that reality becomes more robust and more informed as multiple stakeholder perspectives are investigated.

3.2.3 Interpretative Framework

A pragmatic approach to case study research, data collection, and development was chosen. Creswell & Poth (2018) discuss how pragmatist researchers look to the "what" and "how" of research based on its intended consequences—where they want to go with it, which fits well with the intended purpose of understanding the link between researchers and policy and decision-makers. Pragmatists tend to be concerned with the application (what works) and solutions to problems. Researchers look to many approaches to collecting and analyzing data rather than committing to only one way (Creswell & Poth, 2018).

Theoretical frameworks provide a general explanation of what the researcher hopes to find in a study or a lens through which to view the needs of participants and communities in a study (Creswell & Poth, 2018). An explicit statement of theoretical assumptions permits the reader to evaluate the assumptions critically. It is a means by which new research data can be interpreted and coded for future use and can also be used for identifying and defining research problems (Creswell & Poth, 2018). Developing a well-informed theoretical framework is important to improve consistency, rigour, and trust in published qualitative work (Hyett, Kenny, & Dickson-Swift, 2014).

3.2.4 Methodology

The present study adopted a qualitative inquiry approach to explore and describe participants' views and experiences with the CHRSP program. According to Bottorff (2015), a qualitative inquiry has unique advantages that contribute to the exploration of the complex process of research translation. This study uses a phenomenological perspective, which explores how humans make sense of experiences and transform those experiences into consciousness, both individually and as a shared meaning (Creswell & Poth, 2017). Thus, a phenomenological perspective incorporates the perceptions and feelings of people associated with what they experience, not merely the observations of the experience itself (Creswell & Poth, 2017; Morse, 1994). This phenomenological perspective aims to summarize individual experiences and provide descriptions that include ‘what’ people experienced and ‘how’ they experienced it. This research seeks to understand the complexity of factors that influence the implementation of the CHRSP through the perspective and experiences of health system partners. Rather than starting with a specific theory, patterns of meaning were inductively developed through thematic analysis.

Case studies are a valuable methodology to help explain and understand causal links and pathways resulting from a new policy initiative or service development (Crowe et al., 2011; Yin, 2018). Case study research is an approach in which the investigator explores a real-life, contemporary bounded system through a detailed, in-depth data collection (Creswell & Poth, 2017). Case studies can be used to explain, describe or explore events or phenomena in the everyday contexts in which they occur. They can benefit professionals and policymakers seeking context-related knowledge and will help convey the results of this study to researchers and policy and decision-makers (Crowe et al., 2011; Yin, 2018). According to Abma & Stake (2014), policymakers are often far removed from practice, so a case study can aid in understanding a reality they know only through rules or abstractions. Caronna et al. (2010) highlight that case studies can “capture the unfolding of social processes and uncover the processes of and barriers to change” (p. 2). When the case study approach is applied correctly, it becomes a valuable method for health science research to develop theory, evaluate programs, and design interventions (Yin, 2018).

This collective case study collected data through multiple sources such as observations, interviews, documents, and reports. The case study approach uses a variety of data sources to ensure the issue is explored through various lenses, allowing for multiple facets of the phenomenon to be revealed and understood. Baxter & Jack (2008) highlight that the case study approach is valuable for health research to develop theory, evaluate programs, and develop interventions because of its flexibility and rigour. The case study is bounded through 2008 – 2022 (the sample of CHRSP reports selected) within NL (the project setting).

The method of inquiry used in this framework aligns with the ontological and epistemological assumptions by employing an inductive approach based on emerging ideas that result from direct interactions between the researcher and participants (Guba & Lincoln, 1994).

A qualitative descriptive method using interview data was employed to better understand experts' perspectives and experiences of participating in the CHRSP program. Participants' responses were analyzed through thematic analysis to elicit core themes. The study was centred around the concept of the CHRSP program and how it has influenced decision-making within their organization. As this was an iterative process, data triangulation and member-checking were conducted with participants to ensure the accuracy of emergent themes. Member checking ensured that what participants said was not taken out of context.

Participants from multiple organizations were interviewed, including the (then) four regional health authorities (Eastern Health, Central Health, Western Health, and Labrador-Grenfell Health), NLCAHR, and Memorial University, to increase the variability of data sources. Creswell & Poth (2017) discuss the importance of selecting unusual cases in collective case studies and employing maximum variation as a sampling strategy to represent diverse cases and fully describe multiple perspectives. When selecting interview participants, individuals and sites for the study that can purposefully inform an understanding of the research problem and central phenomenon were selected.

3.2.5 Justification for Using the Case Study Approach

The case study approach is an established research design used extensively in various disciplines, particularly social sciences, business and health research. Case studies help explain, describe, or explore events or phenomena in their natural contexts (Creswell & Poth, 2018; Crowe et al., 2011; Yin, 2018). Case studies are accommodating in understanding the causal links and pathways resulting from new policy initiatives or service developments. Yin (2018) states that the more research questions seek to explain some contemporary circumstance (e.g., “how” or “why” some social phenomenon works), the more likely that case study research will be relevant. Unlike experimental designs, which aim to test specific hypotheses by manipulating the environment, case studies are well-suited for answering explanatory questions such as "how," "what," and "why." They can provide insights into how interventions are implemented and received on the ground, identify delivery gaps, and help develop or refine theories.

The case study approach can offer additional insights into what gaps exist in the delivery of an intervention or why one implementation strategy for intervention might be chosen over another (Crowe et al., 2011). Case studies may be approached in different ways depending on the epistemological standpoint of the researcher, that is, whether they take a critical (questioning one’s own and others’ assumptions), interpretivist (trying to understand individual and shared social meanings) or positivist approach (orientating towards the criteria of natural sciences, focusing on generalisability). While one plan or epistemological approach can be conceptually helpful, Crowe et al. (2011) discuss how drawing on multiple epistemological approaches in any case study, mainly when conducting health services research, can be helpful. For example, researchers conducting interpretative case studies can benefit from a critical, reflective perspective that considers the broader social and political environment that has shaped the case.

3.3 Case Study: Contextualized Health Research Synthesis Program from the Newfoundland and Labrador Center for Applied Health Research (NLCAHR)

This is a case study of knowledge translation in a single province in a health system facing sparsely populated geography, fiscal constraints, high rates of chronic disease, and poor health outcomes. NLCAHR was established to help provide evidence-based solutions to the challenges facing the healthcare system in the province. One of its programs, the CHRSP, is a research synthesis program that contextualizes research findings and involves health system partners in the research process. This case study aims to examine the impact CHRSP has had on health policy and decision-making and to make recommendations for improvement.

Getting Evidence into Policy at the Provincial Level

CHRSP goes about getting evidence into policy at the provincial level by engaging health system partners in the research process, contextualizing research findings, and disseminating research results to stakeholders. The program is designed to provide evidence-based solutions that can be used to inform policy and decision-making in NL. The program engages with stakeholders throughout the research process to ensure the research questions and findings are relevant to their needs. The CHRSP team also disseminates research results to a broad range of stakeholders to ensure the research is used to inform policy and decision-making.

3.4 Sampling Strategy

To effectively implement a purposive sampling strategy in a study, three key factors must be considered: the selection of participants, the type of sampling, and the sample size (Creswell & Guetterman, 2019).

The first consideration involves identifying the individuals included in the study. The participants were selected because they all participated in a CHRSP report process between 2008 and 2022. Two categories of participants were chosen: knowledge users and CHRSP champions (partnerships within the provincial health system) who had completed a CHRSP report between 2008 and 2022. A homogeneous sampling approach was adopted to understand the specifics of participating in a CHRSP report by selecting participants who met these criteria. Homogeneous sampling is a purposive sampling technique that aims to achieve a sample whose units (e.g., people, cases, etc.) share the same (or very similar) characteristics or traits (e.g., a group of people that are similar in terms of age, gender, background, occupation, etc.).

The second consideration pertains to the type of sampling that was employed. Utilizing a criterion sampling strategy ensured that only those who met the inclusion criteria were included in the study. However, snowball sampling was also employed to identify additional participants who could provide rich and valuable information. Maximum variation sampling was also employed by selecting participants from the entirety of the CHRSP's existence, with various backgrounds and experiences, to ensure the broadest range of perspectives possible (Creswell & Guetterman, 2019).

The final consideration for purposeful sampling is determining the appropriate sample size. The goal is to collect enough information to develop a comprehensive understanding of the topic being studied (Creswell & Guetterman, 2019). The aim was to include 15-20 participants. Data saturation was reached after collecting data from 20 participants. Saturation occurs when enough data has been collected to fully understand the topic under investigation (Creswell & Guetterman, 2019). While it is difficult to determine how many participants may have provided sufficient information, the availability of additional participants allowed for a deeper understanding of their experiences with the CHRSP.

In addition to the three key factors highlighted by Creswell & Guetterman (2019), another critical sampling issue in this thesis that emerged was the decision on the number of

CHRSP studies to examine and which specific ones to include. The focus was primarily on trying to capture reports from the beginning of CHRSP, the middle stages, and the most recent report published, but this aspect also played a significant role in shaping the overall research findings. Selecting an appropriate number of studies and ensuring their representativeness were crucial factors in obtaining a comprehensive understanding of the CHRSP's impact and effectiveness. By carefully balancing the quantity and diversity of studies included, the aim was to capture a broad spectrum of perspectives and experiences related to the program, thereby enhancing the robustness and validity of the findings.

3.5 Recruitment Strategy

Recruitment was organized by the lead researcher and reviewed and confirmed by the Director of NLCAHR, Richard Audas. Initial contact with participants occurred via email (see Appendix 4), summarizing the purpose of the research and, if consent was given, to arrange interviews. Upon agreement to participate in the study, a follow-up email was sent, including an in-depth project description, interview guide, and consent form (see Appendices 3 and 4). This recruitment strategy is congruent with the sampling strategy of purposive sampling and with the current case study methodology.

3.6 Data Collection

The primary researcher conducted the recruitment, collection of data, raw data transcription, and data analysis. The data collected from each participant included position title, organization, which CHRSP report(s) they were involved with, and a one-on-one interview. The study was described initially by email and again when the participant joined the virtual meeting room. Informed consent was gained (verbally and written) from each participant (see Appendix 6). The interviews lasted from 20-60 minutes and were audio-recorded. Four main themes loosely guided the interviews: Contextualization, Impact (or lack of impact), Knowledge Translation, and Evidence-Based Research. An interview protocol was prepared as a guide for drawing out specific participant experiences (see Appendix 5). These questions were strictly followed to ensure the interview stayed on track but were intentionally semi-structured to allow the participant to reflect on their experience with CHRSP. Initial questioning focused on discovering information, followed by sub-questions to bring more depth to their experiences. The questions were provided to the participant before the interview to help guide the participant to reflect on the phenomena of the study. Initial questioning was focused on discovering information, followed by subsequent probing questions to bring more depth to the issues.

Table 3.1 Interview Participants

Participants Involved in the Study	**Number of Participants**
Nephrologist	1
Health Economist	1
Research Officer	4
Research Assistant	1
Manager, Communications, Partnerships, and Research Exchange	1
Clinical Psychologist Long Term Care Program	1
Regional Director Long-Term Care	1
Clinical Nurse Specialist	1
Chief Executive Officer	2
Physiotherapist, Long-Term Care Division	1
Vice President, Long-Term Care, Rural Health, and Quality	1
Reginal Director Long-Term Care Program	1
PhD, Honorary Research Professor	1
Occupational Therapist	1
RN, MN Nurse Educator	1
MN, RN Division Manager	1
Total	20

Table 3.2. Organizations Involved in the Study

Organizations Involved in the Study
Faculty of Medicine, Memorial University
DHCS and Memorial University
Western Regional Integrated Health Authority
NLCAHR
Eastern Health
Central Health
Western Health
Labrador Grenfell Health
Division of Community Health and Humanities, Faculty of Medicine, Memorial University
Western Regional School of Nursing

3.7 Interview Participants

Interview participants were selected to cover a broad spectrum of involvement from the inception of the CHRSP program to its most recent publication. Five published CHRSP reports from 2008, 2014, 2017, 2021, and 2022 were initially chosen. These years and projects were selected to capture CHRSP reports from across its lifespan. This sample provided a list of 68 potential participants to recruit. After the initial screening, 55 recruitment emails were sent, with 20 interviews completed. 21 participants declined, 14 did not respond, 8 of which had invalid contact information. Some of the reasons for responses included personal and professional relevance and trust and credibility associated with NLCAHR and CHRSP. Refusals were mostly associated with time constraints, perceived involvement with CHRSP, or no reason provided. Other non-responses were a result of incorrect contact information and the inability to locate the correct information.

Table 3.3 The Five Reports Chosen

Report	Year	Justification	Number of People Involved in Report
The Provision of Dialysis Services in Rural and Remote Populations in Newfoundland and Labrador	2008	Initial CHRSP report. It would be good to capture the testimony of the very first CHRSP report research team, to demonstrate how it has evolved over time.	11
Agitation and Aggression in Long-Term Care Residents with Dementia in Newfoundland and Labrador	2014	About mid-way through the lifespan of the CHRSP. At this point in time, there have been 12 CHRSP reports issued and disseminated within the health system.	11
Exercise Interventions for Long-Term Care in Newfoundland & Labrador	2017	This report is about 3/4 through the lifespan of CHRSP. Representation from some of the health authorities and other government partners.	20
Home-based Palliative End-of-Life Care in Newfoundland & Labrador	2021	The second most recent CHRSP report that has been issued. It would be good to capture the testimony of the most recent CHRSP report research team, to demonstrate how it has evolved since 2008. This report was also developed and released during the COVID-19 pandemic, which should provide an interesting perspective.	17
Patient Decision Aids in Obstetrics in Newfoundland & Labrador	2022	The most recent CHRSP report that has been issued. It will be interesting to gather the perspectives from participants of the most recent CHRSP report, and see how it has evolved since 2008, and how things have been since the start of the COVID-19 pandemic.	12

Selecting a sample of studies required careful consideration and justification to ensure an accurate representation of CHRSP while considering the research project's time constraints and resources. In this case, the following five studies have been chosen that were completed by NLCAHR:

1. The Provision of Dialysis Services in Rural and Remote Populations in Newfoundland and Labrador.
2. Agitation and Aggression in Long-Term Care Residents with Dementia in Newfoundland and Labrador.
3. Exercise Interventions for Long-Term Care in Newfoundland & Labrador.
4. Home-based Palliative End-of-Life Care in Newfoundland & Labrador.
5. Patient Decision Aids in Obstetrics in Newfoundland & Labrador.

Justification for the selection

1. Relevance to CHRSP program: Each of these studies focuses on healthcare challenges in NL, aligning with the core objective of CHRSP, which is to address health-related issues specific to the region.
2. Addressing regional healthcare disparities: NL has unique geographic challenges, with rural and remote populations facing different healthcare needs compared to more urban areas. These studies target specific issues faced by these populations, highlighting the relevance of CHRSP's objectives.
3. Public health impact: The selected studies cover a range of critical healthcare issues, including dialysis services, long-term care for dementia patients, exercise interventions, palliative care, and obstetrics decision aids. These areas directly impact the health and

well-being of individuals in the province, making the findings of significant public health importance.

4. Chronological alignment: The studies have been picked to align with the chronology of CHRSP. By selecting studies conducted at different points in time, the thesis can analyze the program's evolution, identify its strengths and weaknesses, and track its impact on healthcare in NL
5. Feasibility and data availability: When conducting this review, time constraints and resources were taken into consideration. Choosing this sample of studies completed by CHRSP provided a reasonable sample size while allowing the researcher to complete the research in the allotted amount of time.
6. Diversity of topics: The chosen studies cover various healthcare aspects, from technology use in obstetrics decision-making to palliative care at home. This diversity allows for a comprehensive evaluation of CHRSP's scope and effectiveness in addressing a broad range of health issues.
7. Potential for comparative analysis: As there are around 40 completed studies, the selected sample can provide a representative subset for in-depth analysis while still offering the potential for comparison and generalization to CHRSPs broader impact.

The selected studies are well-suited for a Master's level thesis reviewing CHRSP. They cover various healthcare aspects, address regional disparities, have significant public health impact, and are aligned chronologically while also considering the time constraints and data availability for the researcher. The sample represents a balanced and comprehensive selection to thoroughly evaluate the program's effectiveness and contributions to healthcare in NL.

3.8 Interviews and Data Analysis

Twenty interviews were conducted in this thesis. It was decided that the interview questions pertained more to CHRSP participants rather than NLCAHR staff, so NLCAHR staff were interviewed in the initial round of interviews. Instead, a second set of questions was developed that pertained more to NLCAHR staff, and they were interviewed later.

Initially, the goal of 12-15 interviews was not met, so recruitment was expanded to include Patient Decision Aids in Obstetrics (2022) CHRSP report.

The interviews were meant to 1) gauge current usage and knowledge of the CHRSP across stakeholders of NLCAHR, 2) gather feedback on the CHRSP program from stakeholders, 3) allow for a better understanding of current organizational processes in which the CHRSP could be used to help inform decision making within organizations.

Initial interviews were conducted between September 7th, 2022, and January 13th, 2023, respectively**.** All six stakeholder groups (4 RHAs, CSSD, and DoHCS) of NLCAHR were represented. Interviews were conducted using Zoom videoconferencing and were digitally recorded with the consent of the interviewees, transcribed, and initially coded using NVivo software.

When starting this thesis project, Dr. Audas was not employed by NLCAHR. However, this changed over time when he was appointed to the position of Director of NLCAHR in 2021. I have no affiliation with NLCAHR. This was explained to participants during recruitment and before the interviews commenced. Participants were also assured of anonymity in their interview responses. Given this, it is important to acknowledge that the close affiliation of Dr. Audas and his familiarity with the participants may have impacted the willingness of participants to highlight favourable and hesitate to disclose disfavourable information about CHRSP, even with the researcher's assurance of anonymity.

3.8.1 NLCAHR Staff Interviews

Interviews with NLCAHR staff were conducted between May 29, 2023, and June 1st, 2023, respectively. The staff members included staff involved in CHRSP on varying levels, from a Senior Research Officer, Research Officers, and a Manager of Communications, Partnerships, and Research Exchange. Interviews were conducted using Zoom videoconferencing and were digitally recorded with the consent of the interviewees, transcribed, and initially coded using Nvivo software (version 14, purchased from https://lumivero.com/).

3.8.2 Transcription

Verbatim transcripts were generated using the integrated Zoom video conferencing transcription feature. Verbatim transcription transcribes every word, pause, stutter, and filler words, such as “ahs” and “ums.” Once transcripts were generated, they were uploaded, reviewed, and edited in Nvivo to ensure accuracy, proper sentence structure, spelling, punctuation, and acronyms to ensure proper conversation flow and accuracy when coding the transcripts.

3.8.3 Coding

Data organization occurred through a rigorous process described in the section below. The analysis phase started with reviewing the transcripts several times, making initial notes, and referring to the corresponding notes. Themes were eventually extracted, with this process being described below. The thematic analysis for this study focused on creating emerging themes throughout the interview process. No secondary data were utilized.

Qualitative coding is a process of systematically categorizing excerpts in qualitative data to find themes and patterns. Using unstructured or semi-structured data, passages from in-depth interviews or focus groups, themes and patterns can be extracted for analysis. Qualitative coding allows interpretation, organization, and structured observations and interpretations into meaningful theories from qualitative methods such as semi-structured interviews. Coding in qualitative research allows for more reflexive, critical, and rigorous findings, as coding reliability approaches use a structured approach to coding centred around a coding framework or codebook (Braun & Clarke, 2021).

Coding qualitative data makes analysis more systematic and rigorous, as it allows for later theme development with the themes developed from the codes and conceptualized as patterns of shared meaning underpinned by a central organizing concept. It also enables transparency and reflexivity. Some of the benefits of qualitative coding are:

- Increased validity - Qualitative coding provides organization and structure to data so that it can be examined systematically to increase the validity of the analysis and decrease bias.
- Qualitative coding enables the identification of potential biases in the way data is analyzed.
- Accurately represent participants – qualitative coding allows evaluation to represent the participant base, helps avoid over-representing one person or group of people, and enables transparency.
- Qualitative coding enables other researchers to review analysis methodically and systematically.

3.8.4 Inductive and Deductive Approaches to Qualitative Coding

Campbell et al. (2021) state that there is no right or wrong coding method, just what is most appropriate to address the research objectives. A combination of inductive and deductive coding was used in this analysis, as deductive is suitable for program evaluation and inductive is appropriate for thematic analysis. There are no preconceived notions of what the codes should be, so it is more open, allowing those codes to be derived from what is seen in the data (Campbell et al., 2021).

Before coding, inductive and deductive coding were combined, starting with a set of codes (deductive coding) and developing codes as the data was reviewed (inductive coding). According to Campbell et al. (2021), some studies often combine deductive and inductive approaches to coding. For instance, beginning with deductive starts with a set of codes but then inductively develops new codes and iterates on the codes as sifting through the data.

