HEALTH SYSTEMS INTEGRATION AND TRANSFORMATION THROUGH CROSS-SECTORAL COLLABORATION

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A DISSERTATION SUBMITTED TO THE FACULTY OF GRADUATE STUDIES
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF DOCTOR OF PHILOSOPHY

GRADUATE PROGRAM IN HEALTH
YORK UNIVERSITY
TORONTO, ONTARIO

November 2021

Abstract

Statement of the problem

Health system integration has been a challenge world-wide. There is no one best model to ensure successful integration. The aim of this research is to better understand "how to" build cross-sectoral collaboration for health systems integration and transformation. This study sheds light on understanding the patterns of communication and collaboration among the participants of six newly established teams or "Tables" in one of the Local Health Integration Networks in Ontario (Canada). This naturalistic inquiry study uses a combination of Complex Adaptive Systems and Relational Coordination theories as a theoretical lens to interpret the findings.

Methods

A mixed-methods approach has been used with Methodological Triangulation, which includes quantitative surveys (at baseline and follow-up), qualitative interviews and member checking.

Results

The survey response rate was 62% at Baseline (n=45) and 25% at Follow-up (n=22). Relational Coordination Index Scores was "moderate" with no significant differences between Baseline and Follow-up and no differences between the stakeholders or "Tables". From the twelve interviews, it was revealed that context matters at the local levels. "Rural Tables" with "moderate" Relational Coordination reported "inter-dependency" and the "Suburban Tables" with "weak" Relational Coordination reported "inter-organizational challenges".

Discussion

There is no one-size-fits-all model for health systems integration, and there is no formula for determining whether policy directives should be “bottom-up”, “top-down” or “both”. Based on this conundrum, it is recommended that leaders view health care as a Complex Adaptive System in order to allow the system to transform, change and to develop inter-dependencies, inter-organizational relationships and self-organizing capacities. Policymakers should take this into consideration in policy development and evaluation. New strategies are proposed and further research is needed to inform health systems change.

Conclusion

The findings characterized the process of intentional cross-sectoral collaboration using Complex Adaptive Systems and Relational Coordination theories to understand the patterns of communication and collaboration among the stakeholders and “Tables”. A policy framework on “how to” build cross-sectoral collaboration for health systems integration and transformation has been developed, which adds a much-needed understanding on cross-sectoral collaboration.

Acknowledgements

There are many people whom I am grateful for in helping me throughout this doctoral journey. As I reflect, when I started this Doctoral program in Health, I did not know what to expect. I knew I wanted to make a difference and was eager to learn and understand all I could. I appreciate all the professors and students whom I have encountered that shared the same enthusiasm about learning as I did. Through in-class and informal discussions, I truly value their insights and tremendous support throughout my doctoral education. There are many people who helped me achieve this milestone in completing the doctoral program. I have attempted to include everyone who has helped with through this journey.

First, I would like to express my sincere gratitude to my supervisor and mentor, Dr. Peter Tsasis, who supported me during each step from the start of the program throughout the dissertation and defense. I am blessed to have a supervisor who is very understanding and supportive throughout each of the research phases. He was also instrumental in sharing his expertise in Complexity Theory and introducing me to Relational Coordination Theory. Dr. Tsasis helped me in narrowing the dissertation topic and networking with partners within and outside of academia. I learned so much from Dr. Tsasis, not only about academia but valuable life skills such as collaborating and networking skills.

I would also like to thank my thesis supervisory committee, Dr. Dennis Raphael and Dr. Christo El Morr. Dr. Raphael and Dr. El Morr provided me with guidance on the research process and writing of the dissertation thesis paper. They both provided important feedback to further strengthen the research and challenged my perspectives, which is much appreciated. Thank you for your tremendous guidance from the beginning to completing each milestone of the dissertation. I want to thank the Graduate Program Director Dr. Tamara Daly for advising and supporting the Graduate Students in the Faculty of Health at York University.

Dr. Tsasis introduced me to Dr. Jody Hoffer Gittell's Relational Coordination Theory. When I first heard about the concept of Relational Coordination, I did not know what it was. Working in health care, all I knew was that if I was more "relational" with my colleagues and patients, there was more communication and dialogue, and they appeared more motivated in the task at hand. After reading Gittell's book "Transforming Relationships for High Performance", I was very interested in using the Relational Coordination Theory. Dr. Tsasis and I then connected with Dr. Gittell at Brandeis University. I appreciate Dr. Gittell for agreeing to provide her expertise and share her insights on Relational Coordination.

At that time, I wanted to meet Dr. Gittell to learn more about Relational Coordination. In 2018, I met Dr. Jody Hoffer Gittell and Dr. Anthony Suchman in person at the Relational Coordination Interventions Workshop. Since then, I have been participating as a partner at Relational Coordination Collaborative and had the opportunity to meet partners all around the world. Dr. Peter Tsasis and I had presented at the Relational Coordination Collaborative (RCC) Roundtable for the past four years (2018-2021) and contributed to the RCC Partner Café on Health Systems Transformation (December 7, 2018). Now that my research focused in on Relational Coordination, I am even more interested and motivated to continue this path. I will definitely continue relationships with RCC partners and participate in RCC events.

Upon meeting Dr. Gittell, I have now been introduced to many important researchers, including Dr. Abe Wandersman and Dr. Jonathan Scaccia at Wandersman's Center, Dr. Saleema Moore at Relational Coordination Analytics, and Dr. Amy Edmondson at Harvard University. Special thanks go to Dr. Gittell, Dr. Scaccia and Dr. Moore for providing their generous feedback in helping me to develop the survey and interview guide to meet the needs of the Local Health Integration Network (LHIN).

I would like to thank all the Directors and Leads at the LHIN who gave me the opportunity to do the research in this area. I also want to thank the members of the "Tables"

who participated in this study. The study could not have happened without their support in completing the surveys and dedicating their time to do the telephone interviews.

I want to thank Dr. Bryn Greer-Wootten and Dr. Hugh McCague at York University's Institute for Social Research (ISR) in answering my many questions on analyzing the statistics and providing their suggestions. I also want to thank the ISR for providing relevant and focused workshops, which helped me to develop my research skills. Workshops taken are:

- Accessing Canadian and International Data and Statistics (2019)
- Applied Introduction to SPSS Statistical Software (2019)
- Philosophy and Methodology of Social Science Research (2019)
- Survey Data Analysis (2019)
- An NVivo for Windows Workshop in Qualitative Analysis (2019)

I am extremely fortunate to have friends and colleagues within and outside of the university who would listen to me and provided encouragement every step of the way. Thank you for your support especially to FB, EC, GC, WC, CD, MD, DF, SF, MG, GK, ML, CM, IM, WO, MP, PR, DS, JS, MS, LT, and RV. Lastly, I would like to thank my family, especially husband and children, for their love and support. My husband supported me though all the years and taught me to persevere. I share my accomplishments with my children, who seemed to understand when "Mom" needed to write a paper that is 200 pages long.

Finally, I wish to thank York University for allowing me to complete the PhD program. Upon completion of the PhD, I would like to pursue a career in academia. I have presented my research work orally and published in a journal, which are presented below:

Administrative Sciences Association of Canada - Health Care Management Division

- Health Systems Integration & Transformation Through Cross-Sectoral Collaboration (2021)
- Policy