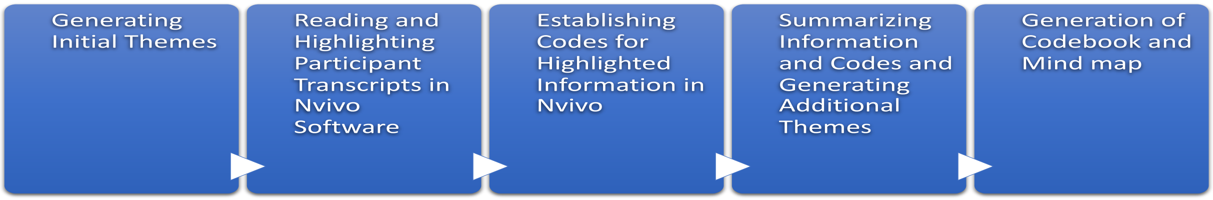

Figure 2. Decision-Making Process for Thematic Analysis and Coding. Figure 2 shows the process of analyzing the participant transcript to highlight appropriate findings and then create themes and codes which capture and organize these findings.

3.8.5 Thematic Analysis

Thematic analysis is a method of analyzing qualitative data, such as interview transcripts, open-ended responses, and other forms of unstructured text. It identifies, analyzes, and reports patterns or themes within the data. The goal of thematic analysis is to identify and describe the themes that emerge from the data and to understand how those themes relate to one another and the overall research question or hypothesis (K. A. Campbell et al., 2021).

The process of thematic analysis typically involves several steps:

- Familiarization with the data involves reading and re-reading the data, taking notes, and identifying any initial impressions or observations.

- Identifying themes: Look for patterns or recurring ideas within the data. This can involve coding the data by highlighting or labelling certain words or phrases related to a particular theme.
- Analyzing the themes: Examine them in more detail and consider how they relate to one another and the overall research question.
- Reporting the findings: Write a report describing the themes that emerged from the data and any patterns or relationships observed.

Thematic analysis is a widely used method in qualitative research. It can be applied to various data sources, including interviews, focus groups, survey responses, and other forms of narrative data. It is an effective way to identify and describe the key themes that emerge from the data. It can provide insights into the experiences, attitudes, and behaviours of the people being studied (Braun & Clarke, 2021).

According to Braun & Clarke (2021), thematic analysis is essential for researchers because it allows them to identify and understand the key themes that emerge from qualitative data. These themes can provide insight into the experiences, attitudes, and behaviours of the people being studied and can help researchers to answer research questions and hypotheses.

Thematic analysis is instrumental when studying complex or multifaceted phenomena because it allows researchers to identify and describe the various factors that contribute to them. It can also uncover patterns or trends within the data and identify areas for further research or investigation (Braun & Clarke, 2021). In addition, thematic analysis allows researchers to make sense of large amounts of qualitative data systematically and rigorously. By following a structured process, researchers can ensure that their analysis is reliable and valid and that the findings are accurately and thoroughly reported (Braun & Clarke, 2021). Overall, thematic analysis is a powerful tool for understanding and interpreting qualitative data and is widely used in many research fields, including psychology, sociology, education, and public health (K. A. Campbell et al., 2021).

Once the interviews were completed, they were transcribed and uploaded to NVivo qualitative data analysis software for thematic analysis. Braun & Clarke (2021) discuss the lack of a perfect qualitative analytic approach in qualitative research. They think of a perfect approach as a ‘hallowed method’ quest. Within such thinking, there is one analytical approach ideally suited to a particular research project. The researcher's mission is to identify and use that approach or, if using another approach, justify why they did not use the ideal method. Braun & Clarke (2021) explain that there is rarely one excellent method—or methodology—for a research project and that there is no requirement to use an off-the-shelf methodology just because it is the most well-known approach associated with a particular type of qualitative research.

Braun & Clarke (2021) indicate that researchers select analytic approaches for all sorts of reasons, sometimes conceptual, sometimes pragmatic, and sometimes because an approach is familiar and comfortable to themselves or their research supervisor, mentor, or collaborator. Unless the analysis can only be tackled in one way - which is not the case for those interested in exploring patterned/across-case meaning - there is nearly always a range of options. Researchers do not need to go on a ‘hallowed method’ quest. What is essential is that the method used ‘fits’ the project's purpose, that theoretical assumptions, research questions and methods are in alignment and that the overall research design is coherent (Braun & Clarke, 2021).

According to Braun & Clarke (2021), thematic analysis is best thought of as a spectrum of methods - from types that prioritize coding accuracy and reliability to reflexive approaches that emphasize the inescapable subjectivity of data interpretation.

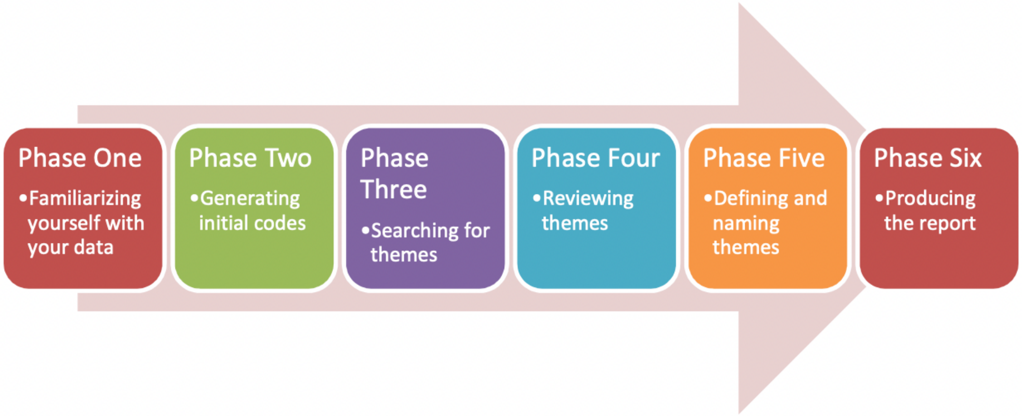

Figure 3. Braun and Clarke's (2006) Six-Phase Guide to Thematic Analysis

3.8.6 Theme Development

When conducting my thematic analysis, a reflexive approach was used. Reflexive approaches involve later theme development, with themes developed from codes and conceptualized as patterns of shared meaning underpinned by a central organizing concept (Braun, Clarke, & Rance, 2014). Theme development requires considerable analytic and interpretative work on the researcher's part. Although themes might encompass data that, on the surface, appear disparate, such themes unite implicit or latent meaning. According to Braun & Clarke (2021), themes cannot exist separately from the researcher - the researcher generates them through data engagement mediated by all they bring to this process (e.g. their research values, skills, experience and training).

The coding process is unstructured and organic, meaning that there is the potential for codes to evolve to capture the researcher's deepening understanding of the data. Coding is an inherently subjective process requiring a reflexive researcher who strives to reflect on their assumptions and how these might shape and delimit their coding. Braun & Clarke's (2021) reflexive approach involves six phases: familiarisation, coding, generating initial themes, reviewing and developing themes, refining, defining and naming themes, and writing up (Braun

& Clarke, 2021). This approach was followed when analyzing the transcripts and generating themes and codes.

3.8.7 Reflexive Thematic Analysis for Applied Qualitative Health Research

Commonly, qualitative researchers will identify thematic analysis as their method for data analysis, yet need to provide a clear description of the strategies applied to make sense of their data. According to Campbell et al. (2021) and Braun & Clarke (2021), it is imperative to justify an analysis strategy and list a clear analysis protocol to justify reasoning.

Creating more challenges to the field of qualitative research is the frequency of the term thematic analysis and its varied, and often inconsistent, definitions and application across different disciplines (Campbell et al., 2021). Broadly, thematic analysis is an approach to qualitative data analysis that develops themes reflective of the data (Braun & Clarke, 2019; Braun & Clarke, 2006; K. A. Campbell et al., 2021).

Campbell et al. (2021) suggested reflexive thematic analysis, developed by Braun and Clarke, as an interpretive method firmly situated within a qualitative paradigm with broad applicability within a range of qualitative health research designs. In this approach to analysis, the researcher's subjectivity is recognized and viewed not as problematic but instead valued as integral to the analysis process (K. A. Campbell et al., 2021).

The six phases of thematic analysis are not necessarily a linear process. Instead, it is understood that for each phase, the researcher may return to a previous phase as required and as the analysis develops (Braun & Clarke, 2006, 2021; K. A. Campbell et al., 2021).

Campbell et al. (2021) point out that while some approaches to thematic analysis have embedded assumptions and underpinnings that lend themselves towards a more positivist research stance, reflexive thematic analysis is an interpretive method firmly situated within a qualitative paradigm and, as such, a viable analytic option for qualitative health researchers. In contrast to other approaches to qualitative data analysis, such as grounded theory or interpretative phenomenological analysis, reflexive thematic analysis is described as independent of theory and epistemology (Braun & Clarke, 2021). This independence from a specific theoretical framework permits broad and flexible application of the analytic approach across a range of epistemologies - including essentialist and constructionist paradigms. From the initial conceptualization of the research study to the data analysis process, epistemology informs the description of data and how meaning is theorized (Braun & Clarke, 2021; Campbell et al., 2021).

Notably, the epistemological flexibility permitted with reflexive thematic analysis does not mean that theory and epistemology are optional (Braun & Clarke, 2021). Instead, the researcher is responsible for selecting theory and epistemological stance, ensuring that reflexive thematic analysis fits within the selected philosophical approach (K. A. Campbell et al., 2021). The flexibility of reflexive thematic analysis stems from its applicability to a range of theories and epistemologies and the possible choices made available to the researcher within the approach. These choices require the researcher to make critical decisions about what counts as a theme and the type, approach, and level of analysis (Braun & Clarke, 2006; K. A. Campbell et al., 2021).

What Counts as a Theme: Ultimately, the researcher's judgement determines what counts as a theme. When deciding what counts as a theme, Braun & Clarke (2006) suggest considering the prevalence and importance of a theme (i.e., the ability of the theme to capture what is essential considering the research question) and applying the same criteria consistently across the data). Ideally, there will be numerous occurrences of a theme across the data set, but higher prevalence does not necessarily equate to higher importance. Instead, the importance of a theme can be judged on whether it is essential to address the overall research question (K. A. Campbell et al., 2021).

Type of Analysis: Another important decision concerns the type of analysis to focus on. Researchers can provide a detailed description of the entire data set or an in-depth account of one particular aspect of the data (Braun & Clarke, 2006). Researchers must also decide whether to take an inductive or theoretical approach to analysis. In an inductive approach, the themes will be derived directly from the data. They may bear little resemblance to the questions asked of the participants or the researcher's theoretical interest in the topic (Braun & Clarke, 2006). In contrast, a theoretical approach will be driven by *a priori* theoretical understandings of the topic. The latter approach focuses on a particular aspect of the data and may involve coding for a specific research question (Braun & Clarke, 2006; K. A. Campbell et al., 2021).

Semantic or Latent Themes: According to Braun & Clarke (2006)**,** the researcher must also consider whether themes will be identified at the semantic (descriptive) level or the latent (interpretive) level. Semantic themes identify and summarize the content of the data and capture the surface meaning (i.e., reflects what was explicitly said), while latent themes go beyond what was explicitly said, revealing the underlying ideas, assumptions, and conceptualizations within the data (i.e., reflecting the analyst's theoretical frameworks and uses concepts to help explain the data). Braun & Clarke (2006) suggest that thematic analysis typically focuses primarily on one level or the other. However, in using reflexive thematic analysis, it is helpful to consider both semantic and latent analysis while conducting applied qualitative health research (Campbell et al., 2021).

Analytic Process: Braun & Clarke (2006) add that given the often-ambiguous description of thematic analysis in qualitative research; there is a strong rationale for including a full description of the analytic process. This description, aligned with the theoretical and methodological literature on thematic analysis, should detail the active process by which the researcher identifies patterns and themes in the data (Braun & Clarke, 2006; K. A. Campbell et al., 2021).

3.9 Ethical Considerations

This study received ethics clearance from The Health Research Ethics Authority (HREA) (Appendix 7). This study followed the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS2). The core principles of the TCPS2 are "respect for persons, concern for welfare, and justice" (p. 8), and these principles guided the protocols used in this project.

Human participants are exceptional because they bear the most risk even though participation is voluntary (Canadian Institutes of Health Research, Research Council of Canada, & Council, 2018). Therefore, an informed consent process was used for the in-depth interviews per Article 3.1 of TCPS2. Article 3.1 stipulates that consent should be voluntary and can be withdrawn at any time. The consent form provided the participants with an overview of the project and a description of the participant's involvement. It also described the right to withdraw from the project at any time. This process ensured that the participant understood the potential risks of participating in the study so that they could make an informed decision about their participation.

To obtain informed consent, a series of steps were followed: (i) The participant was sent the informed consent form ahead of the interview to review; (ii) Any participant questions or concerns were addressed prior to receiving a signature; (iii) the participant signed the informed consent before the interview commenced, and (iv) participants were reminded that their participation is voluntary and could be withdrawn at any time. After the interview, the participant received a copy of the informed consent for their records, and the researchers kept a copy for their records.

The primary ethical concern for this research was maintaining the privacy and confidentiality of the participants. Privacy refers to "an individual's right to be free from intrusion or interference by others… an important aspect of privacy is the right to control information about oneself" (p. 55-56) (Canadian Institutes of Health Research, 2018), confidentiality is the researcher's duty to protect the participants' privacy from "unauthorized access, use, disclosure, modification, loss or theft" (p. 56).

To mitigate risks to the participant's privacy and confidentiality, a series of safeguards were followed: Participant information was de-identified, and a numeric code was assigned to each of the participant's documents; paper files were secured in a locked cabinet; electronic files were stored on a password-protected computer; only the primary researcher and supervisor know the names of the participants; names were not used during the reporting of the results; and recordings, transcriptions, and notes listed the participant's code rather than the participant's name. The participant codes followed a numbering system: key informants (KI) began with (01-10), Health System Partners (HSP) began with (10-15) and decision-makers (DM) (15-20).

It is also essential to have mechanisms to allow people to opt out of having their data used, for example, if they hold ethical objections or no longer wish to participate in the research study. Participants were informed that they could withdraw from the study at any time and request to have their data withdrawn at any point up until publication.

3.10 Chapter Summary

This chapter provided a detailed description of the theoretical and methodological approaches which guided this study. It discussed how the researcher was positioned within this study. A discussion about the case study methodology was included and the methods used for data collection with the in-depth interviews and key document analysis. Data analysis, representation, and validation strategies were reviewed. Finally, the ethical considerations were discussed. The next chapter details the findings generated by this case study by merging all data and presenting and discussing the research questions one at a time.

Chapter 4: Findings

This chapter describes the interview findings that examine the usefulness of the CHRSP program for providing contextualized health research for healthcare policy and decision-making in NL

This chapter is divided into three main sections: Thematic Analysis, Data Analysis Process, and Findings from The Data Analysis Process. Discussing the thematic analysis first provides the reader with an initial context and understanding of the process used to analyze the interview data. After this, a detailed explanation of the data analysis provides insight into the method used to generate themes from the interview results. Finally, with the thematic and data analysis explored, the reader can better understand the main themes extracted from the interviews in the findings section.

The Thematic Analysis section is further divided into Theme Development and Reflexive Thematic Analysis for Applied Qualitative Health Research, outlining the theme development process and discussing the benefits of reflexive thematic analysis for Applied Qualitative Health Research.

The Data Analysis Process section is subdivided into six phases of the data analysis process, providing an in-depth overview of the process used to analyze the interview data to arrive at the initial codes and themes.

The final section focuses on the findings and the significant themes identified through analyzing all the participant interviews. The five main themes in which these subthemes fall are:

- The impact of contextualization on healthcare in NL
- How CHRSP impacts decision-making in healthcare in NL
- Participant experiences with engagement in the CHRSP research process

- The impact of engagement in the CHRSP process; and
- Barriers to change.

4.1 Data Analysis Process

This section outlines the reflective thematic analytic process to bring meaning to the dataset to learn qualitative analysis through its practical application.

Table 4. Phases of Reflexive Thematic Analysis

Analytic Phase	Phase Description	Actions
Data familiarization	• Immersing oneself in the data to understand depth and breadth of the content. • Searching for patterns and meaning begins.	• Transcribing audio data. • Reading and re-reading the data set. • Note taking.
Initial code generation	• Generating of initial codes to organize the data, with equal attention given to each data item.	• Labelling and organizing data items into meaningful groups
Generating (initial) themes	• Sorting of codes into initial themes. • Identifying meaning of and relationships between initial codes.	• Diagramming or mapping the codes. • Writing themes and their defining properties.
Theme review	• Identifying coherent patterns at the level of the coded data. • Reviewing entire data set as a whole.	• Ensuring there is enough data to support a theme. • Collapsing overlapping themes. • Re-working and refining codes and themes.
Theme defining and naming	• Identifying the story of each of the identified themes. • Fitting the broader story of the data set to respond to the research questions.	• Cycling between the data and the identified themes to organize the story.
Report production	• Presenting of a concise account of the story told by the data, both within and across themes.	• Writing a compelling argument that addresses the research questions. • Writing beyond the simple description of the themes.

Adapted from (Braun & Clarke, 2006)

Phase 1: Familiarization with the Data

Before familiarization with the qualitative dataset, the researcher engaged in the iterative process of reflexivity. Reflexivity, as outlined by Berger (2015), Creswell (2014), and Pillow (2003), is a process of self-examination revealing ourselves as individuals and researchers while understanding how our personal biases may influence the research process. It is an ongoing activity to situate the researcher within the analytic process, including acknowledgment of social locations and positionalities, such as age, gender identification, ethnicity, and race (Campbell et al., 2021).

As an exercise of self-examination, reflexivity should be practiced throughout all aspects of the research. For this project, the researcher engaged in reflexive accounts individually, both about the biases and assumptions held, the content matter, and the analytic process (Berger, 2015). Guiding questions derived from the literature were developed, reflecting and documenting emerging responses, thoughts, or emotions. This activity identified personal biases as a method to recognize, honour, and modulate my locations and positionalities when analyzing the transcripts. The researcher's positionality stems from being born and raised in NL and having a keen interest in the healthcare system in NL and its high-cost per capita healthcare spending while having the worst health outcomes. This wicked problem intrigued the researcher to pursue a master's in Applied Health Services Research and connect with Dr. Audas. Having no prior experience with NLCAHR or CHRSP, there was a steep learning curve in understanding what CHRSP does and how it positions itself within the NL healthcare system.

Following the reflective exercise, familiarisation with the dataset began. This first phase of data analysis required an immersion in the data such that the “depth and breadth of the content” is fully known (Braun & Clarke, 2006, p. 16). This familiarization process aims to think of and search for patterns and meaning within the data. Transcripts were read and re-read to gain an overall sense of the data. Following this, the coding process began.

Phase 2: Generating Initial Codes

Following the active familiarization process, initial codes may be generated to organize the data. This organization represents meaningful data groups, which are narrower than the themes identified in the next phase (e.g., words, sentences, or paragraphs). These initial codes may be data-driven and thus dependent on the data or theory-driven, allowing the researcher to approach the data with guiding questions (Braun & Clarke 2006).

The research questions were revisited during the code-generating phase to compare what emerging themes arose from the dataset. A second session allowed time to re-read transcripts, then return to refine and discuss how the codes worked together across the whole dataset and in relation to our identified research question.

Phase 3: Generating Initial Themes

Braun & Clarke (2019) have named this phase generating (initial) themes, emphasizing that themes are actively created by the researcher and are not passively waiting to be found in the data. Following the initial code generation phase, the analysis shifts to sorting codes into themes (Braun & Clarke, 2006). The first themes identified were the impact of contextualization on healthcare in NL, how CHRSP impacts decision-making in healthcare in NL, participant experiences with engagement in the CHRSP research process, the impact of engagement in the CHRSP process, and barriers to change.

The overarching narrative was examined to support this phase and identify each transcript's key elements. How individual codes identified in the previous phase of analysis overlap or interact with one another can be organized through the creation of a diagram or a mind map (See Figure 4), by writing themes and their descriptions on cue cards or by creating a table of interview codes (See Table 4.1) (Braun & Clarke, 2006). These visual representations and the opportunity to manipulate codes and themes may help with organization and decision-making related to central themes, sub-themes, and those which may not fit now.

Phase 4: Reviewing the Themes

Braun and Clarke (2006) identify two levels of review: 1) reviewing at the level of the coded data (from individual transcripts) and 2) reviewing the entire data set (capturing the meaning across the whole). A brief description for each of the five overarching themes was written. These brief descriptions helped better articulate each theme's main message and ensure the themes were distinct. The descriptions also included illustrative quotes and codes that could exemplify the theme. During this first level of review, all coded data extracts were checked to ensure coherent patterns were present (Braun & Clarke, 2006).

Phase 5: Defining and Naming Themes

Braun & Clarke (2013) suggest that using “catchy,” thoughtful names for themes that capture the essence of the analysis is helpful in framing the overarching analysis. Theme names may come from a direct quote or involve identifying an analytic perspective of the data. During this phase, the researcher should go back and forth between the data and the identified themes to organize the story into a “coherent and internally consistent account” of the narrative (Braun & Clarke, 2006, p. 22). For each identified theme, a detailed analysis is constructed beyond just a description or paraphrase of the data. This will include an identification of the story of each theme (e.g., what the theme tells) as well as how this story and theme fits the broader story of the dataset based on the research questions. It is important that the theme captures important aspects of the data, which were illustrated in a mind map and hierarchy chart. The final mind map (diagram or thematic map) was developed, in which there was an incorporation of the three themes and their relationship to each other.

Phase 6: Writing the Report

Braun & Clarke (2006) indicate that produced reports should involve a concise and interesting account of the story the data tells, within and across themes. This narrative should extend beyond a simple data description to make a compelling argument addressing the research question.

4.2 Findings from The Data Analysis Process

"Writing is the process through which the analysis develops into its final form" (Braun & Clarke, 2013, p. 249).

Writing the findings or analysis section represents the final stage of the reflective thematic analytic process. Braun & Clarke (2013) note that analysis does not need to be completed before the report is drafted.

This final phase involves selecting extracts from the coded and collated data to illustrate the various aspects of the theme and then writing a narrative around those extracts to tell a clear and compelling story about the data and what they mean (Braun & Clarke, 2013). Five themes were generated after the data analysis occured from the engagement in the reflective thematic analytic process. These themes answer the research aims and highlight the complex nature of CHRSP, engagement, and knowledge transfer in healthcare policy and decision-making in NL.

4.2.1 Using Extracts or Quotes in Findings

Extracts of raw data or quotes are ubiquitous in qualitative research; however, it is important to note that analysis does not involve simply paraphrasing a string of data extracts. The analysis must tell the reader what is interesting about the data, including particular extracts and why it is relevant and interesting (Braun & Clarke, 2013). In reflexive thematic analysis, data extracts can be used illustratively or analytically - and both functions can represent the final analysis. An illustrative extract serves as an example from the raw data of a claim made by the writer (see Table 4.1 Interview Codes)

4.2.2 Using Thematic Maps

As mentioned in the description of our analytic process, creating a visual thematic map or diagram can be valuable in exploring the relationships between codes and themes and developing the final analysis (Braun & Clarke, 2013). Once this working map is finalized, it can also be a useful visual representation of the findings that augments the analytic narrative.

4.2.3 Application of Reflexive Thematic Analysis

An essential feature of reflexive thematic analysis when used in applied research contexts, are that the final themes should point to actionable items (Braun & Carke, 2019; K. A. Campbell et al., 2021). For example, many interview participants suggested carving out more time for frontline workers and clinicians to participate in the CHRSP process. It may provide NLCAHR with a greater understanding of CHRSP participants' experiences and help identify how collaboration can occur in this setting.

The guidance provided in each phase of thematic analysis reinforces the need for deep immersion into the data and continuous reflexive accounts. Exploration of the analytic process and the reflexive thematic analysis method supports the notion that this process is not linear. New understandings of what was important in the data led to multiple revisions of my understanding of the answers to the research question. Coding, theming, and developing thematic maps were activities that overlapped, and I returned to them throughout the process. To collect the data, 20 interviews were conducted. NVivo qualitative data analysis computer software was used to further transcribe and code the data.

Table 4.1 Interview Codes

Key:
File = Interview.
References = Each time a participant mentions a code.

Name	**Description**	**Files**	**References**
Access to Local Data	Represents when participants brought up access to local data.	3	9
Connections, Contacts, expertise	Represents how interview participants felt about the depth and breadth of people involved in the CHRSP projects.	6	21
Contextualization	Represents when interview participants brought up contextualization, its importance, what they thought of it, and its overall value to the program.	16	63
Decision Making	Represents how interview participants perceived how the CHRSP reports played a role in decision making (either to move forward with a decision/intervention, or to not move forward with a decision/intervention based on the evidence).	17	123
Difference between RER and CHRSP	Represents how interview participants perceived the difference between RER's and the CHRSP reports.	13	29
Engagement Process	Represents how interview participants felt about the CHRSP engagement process from start to finish.	19	80
Evidence Based Research	Represents how interview participants perceived evidence-based research and how CHRSP played a role in this.	5	6

Name	Description	Files	References
Feasibility	Represents how interview participants viewed the feasibility of a decision/intervention based on CHRSP.	2	2
Follow up After Report	Represents when participants mentioned whether there was any follow up with/from NLCAHR staff after the report was published.	2	3
How CHRSP has Evolved Over Time		4	17
Impact	Describes the impact the CHRSP program has had on the NL healthcare system	19	92
Knowledge Translation	Identifies anytime the word knowledge translation was mentioned by a participant.	4	10
Lack of Impact	Describes how interview participants viewed any areas where CHRSP had a lack of input within the health care system in NL.	7	17
Learning Health System	Represents a model suggested by research participants that CHRSP could follow/learn from.	3	4
Multiple Projects	Represents incidents where participants mentioned if they were involved in multiple CHRSP reports.	1	1
Not relevant based on experience	Represents times when interview participants could not answer a question based on their role/experience with CHRSP.	2	3
Participation	Represents suggestions from interview participants on who should be involved, and who should have more active participation.	2	5
Patient Oriented Research	Represents suggestions from some participants as a method CHRSP should focus on implementing to their report process.	4	7
Pivoting	Identifies when NLCAHR or	2	4

Name	Description	Files	References
	CHRSP changed course to match current needs.		
Recall	Represents times when participants had difficulty recalling information, mostly due to age of the report/not having time to review the report ahead of the interview.	2	3
Resources	Represents when participants would discuss available resources and how they think this influenced CHRSP reports and their uptake.	6	19
Suggestions for CHRSP	Represents times when participants provided suggestions and feedback for the NLCAHR and its CHRSP program.	18	63
Theoretical Domains Framework	Suggestion by participants as a model that could be helpful towards CHRSP.	2	4
Timeliness	Represents times when interview participants brought up the timeliness of the CHRSP projects.	3	3
Unsure of Impact	Represents times when interview participants were unsure of the impact CHRSP has had within the healthcare system in NL.	9	33

4.2.4 Mind-Map

In the context of qualitative data analysis, visual tools help researchers organize and make sense of their data. These tools provide a visual representation of the relationships between different concepts, ideas, and themes within the data, allowing researchers to explore and analyze qualitative information in a structured manner.

A mind map is a graphical representation of ideas and concepts organized around a central theme or topic. It is a branching diagram that starts with a central topic or node and extends outward with connected sub-topics or sub-nodes. Mind maps are particularly useful in qualitative data analysis for brainstorming, generating ideas, and exploring the relationships between different concepts.

To create this mind map, central themes and research questions were identified. The main ideas and concepts related to the themes were written down as the primary branches radiating out from the central node. As the analysis progressed, sub-ideas, sub-concepts, and themes were added as secondary branches connected to the primary branches.

Mind maps allow researchers to visualize the connections and relationships between different ideas, identify patterns, and explore the depth and breadth of the qualitative data. They can serve as a starting point for developing a more structured hierarchy chart.

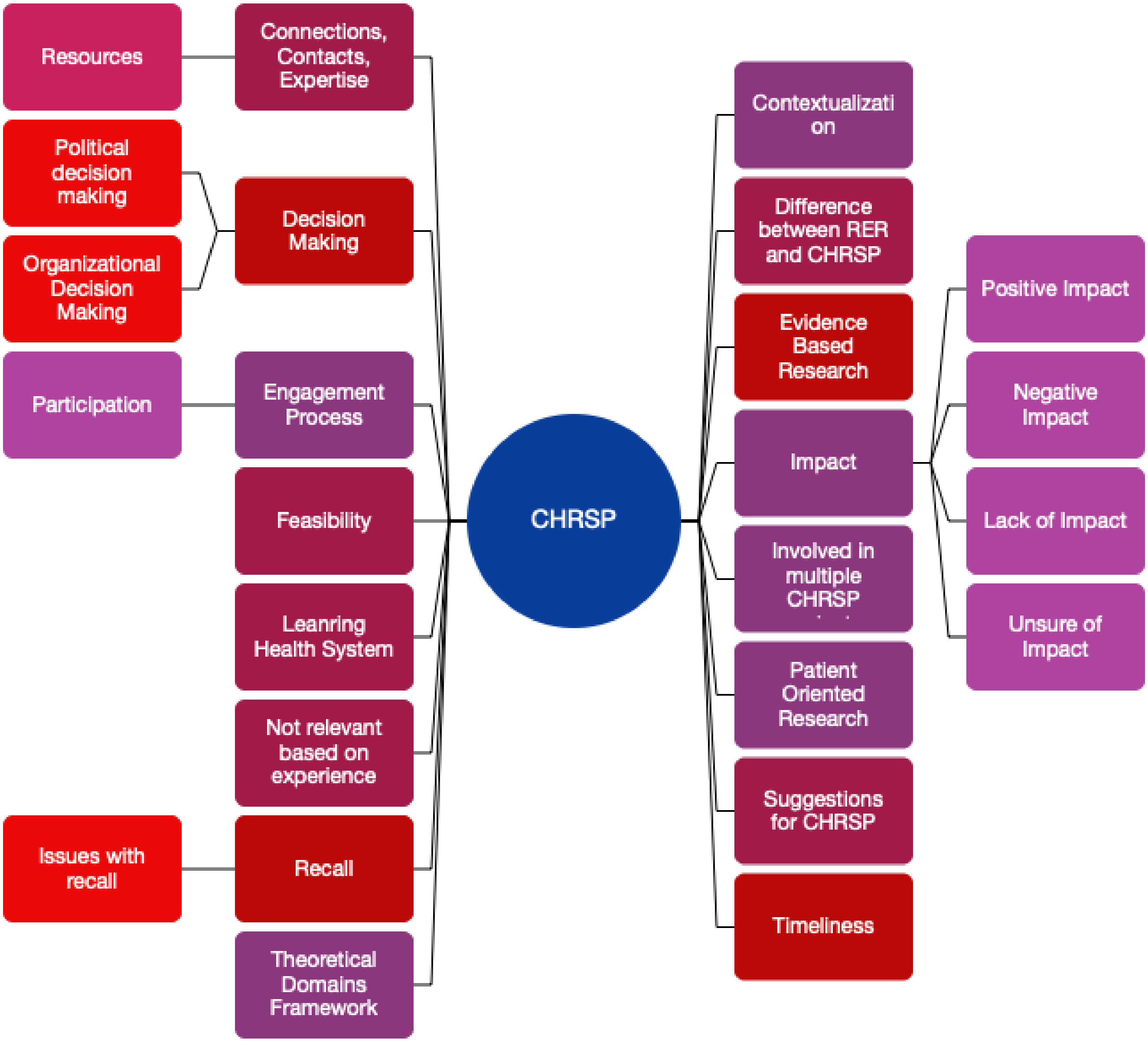

Figure 4. Mind Map. This mind map is a graphical representation of ideas and concepts organized around a central theme of this research.

4.2.5 Hierarchy Chart

A hierarchy chart visually represents the hierarchical structure of concepts or themes within a qualitative data set. It systematically organizes the data by showing the relationships between different levels of concepts or themes.

The positions in a hierarchy chart represent different levels of abstraction or specificity within the data. The highest level, often depicted at the top of the chart, represents the most general or overarching concept or theme. As you move down the chart, the concepts become more specific and detailed.

This hierarchy chart was created by examining the data and identifying key themes. This started by identifying the main themes at the highest level of the chart. Subsequently, identifying and adding sub-themes connected to the main concepts, creating a hierarchical structure. The process continued until the desired level of detail was achieved, with each level building upon the preceding one.

The pieces in a hierarchy chart fit together by showing the relationships between different themes within the data. The chart provides a visual representation of how the concepts or themes are connected and organized. It can help understand the overall structure of the data, identify the most important concepts or themes, and determine how they relate to each other.

Overall, mind maps and hierarchy charts are complementary tools in qualitative data analysis. Mind maps are useful for brainstorming and exploring ideas, while hierarchy charts provide a structured representation of the data. Together, they enable researchers to organize, analyze, and interpret qualitative data in a visual and systematic manner.

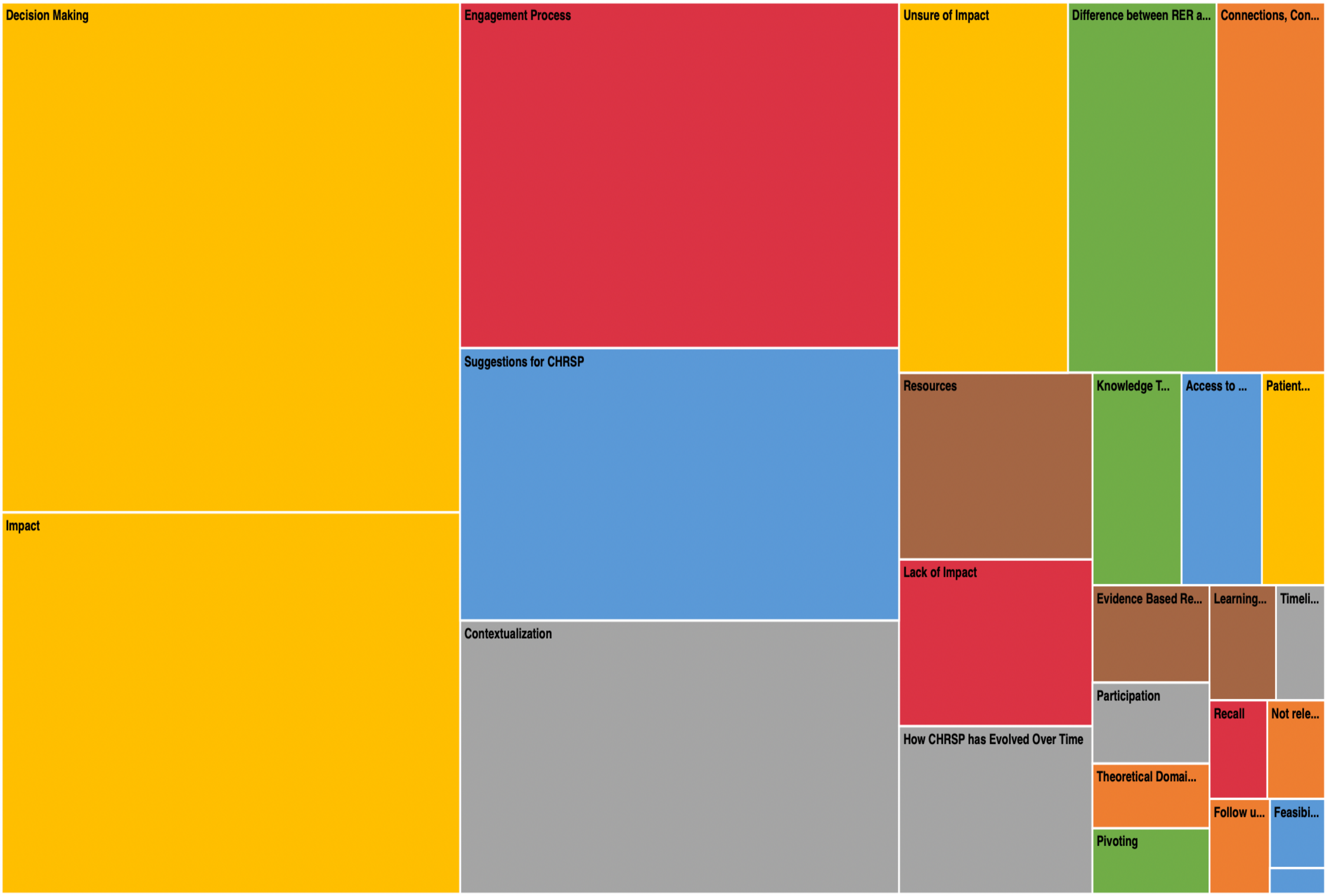

Figure 5. Hierarchy Chart. The hierarchy chart visually represents the hierarchical structure of concepts or themes within the qualitative data set. It systematically organizes the data by showing the relationships between different levels of concepts or themes.

4.2.6 Identifying and Defining Themes

One of the critical steps in conducting reflexive thematic analysis is defining themes that capture the essence of the data and reflect the research question and objectives. This is particularly important when analyzing semi-structured interview data, which can be complex and multifaceted.

Defining themes helps provide structure and organization to the analysis. By identifying key themes that emerge from the data, the researcher can begin to develop a deeper understanding of the underlying patterns and meanings. This can help to guide the analysis and ensure that the analysis is focused on the research question and objectives.

In addition, defining themes can help to ensure rigour and transparency in the research process. By clearly defining the themes that are being analyzed, the researcher can provide a clear and concise description of the analysis process, making it possible for others to understand and replicate the study. This can help to enhance the credibility and reliability of the research findings.

Furthermore, defining themes can help to ensure that the analysis remains reflexive and responsive to the data. By continually reviewing and refining the themes throughout the analysis process, the researcher can ensure that the themes accurately reflect the data and capture the nuances and complexities of the interviewees' experiences.

4.2.6.1 Impact of Contextualization on Healthcare in NL

This theme explores the impact of contextualization on healthcare in NL. The participants were asked how the contextualization of healthcare in their region had affected the delivery of healthcare services. The interviews revealed that contextualization had led to a better understanding of local healthcare needs and resources, resulting in improved healthcare services. Participants shared that by considering the specific needs and contexts of the region, healthcare services were more efficient, effective, and tailored to the unique challenges of healthcare delivery in NL.

4.2.6.2 How CHRSP Impacts Decision-Making in Healthcare in NL

The second theme investigates how the CHRSP impacts decision-making in healthcare in NL. The participants were asked how the program influenced decision-making processes in healthcare delivery. The respondents indicated that CHRSP provided evidence-based recommendations that supported informed decision-making. Participants shared that the program helped bridge the gap between research and practice by providing practical recommendations based on rigorous research that could be easily implemented in healthcare delivery.

4.2.6.3 Participant Experiences with Engagement in the CHRSP Research Process

This theme explores participants' experiences with engagement in the CHRSP research process. Participants were asked about their involvement in the program, including their experiences with data collection and analysis and the dissemination of findings. The interviews revealed that participants felt engaged and valued in the research process, positively impacting their motivation and commitment to the program. Participants appreciated the opportunity to contribute to the project’s research goals and felt that their involvement had a meaningful impact on the project’s success.

4.2.6.4 Impact of Engagement in the CHRSP Process

The fourth theme investigates the impact of engagement in the CHRSP process on the participants. The interviews revealed that engagement in the research process positively impacted participants' professional growth, skill development, and career advancement. Participants shared that their involvement in CHRSP had improved their understanding of research methods and had provided opportunities for networking and collaboration with other professionals in their field.

4.2.6.5 Barriers to Change

The final theme examines the barriers to change in healthcare delivery in NL. Participants were asked about the challenges they faced in implementing changes in healthcare delivery based on the recommendations provided by CHRSP. The interviews revealed that barriers to change included organizational culture, resource constraints, and resistance to change. Participants shared that addressing these barriers would require a collaborative approach that involved stakeholders at all levels, including frontline healthcare workers, decision-makers, and policymakers.

4.3 Thematic Analysis of Qualitative Interview Data

When analyzing all 20 interviews, several recurring themes emerged. The prevalence of each of these themes varied, with some being mentioned at length in most interviews (e.g., the impact of contextualization on healthcare in NL). In contrast, others were mentioned in a couple of interviews (e.g., How CHRSP impacts decision-making in healthcare in NL). All the themes in this section have been articulated by at least two participants, with some of them being mentioned across multiple interviews.

Each theme is discussed in detail, with reference to how prevalent it was and with direct quotes from participants to provide context. To increase the readability of this section, only one or two participant quotations were used, although there were several relevant quotations for each theme. It is worth recalling from Chapter Three that a composite list of themes was developed by revising participant chronological and thematic coding documents, narratives, facilitators, and barriers.

4.3.1 The Impact of Contextualization on Healthcare in NL

Contextualization is critical in improving healthcare services and outcomes. The Contextualized Health Services Research Program (CHRSP) has positively impacted healthcare providers and frontline staff, as seen in the participants' responses. For instance, one participant noted that they appreciated evidence-based information on healthcare initiatives, as it helped break down the silos they often felt in their work. Additionally, CHRSP allowed decision-makers in regional health authorities to access experts and research information that would otherwise be challenging to obtain. In one instance, this access to information helped to inform decision-making and the need to look at age-friendly acute care differently.

"I think in terms of the impact, the most important impact was the fact that you could, you know, study very quickly a question, a research question, and an operational issue for regional health authorities, and you could have access to experts and people that ordinarily, a regional health authority would not have either on staff or have easy access to."

However, some participants expressed uncertainty or dissatisfaction with the impact of CHRSP, citing a lack of exposure to the program's information or needing to see it integrated into their clinical practice.

"I don't see it having an impact. And I think the reason is because people, they're not even exposed to it. I don't think they're exposed to it. And so it's not being integrated into their clinical practice, because the exposure isn't there."

One higher-level executive noted that although they spent much time identifying areas where CHRSP could help their organization, their priorities only sometimes appeared in the CHRSP priorities. Thus, they rarely saw CHRSP reports impacting their decision-making at the executive level.

Despite these mixed responses, the CHRSP program has undoubtedly been a valuable resource for healthcare providers and frontline staff. The program's ability to contextualize research and data to meet the unique healthcare needs of NL communities has undoubtedly contributed to improving healthcare services' quality and outcomes.

The participants highlighted that contextualization was vital in improving healthcare in NL. They noted that understanding the local context is critical in developing effective healthcare policies and interventions. The participants indicated that the CHRSP program provided a comprehensive approach to contextualizing research evidence, resulting in improved health outcomes for the population. The level of awareness of the impact of CHRSP varied by the participant and their role within the healthcare system. For example, frontline workers and practitioners generally were not as aware as managers of the impact of contextualized health research within NL's healthcare system.

4.3.2 How CHRSP Impacts Decision-Making in Healthcare in NL

Some participants reported that CHRSP played a significant role in decision-making in healthcare in NL. They noted that CHRSP provided evidence-based information tailored to the local context, which helped healthcare professionals make informed decisions. These participants were typically in a managerial or executive role. The participants also reported that CHRSP's approach to synthesizing research evidence was comprehensive and allowed healthcare professionals to make decisions based on the best available evidence. Those in decision-making roles discussed how they consulted the CHRSP reports and other sources of information to inform their decisions. Participants who were not in a decision-making role were unsure of the impact CHRSP had on healthcare in NL, as they would only sometimes see the results of the CHRSP to fruition.

"I think they, you know, from my, my background, they would not be the only source. But they would be an important source. So, for example, if we were looking at implementing a program or changing a program we use, if we have the CHRSP report, we'd use that. We'd also look at our community assessment data. We'd look at, you know, the statistics; we look at some CIHR reports. So, you know, it would be an important part. Yeah, but not the only part."

The following participant quote highlights the potential for research and evidence-based decision-making to play a more significant role in executive-level decision-making in healthcare organizations. The participant, who has experience at the executive level in Eastern Health, notes that research is almost never consulted or considered as the main source of decision-making. However, it could be a valuable input in major decision-making processes if the research addresses the right question. The respondent emphasized the importance of rigour and quality in research and suggests that research is more likely to be considered at the executive level if it addresses relevant questions. This quote underscores the significance of evidence-based decision-making in healthcare organizations and the need for research to inform executive-level decisions.

"*Well, I think, you know, to our discussion, I would say, in my time in Eastern Health, at the executive level, they're almost never discussed, consulted in what I do, and certainly not the main source of decision making.. So, I think it was answering like the format, and the rigor that goes into them and the quality that's there, like, I think I would have a lot of confidence in relying on the information as one of the main inputs for major decisions if it was answering a question that we need answered. And that's the priority piece that we talked about earlier. So, if it's answering the right question, I think it would check off a lot of those boxes, and it would, but if it's answering a question that's more relevant at a director level, or is coming from* *somewhere, and it's so specific, that, you know, that doesn't often find his way to executive decision making."*

Several participants mentioned that they were not in decision-making roles and could not speak to the impact of CHRSP on healthcare in NL. However, those who were in decision-making roles spoke positively about the program. One participant said that although they could not give a definitive example of how the information in the report was used to direct their work, they were aware of the products NLCAHR produces. It brought attention to the topics of interest in the healthcare system. This suggests that the program has increased awareness of important healthcare topics among decision-makers, which can influence their decisions and potential outcomes. One participant noted the timeliness of the reports and how beneficial it was for their organization.

"Based on my experience, it varied. As an example, with the dialysis project, we were in the process in the province of looking at setting up new satellite dialysis units. So that project very much was very timely. You know, there was always a discussion of peritoneal hemodialysis at home versus satellite centers. So yes, that project was very much used and very beneficial."

Another participant mentioned that if the reports coming out of CHRSP do not address their organization's priorities, it will not impact decision-making. However, they acknowledged that specific pieces of work could be helpful. They also suggested that CHRSP should have a framework to help prioritize which topics to research, which could help ensure that the research findings are relevant to decision-makers.

"*Well, I think for the discussion we've had is, it's in large part for me goes back to the priority setting. So, if the reports coming out are not the priorities that are important for one's* *organization, then you tend not to be as engaged. So, it doesn't have an impact because not really answering a significant question."*

Numerous participants were impressed by the level of collaboration among different stakeholders in CHRSP, which included policymakers and frontline clinicians. They noted that this level of collaboration is rare and could positively impact decision-making. This suggests that CHRSP has helped foster stakeholder collaboration and engagement, leading to more informed and inclusive decision-making.

Another participant recommended that CHRSP include research on the cost-effectiveness of healthcare technologies, such as cancer drugs and dialysis, which is similar to work done by pCODR. They suggested that this type of research could help decision-makers to make more informed decisions about which technologies to invest in. Although this is more like a Health Technology Assessment (HTA) and likely outside of the current scope of NLCAHR, the participant thought it would be worthwhile for NLCAHR to explore. They also recommended that CHRSP should have a framework for prioritizing which topics to research, which could help ensure that the research findings are relevant to decision-makers.

Finally, a participant expressed concern that healthcare organizations might make decisions based on popularity rather than evidence, challenging their stance on remaining impartial and apolitical on recommendations. They suggested that CHRSP could help prevent this by standing up to ideas unsupported by evidence.

"Yes, it could have a life of its own right and forever consume resources. So, these are, particularly the capital decisions are very important. And if an organization like CHRSP doesn't have the wherewithal to be able to stand up to negative, or things that are popular, then I would question its value. And it might actually be harmful, right? Because people are relying on you as

the group to, you know, to stand up to these things. And you can get a champion of these kinds of technologies, you can get a prominent doctor, you know, that that will push these things through. And it's going to need, you know, in any of these, like, if you look at, for example, in cardiology some very prominent cardiologist, and so would CHRSP feel comfortable standing up to a prominent cardiologist to say, you know, we either don't have the population to warrant this, or it's too expensive relative to the benefit. And if you can't pass that test, then I think you got to find another decision-making framework to do this. And I experienced that in my own department in research, it develops quite a momentum when you get a prominent physician or politician or whatever it is promoting something."

CHRSP is limited to the work they're commissioned to do by the health system partners and access to utilization data, which is housed by NLCHI. Linking this in a timely manner is a common issue raised by NLCAHR staff in multiple interviews.

In summary, participant interviews suggest that CHRSP has positively impacted decision-making in healthcare in NL. The program has increased decision-makers' awareness of essential healthcare topics, fostered stakeholder collaboration and engagement, and provided evidence-based research findings and recommendations to help healthcare organizations make informed decisions. However, as indicated by some participants, there is certainly more room for CHRSP to help increase the uptake of evidence-based decision-making.

4.3.3 Participant Experiences with Engagement in the CHRSP Research Process

The participants responded favourably to the level of engagement in the CHRSP research process. As part of this program, participants were engaged in the research process through various means, including meetings, consultations, and collaboration. Participants' experiences with the engagement process will be explored in this section, with some of the key engagement pieces highlighted. Participants reported that the staff at NLCAHR involved them in every stage of the research process, from identifying research questions to disseminating research findings. The participants noted that this research approach was beneficial as it allowed them to provide input and ensure that the research was relevant to the local context and their respective organizations.

4.3.3.1 Flexibility and Advance Notice

One of the key features that participants appreciated about the CHRSP engagement process was the flexibility offered by the program. Participants noted that the Research Associates were always willing to work around their schedules and accommodate their availability. They appreciated the advance notice provided for meetings, which allowed them to plan accordingly and attend the sessions they were interested in. However, some participants acknowledged that despite the notice provided, they could only participate in some meetings due to personal or professional commitments.

4.3.3.2 Time Constraints and Workload

Another aspect of the CHRSP engagement process that participants discussed was the challenge of engaging healthcare providers and frontline staff in the research process. Participants noted that healthcare providers are often extremely busy, and their time is valuable. Therefore, engaging with CHRSP required flexibility in scheduling meetings and consultations that did not conflict with their clinical responsibilities. Participants suggested that the Research Associates could be more effective in engaging healthcare providers by coordinating with Directors in areas of research to conduct individual consultations with them and identify research topics of interest. Another suggestion was to allow for participation in a CHRSP project to be considered as professional development credits toward accreditations. However, one participant acknowledged that implementing this system would be quite an onerous process.

"Yeah, so they have always done that it has always been flexible. And in order to engage clinical practice, you have to be flexible, I would suggest if you're going to engage physicians, it got to be outside Monday to Friday, eight to five. And for doctors, time is money. Literally, they only get paid from a system that allows them to fee for service on patients and or if there are some salaried, but there are a lot of fee for service. And if they take an hour out of the clinical day, that's six patients they didn't see and a ton of money. And it that's not a bad thing. I'm just I always like to explain their absolute reality. If you want them to participate, you have to participate when they aren't going to lose money, because they're already doing it for free. So, they can do it for free. But they can't do it for free and lose money. That's not fair."

4.3.3.3 Collaboration and Diversity of Participants

Participants were impressed by the level of collaboration and the diverse mix of participants that the CHRSP program brought together. Participants noted that the program's focus on context-specific research required input from various stakeholders, including clinicians, patients, and decision-makers. Participants appreciated the opportunity to engage with these different groups and the chance to hear diverse perspectives on the issues at hand. They felt that this level of collaboration and diversity of participants was a significant strength of the program.

"I was super impressed by the mix of people that we were able to get around the table, from providers to policymakers. And I have to say, you know, now having worked for years since this report, I rarely see that sort of level of collaboration in terms of like the mix of people at a table, providing their different perspectives. Oftentimes it's like, okay, let's meet with the physicians, then let's meet with the policymakers, then let's meet with the different groups and

they don't all hear each other together and, you know, it's great for a physician to hear, you know, the policymaker say, well, we can't do this for this and this reason or for vice versa. So, I think that was one of the greatest strengths of the report is that level of collaboration. And I think I'm remembering correctly, it was from beginning to end, like it was throughout the process. It wasn't just, 'Okay, give us the information', we'll take it back and write the report. It was very much throughout the lifespan of the creation of the report, which again, I think it was pretty awesome."

4.3.3.4 Efficiency and Burden on Executives

Finally, some participants discussed the need to make the engagement process more efficient and reduce the burden on executives. Participants noted that the initial screening process could be more effective in identifying research topics of interest rather than trying to bring all executives together in one sitting for several hours. They suggested that involving directors or managers in place of executives in research areas could streamline the process and reduce the burden on executives.

"If that was one comment that I could make going forward is that that was a bit of an onerous process for the executive, I remember, we would have them, you know, meet and have a, like a very, you know, onerous meeting if you'd like and time that they would have to devote coming up to these topics, and so on. And I remember that being a bit of a burden on them if they would say that to me afterwards. So, they were seeking out a better, more efficient way of coming up with the topics then to try and get all executives together in one sitting for several hours, though, that was actually quite difficult for them to do… So, I would find often the meetings would get at the last moment, someone would couldn't attend or whatever. So, I think there are more efficient ways of doing that."

Participants generally had positive experiences with the engagement process with CHRSP. They appreciated the flexibility provided by the Research Associates, the level of collaboration and mix of participants, and the focus on context-specific research. Participants suggested that the program could more effectively engage physicians and reduce the burden on executives by adopting more efficient screening processes and individual consultations with some participants.

4.3.4 Impact of Engagement in the CHRSP Process

The participants reported that their engagement in the CHRSP process positively impacted their understanding of research evidence and its relevance to the local context. They noted that involvement in the research process allowed them to see the importance of contextualizing research evidence and how it could improve healthcare outcomes. The participants also noted that their engagement in the CHRSP process had increased their confidence in making evidence-based decisions.

One of the program's key components is engagement, which involves the active participation and involvement of a diverse range of stakeholders in the research process. This section will explore the impact of engagement in the CHRSP process based on quotations from participant interviews.

All participants highlighted the importance of engagement in the CHRSP process. According to multiple participants, NLCAHR staff, the researchers, and other health system leaders were all very engaged and interested in doing the best work possible to improve the healthcare system. The participants felt that the program was a journey of improvement, which was made possible by the strong engagement of all stakeholders. This shows that engagement plays a crucial role in driving the success of the CHRSP process.

Numerous participants emphasized the role of engagement in disseminating research findings. Participants mentioned that the diverse group of participants in the CHRSP process brought a ‘whole health’ approach when reviewing documents, making suggestions and changes, and bringing their own personal experiences. A whole health approach means approaching health with a broader view, focusing on supporting a person's overall health, rather than on just treating their conditions. Participants appreciated the dissemination of the reports through publication and presentations, so the research findings could be circulated throughout partner organizations, on websites, and circulated throughout government departments. Although the government was interested in the research, there was a concern about the end results and what it would mean for system development at a provincial level, mainly resources. Despite this, participants felt that there was strong engagement from a wide range of stakeholders. Engagement is important not only in the research process but also in disseminating the research findings.

4.3.4.1 Political Agenda and Lack of Engagement

Some participants discussed the potential challenges of maintaining engagement in the CHRSP process. One participant mentioned that political and research agendas don't always align, which can lead to a lack of stakeholder engagement. However, the participant also acknowledged that this is common and that stakeholders must find ways to overcome these challenges and work within their bounds. Engagement is not always easy to maintain, and stakeholders must be aware of the challenges and find ways to overcome them.

“*But, you know, from the Center's perspective, I think they tried everything; they were on CEO agendas, their own agendas with the deputy ministers. So, you know, that was really good. But I think sometimes, you know, it's like the Deputy Minister changes, and all of a sudden, you're back to, you know, having that level of discussion, the Minister changes. So, you know,* *you're back to getting people engaged and involved. And sometimes I'm concerned because political agendas and research agendas don't always align, or they've been maybe at opposite ends, sometimes, you know, so a political decision to put a program or a service or a something in place. It's not always based on evidence, it's based on political decisions, but I've come to the realization that is the way it is. So as people within system leaders and researchers, people have to look at and, you know, find ways to, to overcome and work within your sphere of influence."*

The next quotation emphasizes the exceptional engagement of stakeholders in the CHRSP process. One participant mentioned that engagement was exceptional, particularly when sitting at the table with other stakeholders. This shows that engagement is not only important but also rewarding, and stakeholders who are engaged in the CHRSP process can benefit from the collaboration and exchange of ideas.

"I felt, you know, the staff at the Center and the experts that were brought in, and the researchers and the other health system leaders and the research leaders were absolutely phenomenal. And people were very interested in and really wanted to do the best work possible to help improve the healthcare system. So, I always felt it was a journey of improvement."

Findings from participant interviews show that engagement is important in driving the research process, disseminating the research findings, and maintaining collaboration among stakeholders. Although engagement can be challenging to maintain, stakeholders need to be aware of the challenges and find ways to overcome them. Overall, the CHRSP process demonstrates the importance of engagement in conducting contextualized health services research that can improve the healthcare system.

4.3.5 Barriers to Change

The participants identified several barriers to change when implementing contextualized health research in healthcare in NL. They reported that resistance to change, lack of resources, and limited access to research evidence were significant barriers to improving healthcare outcomes. The participants noted that addressing these barriers would require a collective effort from healthcare professionals, policymakers, and the public, which the CHRSP program does a good job of accomplishing.

Participants highlighted some of these barriers, which include the challenge of involving frontline staff in the CHRSP process, the lack of a fully established mechanism to engage the public broadly, the limited time available for busy frontline staff to participate in research, the difficulty of understanding and applying research findings, and the need for a policy framework to guide decision-making.

4.3.5.1 Time and Resources

Several participants noted time and resources as barriers to participating in a CHRSP project and seeing the research findings through to practice. This was especially prevalent in frontline workers and healthcare practitioners that were interviewed. Frontline staff interact most directly with patients and have valuable expertise and knowledge to contribute to the research process. However, many frontline staff have large caseloads, which makes it challenging to participate in research projects without sacrificing their daily responsibilities. This challenge may lead to burnout, dissatisfaction with work, and a lack of coverage for patients. A related challenge is the limited time available for busy frontline staff to participate in research.

"And to that point, involving frontline workers with the network of participants and researchers, because those are the ones that are going to be heavily involved, so then in order to

do that, most frontline people have a caseload or have patients that they have to see. So how can you still do your work and be involved in these other things, right. And what happens is, sometimes people try to do both, but it never works. Because then your caseload suffers. And then you know, you're not feeling good about that work. And patients aren't being seen, because you're involved in these other projects. So there's no coverage for you to be [involved]. So maybe that's a suggestion like frontline employees, if this is going to be operationalized, they need to be utilized for their expertise for their knowledge, but they can't do everything."

While many healthcare practitioners recognize the value of research, they often do not have the time to fully engage in the research process. This limitation may be due to the competing demands of daily tasks and a need for incentives or compensation for participation. As a result, frontline staff may not be able to fully engage with the research process, leading to less accurate or comprehensive findings.

4.3.5.2 Public Engagement

Another barrier is the need for a fully established mechanism to engage the public broadly. The public and frontline health providers can be excellent sources of ideas for improvement, but there is no clear process for understanding their needs and concerns. While CHRSP can be part of a learning health system cycle that identifies gaps in services and seeks evidence-based solutions, there is currently no comprehensive framework for public and patient engagement.

Several participants noted that a significant barrier to knowledge translation is the difficulty of understanding and applying research findings. While many healthcare practitioners are trained to read and interpret research, research reports can be challenging to navigate, especially for those unfamiliar with academic writing and methodology.

"I know when I read the last report, I felt like I was gone googly eyes. Yeah, I can read through them pretty well. But I know a lot of my staff would have given up on a long before I did. And I feel what's missing is a section on clinical impact. Because I can read up on all the data and the research that you looked through and 28 articles that were appropriate of the 115 that you went through, I can read up on all that no problem. My staff never will."

Another participant, who was a healthcare practitioner, emphasized that they are trained in reading and interpreting academic research, however, applying it in their everyday work is a challenge.

"It's very research based, and I mean, you know, any clinician now like whether you're nursing or OT or physio or dietitian speech pathology. I mean, everyone's trained in research We're not researchers, but we're trained in terms of how to read and interpret research, I guess. I find we're really good research consumers. But we're not really good at research. We're not really good at applying research maybe in in real settings and healthcare, we know how to get the information. We know what trends are, we know what best practices are, but how do you operationalize that into an existing health authority? When you've only got, so many people, so many resources."

Based on this, the participant recommended creating easy-to-digest versions of the CHRSP report with the research findings that can be targeted toward certain target audiences such as academics, frontline staff, the public, and decision-makers. Dissemination of the research findings proved to be a challenge as well, with numerous participants mentioning how great it would be if there was help in implementing the research findings into everyday use. As such, research findings need to be presented in a way that is easily digestible and relevant to the needs of busy healthcare practitioners.

Numerous participants highlighted that the time of frontline and health care practitioner staff is valuable. They should be able to get some value back, even if it won't be in compensation. One participant suggested credit hours towards professional competency training for continuing learning, as many healthcare professionals require accreditation or other forms of recognition for continued learning. While this isn’t something NLCAHR can control, it may be worthwhile for healthcare professionals to reach out to their accrediting institutions or for NLHS to further explore this option.

4.3.5.3 Policy Framework for Decision Making

Finally, the lack of a policy framework to guide decision-making is another significant barrier to change in the CHRSP process. While CHRSP does an excellent job of gathering and critically appraising information, having this information sit within a policy context would strengthen its impact. This would require a political science perspective and a policy framework that guides the health system toward decision-making based on research findings.

“It's not so much what CHRSP could have done, but what the health system could do, and they probably need to do it now. So, we're at the stage of really pushing the concept of a learning health system. This is a kind of a two-way operation where you get input from the public and frontline health providers as well as people in decision-making roles about what are the issues, right, and then you have some process to understand the issues. And CHRSP can be part of that. Right? In terms of like if a problem or a gap comes up. Yeah, then they can go looking for evidence to show whether this is in fact, a real gap. And how have people addressed it in the past? I think that that can be a part of the learning health system cycles. But there isn't really a fully established mechanism to engage the public broadly. So, what I see is sort of pockets of

patient and publican engagement, and very little engagement of frontline staff really, as a source of ideas for needs to improve and also participation in teams that are aimed at improvement."

Numerous participants discussed the importance of a policy framework in strengthening the impact of evidence-based decision-making in healthcare organizations. The participants noted the critical role played by CHRSP in gathering and critically appraising information. However, they suggest that a policy framework between CHRSP and the health system is missing, which would strengthen the impact of this information. The speaker refers to the Pan-Canadian Oncology Drug Review (pCODR) framework as an example of how policy frameworks can support evidence-based decision-making. They suggest that the success of evidence-based decision-making is not solely reliant on medical expertise but also involves the principles of political science. This quote underscores the need for a robust policy framework to support evidence-based decision-making in healthcare organizations and the value of frameworks such as pCODR in enhancing the impact of research on healthcare policy.

"Well, that question, actually, I felt quite strongly about and that's where the, the notion of decision-making framework would come into play. So, is there anything missing? I would say it's the policy framework. So CHRSP, does an excellent job of taking out the information, gathering the information, doing a critical appraisal of it and so on. But then having it sit within a policy context would I think would strengthen it right? And that's where the pCODR framework would play a great role, because a lot of this, ironically comes down is not so much medicine, but it's political science."

CHRSP faces several barriers to change, including the challenge of involving frontline staff, the lack of a fully established mechanism for public engagement, limited time available for busy frontline staff to participate in research, the difficulty of understanding and applying research findings, and the lack of a policy framework to guide decision-making. Addressing these barriers will be critical to ensuring the ongoing success of CHRSP.

In evaluating CHRSP, some observations were made regarding the program's approach to remaining non-directive. While this approach is understandable, it may be helpful for decision-makers to have a clear recommendation. It was noted that decision-makers are only one voice at the table, and their input may carry a different weight than researchers and expert consultants. However, there may be value in having a consensus decision-making process to identify the best option for a given situation. This could involve identifying the likely best value option and asking decision-makers to consider specific questions when evaluating their options.

It is important to note that the CHRSP should refrain from providing recommendations. However, suggesting a framework to guide decision-making without explicitly recommending one option over another may be a helpful compromise. This approach would require decision-makers to ask themselves specific questions to consider the likely best value option.

Another important consideration is ensuring diversity around the decision-making table. This would require representation from participants with varying perspectives and backgrounds to ensure a broad range of viewpoints is considered. While neutrality is essential, providing decision-makers with a framework for evaluating options and ensuring diversity in the decision-making process may enhance the effectiveness of the CHRSP.

4.3.5.4 Buy-in from Government

During the CHRSP process, it was found that stakeholders were highly engaged in the process. This engagement took various forms, such as attending meetings, reviewing documents and data, suggesting changes, and providing feedback. The program's outputs were shared widely with a broad range of stakeholders. However, it was noted that the government could have been more invested in the program and its outcomes. Some individuals were concerned about how the results would impact system development and resource allocation at the provincial level.

Nevertheless, CHRSP aims to provide independent and unbiased insights, which can be acted upon or not acted upon, as appropriate. Overall, there was a strong engagement at both the national and provincial levels. Other provinces were interested in the results of the program, especially smaller health authorities and hospitals, which often need more resources and expertise to undertake such work. This highlights the unique value of the CHRSP program.

However, it is essential to note that factors perceived as barriers to uptake in some circumstances can also act as levers for change. For example, patients may influence practitioners' behaviour towards clinically effective practice by requesting interventions of proven effectiveness. Decision-makers may influence practitioners positively, and the media may promote cost-effective interventions. The relative importance of barriers within and between categories may vary according to the local context.

4.4 Findings from NLCAHR Staff Interviews

There were common themes across interviews with CHRSP participants and NLCAHR, along with new themes that emerged from interviewing NLCAHR staff.

One of the major themes that emerged across all interviews with NLCAHR staff was access to local data.

Table 4.2 Interview Codes that Were Similar Across Interviews

Codes that were similar across interviews:
Connections, Contacts, Expertise
Contextualization
Decision Making
Engagement Process
Evidence-Based Research
Feasibility
Impact
Lack of Impact
Learning Health System
Resources
Suggestions for CHRSP
Timeliness
Unsure of Impact

Table 4.3 Emerging Interview Codes

New Codes that Emerged from Interviews with NLCAHR Staff:
Access to Local Data
Follow Up After Report
How CHRSP has Changed over Time
Knowledge Translation
Pivoting

4.4.1 Access to Local Data

Every staff member of NLCAHR suggested access to local data as something that is missing from CHRSP and could potentially aid in developing CHRSP reports. Some of the major concerns with access to this data are timeliness, accessibility, and usability.

"it's a piece of content, I think, that we've been frustrated with that CHRSP reports should be able to easily access local data. So, the idea of supportive data from the province around the issue is sometimes either not accessible, or it's not in a format that's usable, or it takes us too long to access it. I think that's one critical piece that we're working on with the folks at NLCHI and other data holders to try and improve. I think that's a piece of content that the researchers have expressed frustration about getting access to, and having easier access to meaningful data, I think would be helpful in terms of just setting the context, the local context, in a real and tangible way to say X number of people are, you know, experiencing this problem, or it's costing the healthcare system, this much money, those sorts of questions."

Some of the main obstacles, as highlighted by NLCAHR staff regarding the data, are that the data is often in an unusable format. It lacks structure or summarization, making it difficult to comprehend or utilize effectively. Acquiring the data itself can be a lengthy and arduous process. One participant recalled a specific project that experienced significant delays because they were waiting for a particular dataset from their partners but could not obtain it. Data is also not often collected at the level of detail that CHRSP researchers would need. Consequently, the project faced considerable setbacks and had to proceed without that crucial data. In some cases, NLCAHR staff have been informed that the data doesn't exist, leaving them without valuable information. Despite extensive efforts, including collaboration with the province, accessing this data remains challenging. Partners such as the health authorities, NLCHI, and CIHI have emphasized that the data challenge is an ongoing and complex process. It involves various aspects, including data collection, consolidation, and the whereabouts of records. This is a particular issue that arose across all interviews with NLCAHR staff and is one that should be emphasized, especially with the push for evidence-based research and decision-making.

Within the context of the learning health and social system discussed in the NL Health Accord, there has been significant discussion regarding the importance of health records. Decision-makers and health authorities have expressed their desire for increased access to dependable, precise, and current information to facilitate informed decision-making. Efforts will be made to achieve this goal, although the timeframe for implementation remains uncertain. There is some hope that the amalgamation of the healthcare authorities within the province will streamline this process and allow for easier and faster access to local data.

4.4.2 Connections, Contacts, and Expertise

A project highlighted as being impactful in bringing together multiple stakeholders and contributing to a coordinated effort was the Hyperbaric Oxygen Therapy for Difficult Wounds project in 2012. At first, it was a very difficult problem regarding what to do with the hyperbaric oxygen therapy unit, and the person in charge was frustrated with trying to get the people needed to agree about what to do with this unit and it proved to be a difficult coordination problem. CHRSP held a dissemination event, which highlighted the key findings from the project, brought everybody together, discussed the potential benefits, what would be likely to the worth the investment, and what would not, and what some of the contextualization issues were. This brought together clinical faculty in the Health Sciences Complex who run the facilities; representatives of Eastern Health; individuals who make the administrative decisions about that area of medicine; and a patient scheduler. It also involved staff from the Department of Health and Community Services, who are responsible for allocating resources for infrastructure. During this meeting, all these stakeholders worked out what needed to be done, they worked out a schedule of how they would make decisions, and according to NLCAHR staff, this led to a formalized plan being created for how the hyperbaric oxygen chamber would be used.

In this project, NLCAHR staff emphasized that the project had a significant impact by facilitating the collaboration of individuals who typically faced challenges in coming together. This was particularly difficult because it was not considered a top priority and did not reach a critical level of urgency.

One participant noted that they distinctly remembered that it was a rare occurrence at the senior management level where these groups [the four RHAs] gathered to discuss their respective challenges and the approaches they had taken to address them. CHRSP's role is crucial in terms of integrating evidence into the decision-making process right at the core level. They also handle contextualization, which can have significant impacts, especially for those new to implementation problems of this nature. Additionally, at the highest level, CHRSP brings together individuals who may not naturally connect on a particular issue but have a role to play in finding and implementing a solution. This collaborative effort greatly contributes to advancing the agenda and reaping its benefits.

Following the Hyperbaric Oxygen Therapy for Difficult Wounds project in 2012, it triggered an application for a 'Best Brains Exchange,' which is a CIHR-funded initiative where the province can ask for a panel of experts in a field to answer questions that the province and healthcare system is trying to understand. This allowed for access to a subject matter expert academic and other specialists in the subject areas, such as health, human resources, and chronic disease management, who had experience working for provincial healthcare authorities. This subject matter expert spoke to 30 to 40 people from the provincial health system, which allowed stakeholders to have their questions answered and discussions around the subject matter.

4.4.3 Pivoting

Some participants noted CHRSP's ability to pivot quickly to meet the needs of stakeholders within the province. CHRSP staff stated that they knew there were a lot of questions that people within the health system weren't asking because the health system partners were not always sure of the questions that needed to be asked. There was a lot of new research coming out during the early phases of the pandemic, and since then, there has been overwhelming amounts of research, and a lot of decision-makers and administrators do not have the time and capacity to keep up. This prompted CHRSP to release an e-bulletin on the latest evidence around COVID-19, which started out as weekly at first and then switched to bi-weekly, and it ran for approximately three years.

“The e-bulletin was a huge success. People wrote into us, thanking us for that. And then our e-bulletins ended up getting out and somebody knew someone in New Brunswick and somebody else knew somebody in British Columbia and before we knew it, it was reaching audiences across the country, and there was a big demand for it.”

4.4.4 Knowledge Translation, Dissemination, and Engagement

Another project that multiple participants brought up was the Youth Residential Treatment project. The dissemination process for this project was described as impactful by numerous participants. During the dissemination phase of this project, one participant noted that the budget was more substantial, which allowed NLCAHR to bring in experts to St. John's to provide a comprehensive presentation to the Faculty of Medicine and the health system. NLCAHR also held a public event that garnered media coverage. Additionally, they arranged private sessions with decision-makers, providing a confidential space where they could freely ask any questions and receive expert insights based on the extensive experience and knowledge of the research literature. This approach was highly effective and successfully facilitated knowledge mobilization.

However, through their experience, NLCAHR identified certain aspects that needed improvement. For instance, they realized the necessity of an executive summary, as senior decision-makers were more inclined to read a short summary than an entire report. NLCAHR also recognized the importance of a cheat sheet, a concise reference document that decision-makers could rely on when they required a quick reminder of the research findings in spontaneous situations. Another crucial adaptation was separating the scientific components of their research reports, which held immense value for NLCAHR and fellow academics, from the information for decision-makers, who were typically less interested in the intricate details such as methods and methodology. To address this, NLCAHR developed an online companion document catering to those who desired comprehensive transparency and access to all the details.

NLCAHR has already made progress in identifying and incorporating missing elements into their processes, however, they are currently facing the challenge of effectively engaging with the public on a larger scale, beyond stakeholder groups, patients, and caregivers, as one participant highlighted:

"Personally, I think what I said before about addressing the public, I think that's where we could improve, we do very little public-facing type stuff. In part, that's because the health system doesn't always want us doing public-facing type stuff. But I think, with the exception, of course, of the REGs, and that's, that's our major thing. And I think, CHRSP could benefit from learning more from the Research Exchange Group (REG) model in terms of public engagement.

And I just think that that's an area that we could grow. If we grow, if we get more resources, and I can spend a bit of time thinking about it, because we've hired a couple of other people, then that would happen."

While they do not have a definitive solution, they acknowledge the potential value of certain strategies, such as podcasts and webinars, as more accessible avenues for reaching the public. Visual aids and interactive formats, like webinars, can greatly enhance the communication of scientific concepts. For instance, initiatives like Quality of Care NL and Choosing Wisely NL have successfully organized webinars that discuss relevant issues and are open to the public. Although the public may initially perceive these topics as less relevant, the webinars serve as an effective means of disseminating balanced and critical information, countering misinformation. So, their current focus lies in improving our communication with the public, as it remains an area where further development is necessary.

"I think there's always areas so we've identified, you know, plain language, inclusion in terms of the engagement, ensuring that the right voices are included in the in the integrated part of the knowledge translation in terms of involvement in projects, I think we can always do better in terms of sharing the end of project dissemination. And we do publish in a wide variety of formats. And the and the reports are available on our website, and we send them to the library and all of that good stuff."

Knowledge translation and dissemination is a challenging task, and all participants acknowledged that it's a constant work in progress and an area to keep working on.

4.4.5 Contextualization

When NLCAHR communicate with decision-makers, it's not just about providing them with knowledge based on research findings. It also involves considering the implementation consequences of the decisions they will make. The challenge arises when applying evidence from interventions conducted in locations different from NL. NLCAHR must make estimations on how those implementation features will translate here in NL, and equity is a critical factor to consider. NLCAHR needs to assess how the benefits and harms will be distributed among the population receiving the intervention, which may differ from the context of the original research.

Feasibility is another crucial aspect, as they need to determine if NL has the capacity to implement the intervention effectively. Capacity and resources are other types of contextualization factors to consider, as training local individuals may increase the likelihood of success, while relying on highly specialized professionals without adequate training may hinder implementation. Additionally, acceptability plays a vital role. NLCAHR must assess whether the proposed intervention aligns with the preferences and values of the population. For example, in the case of youth residential treatment, sending youth with complex needs from First Nations or Inuit communities to a facility in Grand Falls was deemed completely unacceptable due to historical factors such as the residential schooling experience. The CHRSP team conducts an analysis of context, which is an essential value-added component. This contextualization is emphasized in the literature as a crucial aspect of summarizing research-based evidence for decision-makers. It allows CHRSP to bridge the gap between research conducted elsewhere and the specific context of NL. Almost all participants highlighted the importance of contextualization and noted how this has been a fundamental aspect of CHRSP since its inception in 2006 and remains a significant focus today.

Despite theoretical effectiveness, practical implementation often falls short due to various factors. To address this, NLCAHR has engaged with implementation science researchers within the Faculty of Medicine to explore potential collaborations. If decision-makers express interest in implementing one of the interventions they recommend, they have started discussions on the possibility of passing the baton to the implementation science experts.

NLCAHR is exploring ways to improve in this area, whether through collaborations with the university's implementation science experts or external expertise. Given the shift towards a learning health and social system, there is an opportunity to enhance implementation strategies. This includes real-time measurement and assessment of implementation success, allowing for adjustments and troubleshooting. This could be a unifying force for all stakeholders invested in this area.

4.4.6 Impactful Work, Limited Resources

CHRSP does high-quality work, despite operating on a limited budget and having few resources at its disposal. While the program is valuable, there is always room for improvement regarding the support it receives. Whether from the program's funders or the university, increased and enhanced support for CHRSP could make the work even more impactful and far-reaching.

"NLCAHR, in my view, is like a hidden gem within the Faculty of Medicine, with few people aware of its significant contributions. I consider myself a cheerleader for the program, but I also believe that its profile and support can always be improved. Over time, funding has been continuously reduced, resulting in a decline in the number of personnel. CHRSP is currently facing its lowest staff count, which is particularly challenging considering the pivotal time we find ourselves in. Unfortunately, we have experienced losses in personnel, including two full-time RAs from last year who have not been replaced."

4.5 Comparison Between Interviews with CHRSP Participants and NLCAHR Staff

The interviews conducted with CHRSP participants and NLCAHR staff provide valuable insights into their experiences and perspectives related to research, knowledge translation, decision-making processes, and the impact of CHRSP. While common themes emerged across both sets of interviews, the NLCAHR staff introduced some new themes that shed light on specific aspects of their work and how CHRSP has evolved over time.

CHRSP participants and NLCAHR staff emphasized the significance of building and maintaining professional connections and contacts within the healthcare and research communities. These connections were perceived as vital for information sharing, collaboration, and the overall success of research projects.

The importance of expertise in conducting evidence-based research and contextualizing findings was highlighted by both groups. They recognized that understanding the local context and relevant expertise are crucial for developing impactful research projects.

The emphasis on evidence-based research and the consideration of feasibility were common themes in both sets of interviews. Both health system partners and NLCAHR staff recognized the significance of basing decisions and interventions on solid evidence and assessing the practicality of implementing research findings.

Both CHRSP participants and NLCAHR staff shared insights into the impact of research projects. Positive impacts were discussed, such as improved health outcomes and policy changes. Still, they also acknowledged instances where research did not lead to the desired outcomes, indicating the need for continuous learning and improvement.

The concept of a learning health system, which involves integrating research and practice to continuously improve healthcare, was a common theme among both groups. They highlighted the importance of using research findings to inform and improve healthcare practices.

The interviews revealed that the availability of resources and timely execution of research projects are essential for their success. Both CHRSP participants and NLCAHR staff emphasized the need for adequate funding, support, and efficient project management.

Both groups provided suggestions for improving CHRSP. These suggestions ranged from enhancing training opportunities and networking resources to increasing community engagement and promoting knowledge translation.

There were a number of new themes that emerged from the interviews with NLCAHR staff. One of the major themes was access to local data. NLCAHR staff highlighted the importance of accessing local data to conduct research that accurately reflects the region's realities. Access to such data facilitates more informed decision-making and policy development. NLCAHR staff mentioned the significance of following up with stakeholders after research reports are published, or projects are completed. This follow-up allows for continued engagement and ensures that research findings are effectively translated into action.

NLCAHR staff provided insights into how CHRSP has evolved over the years. This theme highlighted the program's growth, adaptability, and improvements to address emerging needs.

NLCAHR staff emphasized effectively translating research findings into actionable knowledge for policymakers, healthcare professionals, and the public. KT ensures that research has a meaningful impact on health outcomes and healthcare practices.

The theme of pivoting highlighted the NLCAHR staff's ability to adapt research projects and approaches based on emerging challenges or changing circumstances. This flexibility enabled them to address urgent healthcare issues effectively and meet their target audience's needs.

The interviews with CHRSP participants and NLCAHR staff demonstrated common themes reflecting the importance of connections, expertise, evidence-based research, impact assessment, and engagement. Both groups recognized the significance of knowledge translation, contextualization, a learning health system and the need for adequate resources and timely execution of research projects.

These findings highlight the strengths of CHRSP and provide valuable recommendations for its enhancement. CHRSP can further strengthen its impact on healthcare outcomes and research practices by incorporating these themes into its future initiatives.

4.6 Chapter Summary

This chapter provided a detailed summary of the findings of the interviews with CHRSP participants and NLCAHR staff. Thematic analysis and using KT as approaches to analyzing the data allowed for rich, deep conversations with the participants and provided them with an open opportunity to share their experiences with CHRSP. The findings explored the impact of contextualization on healthcare, how CHRSP impacted decision-making in healthcare, engagement in the CHRSP research process, the impact of engagement in the CHRSP process, and barriers to change. The findings highlighted the importance of contextualizing research evidence to improve healthcare outcomes, the role of CHRSP in decision-making, and the benefits of engagement in the research process. The study also identified barriers to change that must be addressed to improve healthcare outcomes in NL.

Chapter 5 Discussion and Recommendations

This chapter highlights key themes and provides further discussion on applied health services research and contextualization in NL. This discussion chapter aims to interpret the findings from the semi-structured interviews considering what was already known about the CHRSP program and provide recommendations. The discussion will connect to the introduction through the research questions posed at the beginning of the study and the literature reviewed throughout.

This chapter includes interpreting the study findings in context with the literature, developing study recommendations, strengths and limitations, and a potential knowledge translation strategy. It positions the findings against those in the literature review to reconcile these findings with the literature and indicate how this study contributes to scholarship and practice in the field. Finally, I summarize the thesis' implications and point to limitations and potential new directions in research, followed by concluding remarks.

Using a collective case study approach, the impact of CHRSP was assessed, primarily through key informant interviews with current and past CHRSP stakeholders and NLCAHR staff, to examine where this research program has had its most significant impact and where this could be strengthened. The process examined how projects are initiated and conducted, how findings are contextualized to the province, and how these projects have impacted healthcare delivery and policy.

5.1 Aims and Objectives

This thesis project aims to evaluate CHRSP in terms of its impact on decision-making and on actual health-related policy in the province of NL. From this evaluation, key lessons will be learned which can be used to reinforce the positive effects that the program has had and identify areas of improvement.

1. The research questions are as follows: How do stakeholders who have been involved in CHRSP:
    a. characterize its impact on health policy decision-making within the NL health system.
    b. perceive as its strengths and weaknesses.
2. How useful are the different knowledge products produced by CHRSP considered to be by knowledge users, and how could they be improved?
3. What other opportunities exist for NLCAHR to use its existing resources more effectively to support health system decision-making?

This thesis had several research objectives:

1. Assess the impact of the CHRSP tool on healthcare authorities and decision-makers in NL. This project achieves this by interviewing participants who are members of the health system, decision-makers, and NLCAHR staff. From these interviews, data were transcribed, coded, and analyzed to identify themes, such as areas of impact that CHRSP has had through various projects.
2. Evaluate the CHRSP tool and identify strengths and any areas for improvement. This was achieved through semi-structured interviews. Research participants identified strengths and areas for improvement, which have been highlighted in the findings chapter, and further elaborated on in this chapter.
3. Draft a case study that assesses the impact of CHRSP and can be used as a guide for program improvement. From the interviews, a case study was drafted demonstrating CHRSP as a broader phenomenon which attempts to bridge the KTA gap involving

researchers and health system policy and decision-makers. Examination of this can identify useful aspects about how evidence is used to inform decision-making. Three different audiences can learn from this: the people trying to produce better, more accurate theoretical models of KTA; the people in NL trying to bridge the KTA gap; and the people in other jurisdictions who are trying to make better use of evidence to guide decision making.

4. Analyze and code interview transcripts to identify any emerging of reoccurring themes. This was completed in the findings chapter and will be further discussed in the recommendations section of this chapter.

5.2 Interpretation

When examining the themes generated from the thematic analysis, several items are consistent with the literature, and others are novel. The emphasis in this section of the discussion is exploring the findings in relation to the main research questions.

Reviewing the health services research literature, a growing consensus has emerged that ongoing partnerships between researchers and decision-makers are critically important to transfer and exchange knowledge generated from health services research effectively (Graham et al., 2018; Grimshaw et al., 2012; Morris et al., 2011). This research project focused on understanding the benefits of partnerships between researchers and decision-makers, identifying benefits and inefficiencies in the link between the CHRSP program and health system partners in NL, how to leverage resources to conduct high-impact research and influence policy and decision-making, assessing the benefits of CHRSP reports, and measuring the impact of CHRSP projects. We can explore relevant concepts and principles within these domains to discuss how the findings from the literature on contextualized health research, knowledge translation, and KTA models relate to these research questions.

The research questions demonstrate an interest by the researcher in understanding the link between the CHRSP program and health system partners in NL. By examining this relationship, the study assesses the contextual factors that influence the effectiveness of partnerships and identify strategies for optimizing collaboration between researchers and decision-makers.

The questions regarding the benefits of partnerships, identifying inefficiencies, leveraging resources, and assessing the benefits of CHRSP reports all relate to knowledge translation and the aim of getting evidence into practice. The literature on knowledge translation can provide insights into effective strategies for facilitating the exchange and use of knowledge between researchers and decision-makers. It explores approaches such as stakeholder engagement, knowledge synthesis and dissemination, and implementation science to enhance the uptake of research evidence in decision-making processes.

Knowledge-to-action (KTA) models offer frameworks for bridging the gap between research knowledge and action. These models provide a systematic approach to transforming evidence into policy and practice. The research questions seek to understand how the NLCAHR can leverage its resources to conduct high-impact research and influence policy and decision-making in NL. Knowledge-to-action models can inform the study by providing guidance on stakeholder engagement, knowledge dissemination, and implementation strategies to facilitate the translation of research findings into actionable policies and decisions.

In terms of quantifying the benefits and measuring the impact of CHRSP reports and projects, the literature on evaluation methods for contextualized health research was limited. Evaluating the outcomes and impact of research efforts is essential for understanding the value they bring to decision-making processes and healthcare outcomes, but it is often a labour-intensive and complex process. The literature may offer various evaluation frameworks, methodologies, and indicators to assess the benefits, effectiveness, and value of research initiatives. This can include approaches such as health economic evaluations, social return on investment analysis, or qualitative assessments of the utilization and influence of research evidence.

Overall, the literature on contextualized health research, knowledge translation, and KTA models can provide valuable insights and methodologies to address the research questions related to understanding the benefits of partnerships, identifying inefficiencies, leveraging resources, quantifying benefits, and measuring impact. These bodies of literature can inform the study's design, data collection methods, and analytical frameworks, contributing to a comprehensive assessment of the CHRSP program and its influence on policy and decision-making in NL.

Overall, this study finds that the CHRSP program has positively impacted the healthcare system in NL, enabling access to research information that would otherwise be difficult to obtain and contributing to improving healthcare service quality and outcomes. However, some participants expressed uncertainty or dissatisfaction with the program, citing a lack of exposure to the information or needing to see it integrated into clinical practice. The study highlights what was already identified by CHRSP, that understanding the local context is crucial to developing effective healthcare policies and interventions, and the CHRSP program provides a comprehensive approach to contextualizing research evidence, resulting in improved health outcomes for the population.

Regarding how CHRSP impacts decision-making in healthcare in NL, some participants reported that the program played a significant role in decision-making. They noted that CHRSP provided evidence-based information tailored to the local context, facilitating informed decisions. However, participants not in a decision-making role were unsure of the impact CHRSP had on healthcare in NL. Participants in decision-making roles spoke positively about the program, noting that it increased their awareness of important healthcare topics, influenced their decisions, and fostered stakeholder collaboration and engagement, leading to more informed and inclusive decision-making. Some participants recommended that CHRSP include research on the cost-effectiveness of healthcare technologies, such as cancer drugs and dialysis, which could help decision-makers make more informed decisions about which technologies to invest in.

5.2.1 Patient Engagement Dimension

In mid-2015, the NLCAHR and health system partners agreed to add a patient engagement dimension to the CHRSP. A strong body of evidence shows the value of involving patients as partners in health research and evidence-informed decision-making. This was also highlighted in the participant interviews as something that was needed (from interviews with participants who were involved in projects before 2015) and as a valuable addition by participants who were involved with projects post-2015.

The inclusion of patients and caregivers can ensure that research topics are relevant and valuable to patients and can identify contextual issues that decision-makers may overlook. Engaging with patients and caregivers can contribute to research transparency, accountability, and credibility and align with Memorial University's commitment to public engagement. Capacity building for patients, researchers, and decision-makers can also be achieved by involving patients and caregivers in CHRSP, enriching the dissemination of results, and making project reports more accessible. NLCAHR already runs public presentations of the CHRSP reports, and they present and engage with appropriate Research Exchange Groups.

5.2.2 Effective Knowledge Transfer

Although a number of researchers have discussed the utility of social and health-related research to public policy, until recently, there had been very little examination of the extent to which this research in the academic environment was effectively transferred to decision-makers (Gobel, 2021; Vassiliou et al., 2020).

There is a shift in NL towards community-based health care away from institutional care, with hospital restructuring, mental health reform, primary care reform, and new home care strategies emerging. However, many community-based agencies are struggling to meet the demands for their services and are forced to prioritize and make decisions on how to provide them. Evidence-based decisions are ideal, but these agencies have limited capacity for research. This has led to a need for experienced researchers to provide much-needed knowledge and analytical capacity to these agencies. Despite their importance, there is little understanding of the extent to which these agencies conduct internal research or transfer research to or from these organizations to improve the quality of their services.

5.2.3 Dissemination of Research Findings within the Healthcare System

Dissemination of research results within healthcare organizations can be problematic as more resources for dissemination may be required to convey the findings and their implications for practice effectively. The CHRSP program can help with dissemination by providing research results to stakeholders and ensuring the research is relevant to their needs by doing research on local issues to develop alternative solutions, creating innovative multipurpose products at cheaper cost and discussing topics that touch the needs of the community to be useful to the community. Recognizing this, to a significant degree, is out of the control of NLCAHR, as NLCAHR does not decide the research topics. The health system partners approach NLCAHR with queries that NLCAHR tries to convert to answerable questions. Evidence-based information that is available for target audiences such as policy and decision-makers, patients, governments, and various other stakeholders should be brokered and interpreted by NLCAHR.

However, dissemination is ultimately the responsibility of the health system partners. The CHRSP team can provide guidance and support for dissemination, but it should be left up to the organizations to disseminate the research results. Improper dissemination can undermine the value of CHRSPs impact.

For guidance to have an impact, the issue first needs to compete for and be granted a place on the government's agenda, the guidance needs to inform policy development, and a policy needs to be approved and implemented. As part of this process, the guidance recommendations must be contextualized or adapted to a particular setting where the research findings are being applied. The World Health Organization (WHO) has developed evidence-based health systems guidance at the global level, which allows for the pooling of resources and knowledge to help offset costs for studying possible solutions for countries facing similar issues.

Global guidance can inform policies at the global level, such as the funding policy of an international organization; however, research has continually shown that context-specific research is essential to meet the needs of local providers, as healthcare is often not a one-size-fits-all approach. By implementing these strategies, CHRSP can effectively disseminate evidence and increase the likelihood of evidence-informed decision-making in healthcare policies and practices.

5.2.4 How Contextualized Health Research Could Contribute More

There are multiple obstacles to the advancement of contextualized health research programs. One significant challenge is the frequent mismatch between implementation approaches and the specific problems they aim to address. This results in the use of implementation strategies that may not be effective for the targeted problems. The increase in concepts, theories, and frameworks for knowledge transfer can also impede progress in the field, as choosing a concept, theory, and framework can be challenging without proper resources. While stakeholder involvement is considered essential for successfully implementing knowledge, many approaches are inadequately specified and not validated. It is critical to incorporate patient preferences and the increased precision of knowledge into the evaluation process.

5.3 Recommendations Based on Interviews with Health System Partners

The research participants have voiced several recommendations regarding how to improve CHRSP. Some of these recommendations aim to improve engagement and knowledge translation, while others are speaking toward access to local data. Access to contextualized health research is important for policy, decision-makers, and healthcare authorities.

Several recommendations have been suggested by the participants regarding how to improve CHRSP and improve the uptake of evidence-based research in healthcare in NL.

Based on the findings, recommendations are made for the CHRSP program to prioritize research that addresses decision-makers priorities, develop a project initiation process to help prioritize which topics to research, and try to include research on the cost-effectiveness of healthcare technologies when appropriate. It is also recommended that the program continue to foster stakeholder collaboration and engagement to promote more informed and inclusive decision-making.

Based on the findings, the following recommendations are proposed by the researcher:

1. Developing strategies to maintain engagement: Political agendas and limited resources can pose challenges to maintaining engagement. Strategies to maintain engagement should include regular communication with stakeholders and participants, building relationships with stakeholders and participants, involving stakeholders in the research process, and providing incentives and support for participation.
2. Enhancing public and patient engagement: Public and patient engagement can help identify gaps in services and the feasibility and acceptability of solutions. Therefore, it is recommended to establish a mechanism for public and patient engagement in the CHRSP process from start to finish.
3. Providing support for frontline staff: Frontline staff plays a vital role in the research process but face challenges related to limited time and resources. Therefore, providing support, incentives, and, in some cases, where appropriate, compensation for participation in research projects is crucial. It is important to note that compensation could also be considered a barrier to engaging in research, as it adds an extra expense. Recognizing NLCAHRS's limited operating budget, this is likely something that would have to be implemented by NLHS.
4. Enhancing knowledge translation: The complexity of research reports can hinder the understanding and application of research findings. Therefore, enhancing knowledge translation efforts through clear communication and accessible dissemination of research findings is recommended. NLCAHR staff already achieve this by offering executive and plain language summaries as well as holding dissemination events. However, knowledge

translation is a challenging process, and there is always room for evolving methods of dissemination.

These recommendations are suited for a variety of readers looking to improve contextualized health research, such as researchers, health authorities, advocacy groups, health care professionals, policymakers, and government officials.

5.4 Recommendations Based on Interviews with NLCAHR Staff

5.4.1 Access to Local Data

Access to local healthcare data was a major theme that emerged from the interviews with NLCAHR staff. All participants from NLCAHR raised the challenges of requesting, accessing and utilizing local data. Access to local healthcare data is crucial for contextualizing research and improving healthcare outcomes. Traditionally, researchers have relied on national or international databases to gather information for their studies. While these databases can provide valuable insights into population-level health trends, they often lack the granularity required to understand specific localities' unique challenges and opportunities. To address this limitation, accessing local healthcare data has emerged as a promising approach to facilitate contextualized health research. This data typically involves key health databases, provincial health data, and health records from health and community service providers. This data is typically held by healthcare authorities or, in our province, The Newfoundland and Labrador Centre for Health Information (NLCHI).

In British Columbia (BC), they have used health data to improve the contextualization and uptake of evidence-based findings. BC has implemented several initiatives to leverage health data for improving healthcare outcomes. One notable example is the provincial health data platform called Population Data BC. This platform integrates various health databases, including administrative health records, clinical data, and population surveys, to facilitate research and evidence-based decision-making.

Through Population Data BC, researchers and policymakers can access de-identified health data to gain insights into population health trends, evaluate healthcare interventions, and inform policy development. The platform ensures strict privacy and security measures to protect patient confidentiality and adheres to ethical standards for data use.

The availability of comprehensive health data in British Columbia has enabled researchers to conduct population-level studies and evaluate the effectiveness of healthcare interventions. For instance, health data has been utilized to assess the impact of specific medications, interventions, or policies on health outcomes. This information is crucial for evidence-based decision-making by healthcare providers and policymakers, which can lead to improved healthcare delivery and outcomes.

5.4.2 Facilitating Collaboration and Partnerships

Engaging local stakeholders fosters collaboration between researchers, healthcare providers, and local communities. Involving local stakeholders in the research process ensures that studies are grounded in the realities of the community and that findings are more likely to be implemented. This collaboration also facilitates the sharing of knowledge, resources, and expertise, leading to a more comprehensive approach to research and intervention development. Guiding evidence-based decision-making based on access to local healthcare data empowers policymakers, healthcare administrators, and practitioners to make better-informed decisions.

5.5 Challenges

The findings of this study highlight several challenges related to maintaining engagement and ensuring the successful implementation of CHRSP evidence. Three key findings are the potential challenge of maintaining engagement due to the difficulty of aligning political agendas, research agendas, and limited resources. These factors can lead to poor stakeholder engagement and hinder the success of the KTA process.

One of the challenges mentioned is the potential challenge of maintaining engagement due to political agendas. When political agendas come into play, decisions and actions may be driven by political motivations rather than what the research or best evidence suggests. This can lead to a lack of focus on implementing evidence-based strategies and maintaining stakeholder engagement. Political interests may prioritize short-term gains or personal agendas over long-term success.

Research agendas refer to the priorities and objectives researchers or research institutions set. If research priorities diverge from the program's goals or the focus shifts to unrelated research areas, it can result in a lack of attention and resources dedicated to implementing CHRSP findings. This misalignment between research agendas and program goals can impede the implementation of evidence-based strategies and hinder stakeholder engagement.

Limited resources can manifest in various forms, including inadequate funding, insufficient staffing, or a lack of necessary infrastructure and equipment. When resources are scarce, it becomes challenging to engage stakeholders effectively, allocate sufficient support to implement evidence-based strategies and sustain programs over time. Limited resources can hinder the investments and activities required for successful implementation, compromising the potential impact of CHRSP initiatives.

In summary, political agendas, research agendas, and limited resources pose significant challenges to maintaining engagement and ensuring the successful implementation of CHRSP evidence. These factors can lead to poor stakeholder engagement, divert attention and resources away from the program's goals, and hinder the overall success of the research process. Overcoming these challenges requires addressing political influences, aligning research priorities with program objectives, and securing adequate resources to support effective implementation.

Despite these challenges, the study also found that engagement is crucial to the success of the CHRSP process. Engaged stakeholders, including frontline staff and healthcare practitioners, are critical in driving the research process, disseminating the research findings, and maintaining stakeholder collaboration. Thus, finding ways to overcome these challenges and maintain engagement is essential.

5.6 Strengths and Limitations

5.6.1 Strengths

The study's strengths include using qualitative data to explore stakeholders' experiences and perspectives in the CHRSP process. The study also employed a rigorous data analysis process, using a systematic coding process and computer software for coding, sorting, organizing, and analysis to ensure the accuracy and reliability of the findings.

Qualitative research aims to enhance understanding of a phenomenon of interest. The feedback that the interviewees provided provides important information that can be used to individualize the program in such a manner that it addresses the unique needs of the patient/healthcare organizations/end users.

Exploring the limitations and strengths of the current study can provide insight into future research directions. Future research can replicate this study in other jurisdictions. This would provide more context to the availability of contextualization programs in other provinces or countries. Also, more perspectives could be captured from healthcare providers, decision-makers, and researchers. The current study can benchmark the process for other similar reviews of contextualized research processes. The interviews were with targeted samples that could provide rich information and specific examples of experiences with CHRSP. The present study did not look to collect prevalence and incidence data but was positioned to explore the personal stories of those with first-hand experience with CHRSP. Like all qualitative research, the intent to describe rather than predict. The results obtained are not to be generalized but could be in part transferable across Canada.

Qualitative research aims to enhance one's understanding of the phenomenon of interest. The interviewee feedback provides essential information that can be used to individualize the CHRSP intervention in such a manner that it addresses the unique needs of the patient/healthcare organizations/end users.

5.6.2 Limitations

The limitations of this study include the response rate of the semi-structured interviews and the resources available for the study. Including a more significant number of participants who represent different geographical regions of the province would yield a broader range of perspectives on the critical determinants that influence the implementation and application of the CHRSP reports; however, due to the time and resource constraints of a master's level project, we felt the sample size was appropriate. A larger number of interview participants might have added more information. However, Creswell & Poth's (2017) ranges differ slightly. They recommend five to twenty-five interviews for a phenomenological study, while (Morse, 1994) suggests at least six. Although the sample size was small, it did represent leaders from healthcare authorities across NL and others who had participated in CHRSP projects. Patient engagement was brought up multiple times during the interview process, which could have been captured better in the interview process. A question or sub-question under the engagement section of the questionnaire on the topic of patient engagement could have been included to better capture this. Patient partners could have also been recruited during the interview stage to add a greater variety of participants and capture a First Voice perspective. By having partners included in my study, their engagement could have enhanced the quality and relevance of the research and also promoted a sense of ownership and empowerment among patients, breaking down traditional hierarchies and fostering a collaborative approach. patient engagement contributes to developing more effective and accessible healthcare interventions, as patients offer valuable insights into the lived experience of illness and the impact of various treatments.

As a qualitative study with small sample size and purposive sampling, generalizability to other populations is cautioned. Generalizing qualitative findings is usually not a goal of qualitative research but rather transferability. To address this, the aim was to provide rich and detailed descriptions of the participants' views and experiences and the context of this study.

It is important to note that these results are primarily based on the views of the participants, NLCAHR staff, and a review of the key literature.

The study's sample size is relatively small, and the participants were from one healthcare system. Therefore, the findings may not be generalizable to other healthcare systems. Second, the study relied on self-reported data, which may be subject to bias. Another limitation was recall bias. Some participants who participated in CHRSP projects as far back as 2008 were interviewed, so it was common for some participants not to remember details from reports in the past. The number of participants interviewed covers 5 of the 22 published CHRSP reports. A larger number of reports would have likely provided a better overall picture; however, reports were chosen from the beginning, middle, and later stages of CHRSP's lifespan to show how the impact of the program has evolved over its lifespan.

Including more participants and reports representing different geographical regions and healthcare authorities would yield a broader range of perspectives on the important determinants that influence the implementation and application of the CHRSP reports, however, due to the time and resource constraints of a master's level project, the sample size was appropriate.

As a qualitative study with small sample size and purposive sampling, generalizability to other populations is cautioned. Generalizing qualitative findings is usually not a goal of qualitative research, but rather, there is more focus on transferability. To address this, we aimed to provide rich and detailed descriptions of the participants' views and experiences and the context of this study.

Another limitation stemmed from the fact that there is almost no literature on contextualized Knowledge to Action (KTA). This was problematic as contextualization is one of the most important and distinctive features of CHRSP. This meant that the literature review focused more on theories and models of KT and KTA than on actual KT efforts.

This study focused on peer-reviewed work in knowledge translation and healthcare, which may exclude relevant publications from other fields or languages. Additionally, the validity of results may be impacted by the growing interest in knowledge translation in healthcare and the evolving landscape of research in this area.

5.7 Knowledge Translation Strategy

A knowledge translation strategy is recommended to ensure the study's findings are disseminated and translated into practice where appropriate. The strategy should include engagement with stakeholders to identify their needs and concerns, clear communication of the findings to stakeholders, and the development of actionable recommendations for implementation.

The knowledge translation strategy of this study is to disseminate the findings to relevant stakeholders, including NLCAHR, healthcare providers, policymakers, and researchers. The study's findings can inform the development of evidence-based healthcare policies and interventions tailored to the local context in NL.

Dissemination of these findings will take place on a variety of levels. A summary of the findings will be sent to the participants. There will be attempts for peer-reviewed academic journal publications and presentations at academic conferences. The findings will be presented to Memorial University of Newfoundland as part of the knowledge-sharing mobilization strategy. The study could also be forwarded to the NLHS stakeholders and appropriate members of the Provincial Government, who have affiliations in the health and education sectors. The findings of this thesis could be used to aid in further CHRSP reports.

5.8 Specific Recommendations to Support Contextualization and Applied Health Services Research NL

The field of health research synthesis has witnessed substantial growth in recent years, driven by the need for evidence-based decision-making in healthcare. Contextualized health research programs, specifically designed to address the unique contextual factors influencing health outcomes, have emerged as a promising approach. As these programs continue to evolve and gain traction, evaluating their effectiveness and impact is crucial. This section discusses the contribution of evaluating a contextualized health research synthesis program to the existing knowledge and literature in this area, shedding light on its significance and potential implications.

1. Advancement of Existing Knowledge on Contextualized Health Research: The evaluation of CHRSP contributes to the existing knowledge and literature by gaining insight and feedback from participants and staff of a contextualization health synthesis research

program. By examining the effectiveness, appropriateness, and applicability of specific synthesis methods within a contextualized framework, this evaluation expands our understanding of how to best integrate diverse types of evidence, including qualitative and quantitative data, in an informed and contextually relevant manner.

2. Insights into Contextual Factors and Health Outcomes: One of the primary contributions of evaluating CHRSP is the ability to generate insights into the influence of contextual factors on health outcomes. By considering the unique characteristics of different populations, settings, and socio-cultural contexts, these programs allow for a nuanced understanding of how contextual factors shape health interventions and their effectiveness. Evaluation studies can provide valuable evidence on the contextual determinants that impact health outcomes, thereby informing policy and practice decisions and contributing to the existing knowledge on context-sensitive interventions.
3. Identification of Implementation Challenges and Facilitators: The evaluation of CHRSP contributes to the existing literature by identifying implementation challenges and facilitators specific to the contextual factors under consideration. Through rigorous evaluations, researchers can explore the barriers and enablers that influence the adoption of health interventions, as well as their scalability, and sustainability within specific contexts. This knowledge can guide the design and implementation of more effective strategies to overcome context-specific challenges, ultimately enhancing the translation of research into practice.
4. Strengthening Evidence-Based Decision-Making: By evaluating CHRSP, the existing knowledge and literature in evidence-based decision-making can be strengthened. These evaluations provide valuable insights into the impact of synthesized evidence on

decision-making processes, including policy formulation, resource allocation, and clinical guidelines. By assessing the relevance, credibility, and usability of synthesized evidence within specific contexts, evaluation studies contribute to the understanding of how evidence-based decisions can be tailored to meet the unique needs and priorities of different populations and settings.

5. Monitoring and Evaluation: Establishing mechanisms to track the impact of the knowledge translation efforts, such as assessing changes in policy or clinical practice and gathering feedback from stakeholders.

The evaluation of CHRSP has the potential to contribute to the existing knowledge and literature in this field. By providing insights into contextual factors and health outcomes, identifying implementation challenges and facilitators, and strengthening evidence-based decision-making, evaluation studies enhance our understanding of how to synthesize research evidence within contextually relevant frameworks effectively. The findings from these evaluations can inform the development of more robust and applicable synthesis methods, ultimately contributing to improved health outcomes and evidence-informed healthcare practice.

5.9 Future Research Directions

Future research directions in contextualized health research synthesis should focus on advancing KT methodological approaches, conducting long-term assessments of contextual factors and health outcomes, integrating implementation science approaches, and exploring the impact on health equity. These research areas will contribute to the existing knowledge and literature by enhancing the quality and validity of synthesis methods, providing deeper insights into the influence of contextual factors, guiding implementation strategies, and promoting equitable healthcare access and outcomes. Addressing these research gaps can further advance evidence-based decision-making and improve health outcomes in diverse contexts.

Future research should focus on revisiting the concept of knowledge translation from a practitioner's perspective to better understand the drivers and methods of knowledge translation and their transferability across different contexts and domains.

The evaluation of a contextualized health research synthesis program has demonstrated its significance in advancing evidence-based decision-making in healthcare. As the field of contextualized health research continues to evolve, it is essential to identify key areas for future research that can further enhance our understanding of the effectiveness and impact of these programs. This section discusses potential research directions that can contribute to the existing knowledge and literature in contextualized health research synthesis, providing valuable insights and implications for future practice.

5.9.1 Comparative Evaluation of Methodological Approaches

Future research should focus on conducting comparative evaluations of different methodological approaches used in contextualized health research synthesis. This research could explore various synthesis methods' strengths, limitations, and applicability within specific contexts. By systematically comparing different approaches, researchers can identify the most effective and suitable methods for integrating diverse types of evidence, such as qualitative, quantitative, and mixed-methods data, in a contextually relevant manner. Such studies would contribute to methodological advancements and guide researchers and practitioners in selecting appropriate synthesis methods for their specific contextual research questions.

5.9.2 Long-term Assessment of Contextual Factors and Health Outcomes

To deepen our understanding of the influence of contextual factors on health outcomes, future research should focus on conducting long-term assessments within specific contexts. By undertaking longitudinal studies, researchers can examine how contextual factors evolve over time and their impact on health interventions and outcomes. These studies could investigate the dynamic nature of contextual factors, their interaction with interventions, and how they contribute to sustained health improvements. Such research would provide valuable insights into the timely aspects of contextualized health research synthesis and contribute to developing interventions that are responsive to changing contexts.

5.9.3 Implementation Science Approaches in Contextualized Research Synthesis

The integration of implementation science approaches into contextualized health research synthesis represents a promising avenue for future research. By adopting implementation science frameworks and methodologies, researchers can systematically assess the implementation processes, factors influencing successful implementation, and the scalability of context-sensitive interventions. This research could focus on identifying implementation challenges and facilitators specific to different contexts and populations. By leveraging implementation science approaches, researchers can bridge the gap between research and practice, developing evidence-based strategies that can be effectively implemented in diverse real-world settings.

5.9.4 Impact of Contextualized Research Synthesis on Health Equity

Future research should also explore the impact of contextualized health research synthesis on health equity. This research could examine how context-sensitive interventions and evidence-based decision-making contribute to reducing health disparities within specific populations and settings. By assessing the effectiveness of these programs in addressing the social determinants of health and promoting equitable healthcare access and outcomes, researchers can provide evidence for policymakers and practitioners to develop interventions that prioritize health equity. Such studies would strengthen the evidence base for context-sensitive approaches and their potential to advance global health equity.

5.10 Discussion

Overcoming misconceptions, silo-thinking, and self-interest among stakeholders presents a crucial obstacle to moving knowledge into action. These stakeholders encompass politicians and managers who prioritize personal beliefs over research evidence, healthcare providers who dismiss the applicability of research findings, and researchers who gravitate towards concepts aligning with their academic background.

To enhance the continuity of researchers in the field, it is essential to establish coordinated and long-term research programs. Research centers or networks dedicated to knowledge translation and healthcare improvement require the collaboration of scientists with diverse backgrounds, enabling them to collaborate on consecutive projects over an extended duration adding to the continuity of research efforts. Effective programmatic research necessitates various factors, including institutional funding for core staff, multidisciplinary team composition, consistent funding opportunities for research projects, career prospects for early and mid-career researchers, and integration into locally relevant infrastructures such as routine quality improvement in hospitals. The ultimate objective of research on knowledge implementation in healthcare is to enhance the effectiveness of healthcare practice interventions, thereby leading to improved care and outcomes for patients and populations.

5.11 Concluding Remarks

This study highlights the importance of contextualization in improving healthcare services and outcomes, particularly in NL. The study's findings demonstrate the positive impact of the CHRSP program on healthcare in NL. This is demonstrated by the themes that emerged from the thematic analysis. Providers, frontline staff, and decision-makers discussed how CHRSP influenced decision-making and fostered stakeholder collaboration and engagement. The recommendations can help improve the program's impact on decision-making and encourage the development of evidence-based healthcare policies and interventions.

The findings of this study highlight the importance of engagement in driving the research process, disseminating the research findings, and maintaining collaboration among stakeholders in the CHRSP process. While there are challenges to maintaining engagement, stakeholders must find ways to overcome them to ensure the success of the research process. The recommendations proposed in this study can serve as a guide to address the challenges and enhance engagement in CHRSP projects.

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Appendix 1 – Additional CHRSP Information

CHRSP Champions' Handbook

The CHRSP team works with their valued CHRSP champions within each Regional Health Authority and the Departments of Health and Community Services and Children, Seniors, and Social Development to strengthen collaboration.

Under their CEO's or Deputy Minister's direction, these champions support evidence-informed decision-making by helping identify topics for study and assisting with CHRSP studies on behalf of the NL healthcare system. Typically, these CHRSP champions hold a management position and have a good understanding of and connection to the entire organization.

These CHRSP champions have the ability and authority to act as liaisons and communicators for CHRSP within and between their organizations and CHRSP. The idea is to develop an inclusive process for working together to support evidence-informed decision-making in health. CHRSP champions are leaders within each RHA and the provincial government who help facilitate the internal processes needed to support the production of locally relevant and contextualized health research.

CHRSP Patient and Caregiver Advisory Council

Aside from working closely with the RHAs and provincial government, the CHRSP team works closely with patients and caregivers. In recognition of the value that patients' and caregivers' perspectives add to the research process, CHRSP has developed a Patient and Caregiver Advisory Council (PCAC). Engaging patients and caregivers bring a unique perspective to the research process by better understanding the issues and concerns patients and caregivers face within NL. The first PCAC was established in the Fall of 2017.

The Council contributes to CHRSP by proposing research themes. The Council also helps to improve the accessibility of our reports to a broader audience by participating in research teams as advisors and consultants. The Council also provides advice and guidance on research considerations and contextual factors of importance to patients and caregivers.

The Council is comprised of 10 volunteers who were selected based on lived experience as a patient or caregiver, having an interest in research and in the use of research to support decision-making, and having both the willingness and time to respond promptly to requests to review research materials and to offer feedback. The group also contains members who live within all four RHAs, bringing diverse perspectives about health and healthcare from across NL.

The PCAC enhances the CHRSPs contribution to evidence-informed policy and decision support by bringing the people directly affected by our province's healthcare policies into the CHRSP research process.

CHRSP has since disbanded this council. They now collaborate with NL-SUPPORT, CHRSPs, and their own Research Exchange Group (REG) network when patient consultations are required. The CHRSP team works with NL SUPPORT to provide patient advisory services.

CHRSP Champions

The CHRSP team has recruited a group of CHRSP champions from each RHA and the provincial government to strengthen the communication linkages between CHRSP and its stakeholders. Establishing this relationship facilitates the internal processes needed to support the production of locally relevant contextualized health research syntheses. CHRSP champions are involved in the inclusive process of supporting evidence-informed decision-making in health within the province. Champions help strengthen communication linkages. The CHRSP champions are recruited from each RHA and Provincial Government under the direction of the

CEO and Deputy Minister. The CHRSP champions facilitate the internal processes needed to support the production of locally relevant contextualized health research synthesis. They provide an essential link between the CHRSP planning team and their respective organizations and assist in disseminating communications from CHRSP to their organizations. The CHRSP champions also provide info to the CHRSP planning team to improve the program, help identify team members for specific CHRSP projects, and assist in disseminating CHRSP reports.

Appendix 2 – Search Strategy

PubMed, EMBASE, ERIC, EBSCO, Cochrane Library, and Memorial University's library databases were searched for relevant publications. In consultation with a Memorial University Librarian, search terms were generated for database searches. The librarian recommended PubMed and Embase because these two databases contain relevant literature on health policy research. See Table 2 for a list of key search terms and databases used.

The inclusion criteria were the English language, peer-reviewed, primary research journal articles, and gray literature, including government reports, review articles, commentaries, and editorials. Publications in a language other than English, books, and dissertations were excluded. A time frame of the years 2000 to 2022 was applied to the literature search.

The search used the critical term "Contextualized Health Research" coupled with each of the following terms: "Health Services Research," "Applied Health Services Research," "Decision Makers," and "Researchers." These searches were supplemented by reviewing the bibliographies of the articles identified in the database search and by Google Scholar internet searches. Although no similar approaches to developing contextualization reports for health system partners were identified in Canada, there are similar organizations that provide different types of high-quality, independent evidence to inform healthcare decision-making, such as the Cochrane Library, COVID-19 Evidence Network to support Decision-making (COVID-END), Population Data BC, and the Applied Health Research & Knowledge Mobilization Lab at Dalhousie University. The literature review provided information which informed the development of this report.

The initial search yielded 148 records and 10 through other sources such as Google searches and hand-searching of reference lists. Retrieved articles underwent a four-stage screening process. Titles and abstracts were assessed to determine eligibility for inclusion.

Papers not based on original research, such as book reviews, editorials, and commentaries, were excluded because they typically fail to detail methodology or findings adequately. Also excluded were some non-peer-reviewed papers, including professional magazine articles and dissertations. Some non-peer-reviewed papers, such as government documents and reports, were included. Reports that focused primarily on methodology or research protocols were excluded.

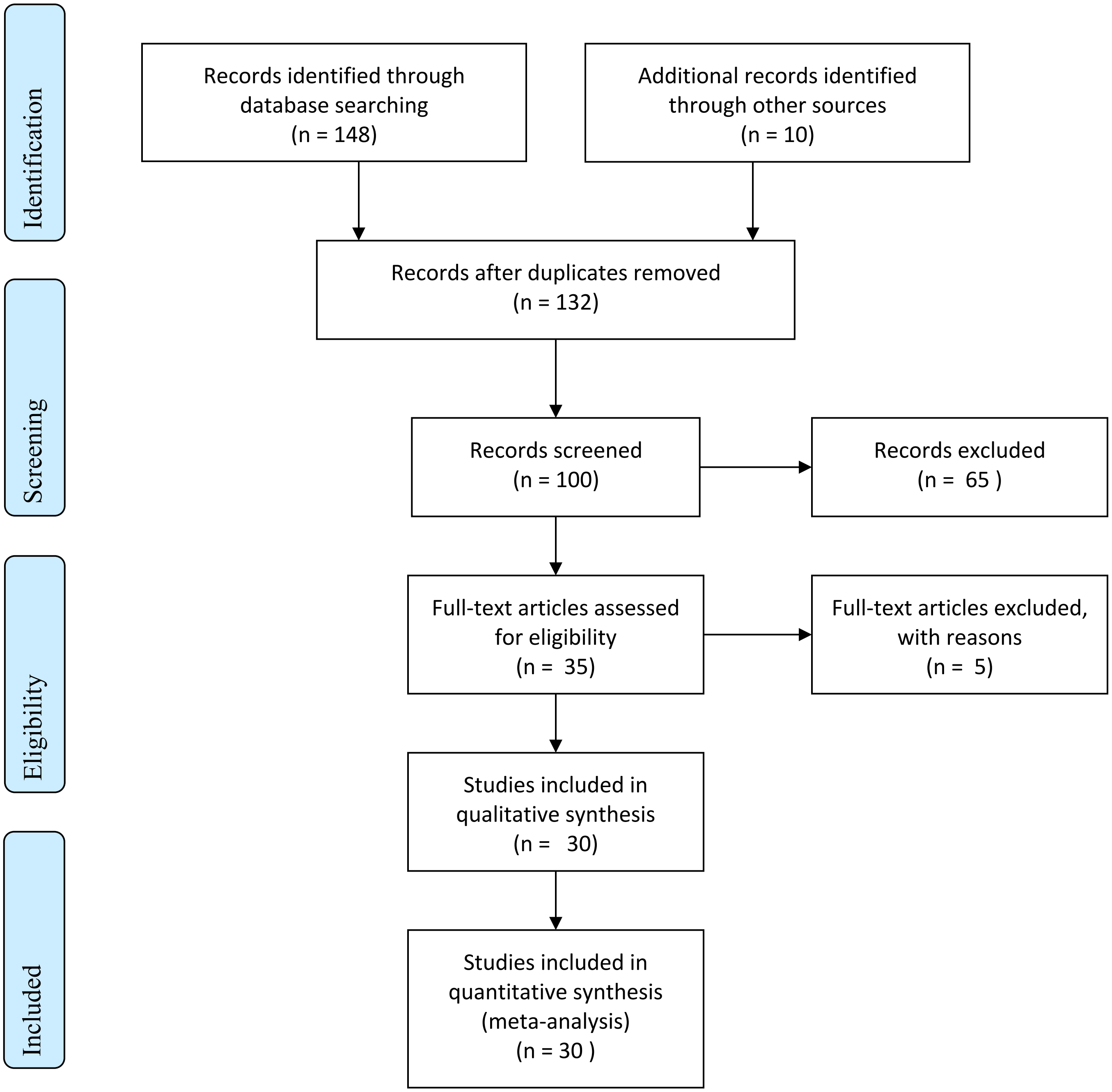
After screening out records that did not satisfy the inclusion/exclusion criteria, 30 records remained. A full-text review of these articles was completed.

A narrative literature review framework was used to weigh the evidence and aggregate findings from different studies to develop final recommendations. A narrative literature review is a comprehensive, critical, and objective analysis of the current knowledge on a topic (Milat & Li, 2017). A narrative literature review is essential to the research process and helps establish a theoretical framework and focus or context. This literature review aimed to identify patterns and trends in the literature to identify gaps or inconsistencies in a body of knowledge.

Table 5. Key Search Terms and Literature Databases Search

Databases Searched	Search Terms
PubMed Embase ERIC EBSCO Cochrane Library Memorial University Library Databases	Policy Making
	Policy
	Policies
	Data
	Evidence Based Practice
	Evidence Based
	Integrated Knowledge Translation
	Knowledge Translation
	Contextualized
	Contextualization
	Policy making
	Decision making
	Evidence based decision making
	Health services research

PRISMA 2009 Flow Diagram



From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). *P*referred *R*eporting *I*tems for *S*ystematic Reviews and *M*eta-*A*nalyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

Appendix 3 – Canadian Organizations Conducting iKT

Canadian organizations that conduct integrated knowledge translation (iKT) play a pivotal role in bridging the gap between research and practice in the field of health. By emphasizing collaboration between researchers, healthcare practitioners, and policymakers, iKT ensures that health research is contextualized and tailored to the specific needs of communities and populations. This approach not only enhances the relevance and applicability of research findings but also contributes to more effective and responsive healthcare interventions.

The Institute for Clinical Evaluative Sciences

The Institute for Clinical Evaluative Sciences (ICES) is an independent, non-profit organization researching Ontario's health care system. ICES uses administrative health data to generate evidence-based knowledge intended to inform health policy and improve patient outcomes. ICES strongly focuses on knowledge translation, partnering with health system stakeholders to ensure that research findings are disseminated and implemented effectively.

What we can learn from ICES: ICES has demonstrated the importance of partnerships between researchers and health system stakeholders in implementing research findings. ICES successfully translates knowledge into action by involving policymakers and clinicians in the research process (The Institute for Clinical Evaluative Sciences, 2023).

The Manitoba Center for Health Policy

The Manitoba Center for Health Policy (MCHP) is a research center based at the University of Manitoba specializing in population health research. MCHP uses a data-driven approach to identify health policy issues and develop evidence-based solutions. MCHP strongly emphasizes knowledge translation, working closely with policymakers and health system stakeholders, and providing analysis to support policy development and service planning to ensure research findings are implemented.

What we can learn from MCHP: MCHP has demonstrated the importance of using data to inform policy decisions. MCHP has successfully translated knowledge into action by providing policymakers with evidence-based information and developing and maintaining a comprehensive population-based data repository on behalf of the province of Manitoba for use by the local, national, and international research community to describe and explain patterns of healthcare and profiles of health and illness, facilitating interdisciplinary research in areas such as health care, education, social services, and justice.

The Canadian Agency for Drug Technology in Health

The Canadian Drug and Health Technology Agency (CADTH) is an institution in the Canadian healthcare landscape responsible for evaluating health technologies and medications to ensure their safety, efficacy, and cost-effectiveness. CADTH plays a crucial role in supporting evidence-based decision-making by providing comprehensive assessments of various health interventions and treatments. CADTH stands out because of its exemplary approach to knowledge translation and contextualized health research.

What can we learn from CADTH: CADTH effectively bridges the gap between research findings and practical application and ensures that healthcare providers, policymakers, and patients can access and understand the latest scientific evidence, ultimately leading to better-informed healthcare choices and improved patient outcomes. The agency's commitment to transparent communication and collaborative partnerships also serves as an essential model for other healthcare systems looking to enhance knowledge translation and the meaningful integration of research into real-world practices (CADTH, 2023).

Health Technology Assessment Unit (TAU) at McGill University

Health Technology Assessment Unit (TAU) at McGill University is a research center that evaluates health technologies' effectiveness and cost-effectiveness. TAU uses a multidisciplinary approach to generate evidence-based knowledge that can inform health policy and improve patient outcomes. HTA strongly focuses on knowledge translation, working closely with policymakers and health system stakeholders to implement adequate research findings.

What we can learn from TAU: TAU has demonstrated the importance of using a multidisciplinary approach to health services research. By bringing together experts from different fields, TAU has successfully generated evidence-based knowledge relevant to helping advise the hospital in difficult resource allocation decisions, using an approach based on sound, scientific technology assessments and a transparent, fair decision-making process.

Institut National D'excellence en Santé et en Services Sociaux (INESSS)

The Institut national d'excellence en santé et en services sociaux (INESSS) is a prominent organization in Quebec dedicated to advancing excellence in health and social services. INESSS plays a pivotal role in the healthcare system by fostering innovation, conducting research, and promoting knowledge translation to improve healthcare outcomes and the quality of services delivered to the population of Quebec.

Key Functions of INESSS include health technology assessments, clinical practice guidelines, research and knowledge synthesis, and knowledge translation. INESSS conducts rigorous assessments of new healthcare technologies, drugs, and interventions to determine their clinical and cost-effectiveness. These assessments help inform healthcare decision-makers about which treatments should be adopted, thus ensuring the efficient allocation of resources.

INESSS develops evidence-based clinical practice guidelines that serve as valuable resources for healthcare professionals. These guidelines promote standardized, effective, and safe practices, improving patient care.

INESSS actively engages in research activities, including systematic reviews and knowledge synthesis, to consolidate and disseminate the latest scientific evidence. This research supports healthcare professionals in making informed decisions.

What can we learn from INESSS: INESSS offers several valuable lessons in knowledge translation that can be applied in various healthcare settings, such as interdisciplinary collaboration, evidence-based decision-making, stakeholder engagement, clear communication, and monitoring and evaluation. INESSS brings together experts from various disciplines, including healthcare professionals, researchers, policymakers, and the public. Involving these groups in decision-making processes enhances the acceptability and implementation of recommendations. INESSS focuses on clear and effective communication of research findings and recommendations. This includes the development of accessible clinical guidelines and decision-support tools for healthcare professionals.

This interdisciplinary approach is essential for effective knowledge translation, as it ensures that different perspectives and expertise contribute to the decision-making process. INESSS emphasizes the importance of making decisions based on robust evidence. This commitment to evidence-based practices promotes better patient outcomes and resource allocation.

INESSS continually monitors the impact of its recommendations on healthcare practices and outcomes. This commitment to evaluation ensures that knowledge translation efforts are effective and can be adjusted as needed. INESSS in Quebec serves as a model for effective knowledge translation in healthcare. By prioritizing evidence-based decision-making, interdisciplinary collaboration, stakeholder engagement, clear communication, and ongoing evaluation, they contribute to improving healthcare quality and outcomes in the province of Quebec. These principles can serve as valuable lessons for other regions and healthcare organizations aiming to enhance their knowledge translation efforts.

Applied Health Research & Knowledge Mobilization Lab

The Applied Health Research & Knowledge Mobilization Lab (AHRKM) at Dalhousie University is a research center specializing in knowledge translation and health services research. AHRKM uses a community-based approach to research, working closely with community partners to identify health issues and develop evidence-based solutions. AHRKM strongly focuses on knowledge translation, working closely with community partners and health system stakeholders to ensure the effective implementation of research findings.

What we can learn from AHRKM: AHRKM has demonstrated the importance of community engagement in knowledge translation. AHRKM has successfully synthesized relevant and applicable research to local contexts by working closely with community partners.

The McMaster Health Forum

The McMaster Health Forum is a renowned organization based at McMaster University. Established in 2007, the McMaster Health Forum is dedicated to advancing the field of health policy and healthcare decision-making through its innovative approaches to knowledge translation, evidence-informed policy, and public engagement. It serves as a model for knowledge translation in healthcare and policy contexts (McMaster University, 2023).

The McMaster Health Forum is a pioneer in promoting evidence-informed policymaking. It facilitates the synthesis of high-quality research evidence and translates it into formats that are accessible and actionable for policymakers. This approach ensures that healthcare decisions are grounded in the best available evidence.

The Forum operates a rapid response program that addresses pressing policy questions. It provides timely, evidence-based responses to decision-makers, enabling them to make informed choices on issues of immediate concern.

The McMaster Health Forum actively engages stakeholders in its activities, including policymakers, healthcare professionals, researchers, and the public. This inclusive approach ensures that a diverse range of perspectives informs healthcare decisions.

What We Can Learn from the McMaster Health Forum: The McMaster Health Forum offers several valuable lessons in knowledge translation. The Forum's rapid response program demonstrates the importance of providing timely and relevant evidence to policymakers. Quick access to evidence ensures that decisions are made with the most current information available.

The Forum excels in translating complex research findings into clear and accessible formats. This ability to communicate research findings effectively is crucial for knowledge translation. Actively involving stakeholders, including policymakers and the public, in the research and decision-making processes enhances the acceptability and relevance of evidence. Engaging those who will be directly affected by policy decisions is vital.

The McMaster Health Forum's approach to knowledge translation serves as a model for effectively bridging the gap between research evidence and policy action in healthcare. Their emphasis on evidence-informed policymaking, rapid response, stakeholder engagement, capacity-building, and public involvement offers valuable insights for organizations and institutions seeking to improve knowledge translation efforts and enhance the impact of research on healthcare policy and practice.

Swift Efficient Application of Research in Community Health

Swift Efficient Application of Research in Community Health (SEARCH) Canada is a public service organization based in Alberta dedicated to promoting knowledge access, creation, and utilization among health managers, providers, and their organizations. Its primary focus is on developing capacities and communities of practice-based learning and innovation within the practice and research sectors throughout the province. SEARCH supports a network of health professionals, researchers, and their respective organizations, all committed to generating new knowledge and translating it into improved healthcare decision-making. The organization's framework for learning and knowledge translation (KT) encompasses three interconnected areas: choosing evidence, creating evidence, and using evidence, all while considering the complex context in which it will be applied. SEARCH values partnership and recognizes both service and academic organizations as integral components of the health system.

A core activity of SEARCH is its cohort-based learning program, which emphasizes the practical value of applied health research, KT, and knowledge exchange across diverse sectors. The program combines residential sessions, practice-based research projects, and web-based learning tools to facilitate long-term and sustainable capacity building for individuals and their organizations. The academic sector's capacity is strengthened through a core faculty team and additional experts drawn from faculties of medicine, nursing, business, and the public and private sectors. Faculty members play a continuous role in program design and delivery, establishing enduring relationships with participants. An online communication system fosters knowledge sharing among participants and a lifelong commitment to learning. Support for utilizing evidence to enhance healthcare decision-making extends beyond the 24-month program duration.

What can we learn from SEARCH: SEARCH's approach prioritizes sustained learning opportunities, ongoing access to knowledge sources, and collaborations between research and practice expertise, all while securing executive buy-in. These elements are crucial for successful engagement in the exchange and utilization of evidence, leading to lasting impact. The organization's integrated solution demonstrates the value of building bridges between research and practice, strengthening research capabilities within health organizations, fostering new expertise for mid-career professionals across disciplines, and supporting academics dedicated to working with the service delivery system. The ultimate outcome is a research-savvy health system, more inclined to generate research questions from practice, collaborate on research projects, and apply new knowledge to drive policy and practice changes.

Program of Research to Integrate the Services for the Maintenance of Autonomy (PRISMA)

The objective of the Program of Research to Integrate the Services for the Maintenance of Autonomy (PRISMA) project is to enhance the continuity of care and integration of health services for vulnerable elderly individuals in Canada (Johnson & Vindrola-Padros, 2017). The project aims to develop, implement, and assess mechanisms and tools for achieving this goal. The PRISMA model of Integrated Service Delivery (ISD) encompasses all organizations, whether public, private, or volunteer-based, that offer care and services to frail elders and is more of a delivery system than an initiative to support health policy decision-making. It comprises six key components: coordination mechanisms at the governance, management, and clinical levels; a centralized access point for all services; case management; personalized service plans; a unique assessment tool with a case-mix classification management system; and a computerized clinical chart.

The PRISMA project involves two research teams collaborating with directors, managers, and health and social services professionals. PRISMA is a distinctive partnership that brings together researchers, policymakers, managers, and clinical practitioners. They work collectively to define research objectives, develop protocols, conduct research, and introduce findings into the field through innovative programs and services. In each region, PRISMA teams meet regularly to design and implement experiments, monitor and analyze results, and devise strategies for implementation. There is an ongoing exchange process to monitor progress and address emerging needs.

PRISMA has created and implemented numerous tools to support integrated service delivery and facilitate the adoption of new professional practices and organizational changes. For example, during one project implementation, case managers and clinical practitioners requested a simple screening tool to identify frail elders who might require ISD services. In response, the research team designed and validated the PRISMA-7 questionnaire. This tool is currently used on a telephone health line, by voluntary agencies, and in clinical settings to identify older individuals who should be referred to case managers for comprehensive assessments.

What can we learn from PRISMA: Close collaboration with policymakers, managers, and clinicians ensures the relevance of the research conducted by the PRISMA group and promotes its swift implementation in the healthcare system. However, synchronizing research with services and policy can be challenging. Researchers relinquish full control over the experiment, necessitating the establishment of mutual trust to ensure policymakers and managers comprehend the research agenda. Budget limitations can also slow the implementation and adoption of certain tools, leading to delays in various research projects. Furthermore, there have been instances where knowledge translation efforts were overly successful, prompting some regions to prematurely implement PRISMA work without waiting for results. This also occurred at the policy-making level, potentially compromising evaluation research if the selected comparison areas promptly adopted the PRISMA model.

This project exemplifies how research can influence policy and improve the Canadian health and social system. The PRISMA group has demonstrated an effective approach to combining research with action to transform research data rapidly and efficiently into new service delivery methods. Simultaneously, it ensures that decisions made by government officials and managers are based on reliable data.

Appendix 4 – Recruitment Email

Dear **[PARTICIPANT NAME],**

I am conducting a research study on the Newfoundland and Labrador Centre for Applied Health Research's Contextualized Health Research Synthesis Program as part of my MSc in Applied Health Services Research (MAHSR), and I am seeking research participants.

You have been selected to participate in a research study to evaluate the Contextualized Health Synthesis Research Program (CHRSP) because you were involved with **[NAME OF CHRSP REPORT] in [YEAR].**

The CHRSP has been an important initiative introduced by NLCAHR to reduce the knowledge to action gap with evidence that is contextualized for the province of Newfoundland and Labrador and, specifically to its four Regional Health Authorities (RHAs), the Department of Health and Community Services and the Department of Children, Seniors and Social Development.

With the CHRSP operating in its 15th year, it is a useful time to examine the impact this program has had, how it can strengthen its mandate within the context of health system reform in the province and what lessons can be shared with other jurisdictions facing the same challenge of trying to embed tailored evidence into practice.

We would also like to examine how the program has changed over time as it sought to adapt to identified challenges and opportunities. We anticipate that there is much to learn and much to share.

Using a case study approach, I will examine the activities of the CHRSP, largely through key informant interviews with current and past stakeholders to examine where this program of research has had its most significant impact and where this could be strengthened. The process will include examining how projects are initiated and conducted, how findings are contextualized to the province and the impact these projects have had on health care delivery and policy.

The goal of this study is to document the key lessons learned from the CHRSP program and will identify potential pathways for increased impact in the future. The broad idea would be to look at the process the CHRSP follows and the impact it's had through interviews with past and current stakeholders to see how it could be improved going forward.

The interview should take approximately 45-60 minutes to complete, and participation is voluntary. You will be asked general questions about your experience participating in the CHRSP, and how it has influenced your organization. If you agree to participate, I will follow up with a consent form and the interview questions and we can schedule a time to meet virtually.

You may refuse or withdraw from this study at any time with no consequence. Your consent to participate does not waive your right to legal recourse in the event of research-related harm.

The personal information you provide is governed in accordance with the Privacy Act and collected under the authority of Memorial University's Privacy Act. Personal information is collected in accordance with Memorial University's Research Ethics Board. Your responses will be given a unique ID number, all direct identifiers will be removed, and other steps will also be taken so that the risk of identification is extremely low. Your de-identified information will only be known to myself and my thesis supervisor, Dr. Richard Audas. If you have questions regarding your rights as a research participant please contact the Health Research Ethics Authority at (709) 777-6974 or info@hrea.ca.

If you agree to participate in this interview, could please reply to this email by [DATE] with your response. Nil responses are appreciated.

Please let me know if you have any questions and thank you for your consideration.

Best regards,

Daniel Conway

MSc. Candidate, Applied Health Services Research Program
daniel.conway@mun.ca
(709) 689-6829

Appendix 5 - Interview Protocol

1.) Where have the CHRSP reports been helpful for your organization? Where have they not been beneficial? Please describe the impact or lack of impact the CHRSP report had within your organization.

- *We can use this question to triage projects based on their impact within an organization (was it information that was just nice to know, or did the results impact the organization).*
- *Impact can mean either making a good decision by implementing a new measure, or making a good decision by not implementing a certain measure (doing nothing).*

2.) How has the CHRSP helped shape decisions (either good or bad) within your organization? (*either to do something or move forward with a decision, or to not do something or not move forward with a decision*)

3.) Can you identify where the CHRSP reports have had an impact on the healthcare system in NL? Specifically, within your organization?

4.) Is there anything missing from the CHRSP reports? Would anything make it a more useful document for knowledge users?

5.) How was the engagement process? (from start to finish).

- Follow up: Could the CHRSP staff have done anything to engage participants more fully?

6.) What impact did contextualization have on decision-making? If it had an impact, why? And if it didn't have an impact, why not?

- *Here we want to find out if contextualization is always necessary or if evidence synthesis is sometimes enough. We can ask participants if they think contextualization was beneficial towards their organization.*

7.) How do health system partners perceive the difference between Rapid Evidence Reviews (RER's) and CHRSP reports? (Does RER generate as much value as EIC reports? Without the contextualization, would CHRSP work as well?

8.) How do the CHRSP reports factor into decision-making? Are they the main source for decision-making? Or are they only briefly consulted?

9.) Is there anything that I haven't asked you that you think I should have that you would like to discuss? Or is there anything else you would like to add/address?

Note that since these are semi-structured interviews, some responses may warrant further follow-up and others may be skipped, depending on the response of the participant.

Appendix 5 - Interview Protocol for NLCAHR Staff

1.) Can you identify a specific CHRSP project or multiple projects that were impactful within NL? Can you describe that impact? Can you identify a project that was not impactful? Can you describe why you think this project was not impactful?
    - We can use this question to triage projects based on their impact within an organization (was it information that was just nice to know, or did the results actually impact the organization).
    - Impact can mean either making a good decision by implementing a new measure, or making a good decision by not implementing a certain measure (doing nothing).

2.) Is there any content missing from the CHRSP reports? Would any additional content make it a more useful document for knowledge users/decision-makers?

3.) How could the engagement process be improved?
    - Follow-up: Could the CHRSP staff have done anything to engage participants more fully?

4.) What is the role of contextualization, and how has it influenced decision-making regarding the decisions under consideration?
    - Here we want to find out if contextualization is always necessary, or if evidence synthesis is sometimes enough. We can ask participants if they think contextualization was beneficial to their organization.

5.) Are there any areas where CHRSP can improve its knowledge translation?

6.) How has the CHRSP evolved since you have been involved with the program?
    - i.e., methods, approaches, frameworks, resources, dissemination, etc.

7.) Is there anything that I haven't asked you today, or that we haven't discussed yet that you think we should have? Or is there anything else you would like to add outside of my questions?

Note that since these are semi-structured interviews, some responses may warrant further follow-up and others may be skipped, depending on the response/experience of the participant.

Appendix 6 - Informed Consent Form

Title: A Case Study of the Impact of NLCAHR's Contextualized Health Synthesis Research Program (CHRSP) on Healthcare in Newfoundland and Labrador.

Researcher(s): Daniel Conway
Faculty of Medicine - Community Health and Humanities
Email: daniel.conway@mun.ca

Supervisor: Dr. Rick Audas
Faculty of Medicine - Community Health and Humanities
Room 2842
Email: raudas@mun.ca
Phone: 864-6009

You are invited to take part in a research project entitled "A Case Study of the Impact of NLCAHR's Contextualized Health Synthesis Research Program (CHRSP) on Healthcare in Newfoundland and Labrador".

This form is part of the process of informed consent. It should give you an overview of what the research is about and what your participation will involve. It also describes your right to withdraw from the study at any time. To decide whether you wish to participate in this research study, you should understand enough about its risks and benefits to be able to make an informed decision. This is the informed consent process. Take time to read this carefully and to understand the information given to you. Please contact the researchers, Mr. Daniel Conway or Dr. Rick Audas if you have any questions about the study or for more information not included here before you consent.

It is entirely up to you to decide whether to take part in this research. If you choose not to take part in this research or if you decide to withdraw from the research once it has started, there will be no negative consequences for you, now or in the future.

Introduction

This research is being conducted by Mr. Daniel Conway, a master's student of the Faculty of Medicine at Memorial University of Newfoundland. My research will be conducted under the supervision of Dr. Rick Audas, a Professor in the School of Medicine and the Director of the Newfoundland and Labrador Centre for Applied Health Research (NLCAHR) at Memorial University.

Purpose of study:

1. The purpose of this study is to examine the impact of CHRSP and contribute new knowledge to the literature using a case study approach.

2. To determine what we can learn from the CHRSP program from a knowledge co-creation standpoint and with the objective of increasing the use of high-quality evidence in decision-making in health care organizations in Newfoundland and Labrador. This will involve a significant amount of desk research and key informant interviews.
3. To identify the research entities and data resources available in Newfoundland and Labrador. Although much of the focus would be on health, the broad view of any policy-making model would follow the social determinants of health and as such would seek to incorporate data from across sectors, ministries and agencies.
4. Identify the benefits and inefficiencies in the link between the CHRSP program and health system partners in Newfoundland and Labrador.

What you will do in this study:
This interview will consist of nine questions regarding the NLCAHR's CHRSP program and how you have interacted with it, how it has or has not benefited your organization, and how it has influenced decision-making within your organization. It is also designed to assess the impact contextualization has had on decision-making within your organization.

Length of time:
Participation in this study will require you to participate in the interview for approximately 45-60 minutes.

Withdrawal from the study:
You will be free to withdraw from this study at any point. To do so you simply need to inform the researcher and you will be free to leave the interview. Any data collected up to that point will not be used in the study and will be destroyed. In addition, you may request for the removal of your data up to one year later, prior to the research being published.

Possible benefits:
The benefit of participating in his study is that you will potentially help improve the CHRSP program by providing feedback. This could potentially help improve the CHRSP process and aid in projects that are better tailored towards an organization/problem. It will also add to the evidence base around best practices for knowledge translation and mobilization.

Possible risks:
The perspective in which these interviews will be conducted will represent the professional views of the interviewees This means that you will be interviewed as a representative of the organization in which you are employed. This could pose ethical implications towards your position within the organization, or the organization itself.

Confidentiality and Storage of Data:

a. Your identity will be guarded by maintaining data in a confidential manner and in protecting anonymity in the presentation of results (see below)

b. All data collected for this study will be kept in a secured location for 5 years, at which time it will be destroyed. Paper-based records will be kept in a locked cabinet in the office of Dr. Audas while computer-based records will be stored on Mr. Conway's password-protected computer. The only individuals who will access this data are those directly involved in this research.

c. Data will be retained for a minimum of five years, as per Memorial University policy on Integrity in Scholarly Research after which time it will be destroyed.

d. The data collected as a result of your participation can be withdrawn from the study at your request up until the point at which the results of the study have been accepted for publication.

e. Representatives from the Health Research Ethics Board may come to look at the study records under the supervision of the study staff to check that the information collected for the study is correct and to make sure the study followed the required laws and guidelines.

Recording of Data:
There will be audio and video recording during the interview using the teleconferencing web platform Zoom. The transcripts will also be member-checked by participants.

Reporting of Results:
Results of this study will be reported in written form (a thesis and manuscripts for publication as well as a summary report) and oral form (thesis defense, invited lectures and conference presentations). Your identity will not be identified in any reports, conferences, or publications without your explicit consent.

Sharing of Results with Participants:
Following completion of this interview please feel free to ask any specific questions you may have about the interview and the use of the responses you have provided. A summary of the key findings will be sent to you following the completion of the thesis.

Questions:
You are welcome to ask questions at any time during your participation in this interview. If you would like more information about this research, please contact any member of the research team.

If you have questions regarding your rights as a research participant please contact the Health Research Ethics Authority at (709) 777-6974 or info@hrea.ca.

Consent:
Your signature on this form means that:

- You have read the information about the research.
- You have been able to ask questions about this interview.
- You are satisfied with the answers to all your questions.
- You understand what the interview is about and what you will be doing.
- You will be free to withdraw from this study at any point. To do so you simply need to inform the researcher and you will be free to leave the interview.
- You understand that any data collected from you up to the point of your withdrawal will be destroyed. You may request for the removal of your data up to one year later, prior to the research being published.

If you sign this form, you do not give up your legal rights and do not release the researchers from their professional responsibilities.

Your signature:
I have read what this study is about and understood the risks and benefits. I have had adequate time to think about this and had the opportunity to ask questions and my questions have been answered.

☐ I agree to participate in the interview understanding the risks and contributions of my participation, that my participation is voluntary, and that I may end my participation at any time.

A copy of this Informed Consent Form has been given to me for my records.

______________________________	______________________________
Signature of participant	Date

Researcher's Signature:
I have explained this study to the best of my ability. I invited questions and gave answers. I believe that the participant fully understands what is involved in being in the study, any potential risks of the study and that he or she has freely chosen to be in the study.

______________________________	______________________________
Signature of Principal Investigator	Date

Appendix 7 – Research Ethics Approval Letter

NEWFOUNDLAND AND LABRADOR
HREB
HEALTH RESEARCH ETHICS BOARD

Research Ethics Office
Suite 200, Eastern Trust Building
95 Bonaventure Avenue
St. John's, NL
A1B 2X5

November 24, 2022

[redacted]

Dear Mr. Conway:

Researcher Portal File # 20231040
Reference # 2022.209

RE: A CASE STUDY OF THE IMPACT OF THE NEWFOUNDLAND AND LABRADOR CENTRE FOR APPLIED HEALTH RESEARCH (NLCAHR) CONTEXTUALIZED HEALTH SYNTHESIS RESEARCH PROGRAM (CHRSP) ON HEALTHCARE IN NEWFOUNDLAND AND LABRADOR

Your application was reviewed by the Co-Chair under the direction of the HREB and the following decision was rendered:

X	Approval
	Approval subject to changes
	Rejection

Ethics approval is granted for one year effective November 24, 2022. This ethics approval will be reported to the board at the next scheduled HREB meeting.

This is to confirm that the HREB reviewed and approved or acknowledged the following documents (as indicated):

- Application, approved
- Recruitment Email, approved
- Consent 22-Nov-2022, approved
- Interview Questions, approved

Appendix 8 – Copyright Permission Figure 1

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Sponsorship	No Sponsorship
Format	Electronic
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Portion	Figures/tables/illustrations
Number of figures/tables/illustrations	1
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Title of new work	A CASE STUDY OF THE IMPACT OF THE NEWFOUNDLAND AND LABRADOR CENTRE FOR APPLIED HEALTH RESEARCH (NLCAHR) CONTEXTUALIZED HEALTH SYNTHESIS RESEARCH PROGRAM (CHRSP) ON HEALTHCARE IN NEWFOUNDLAND AND LABRADOR
Institution name	Memorial University of Newfoundland
Expected presentation date	Dec 2023
Portions	Figure 1 Knowledge to action process

	Daniel Conway [redacted]
Requestor Location	St. John's, NL [redacted] Canada Attn: Daniel Conway
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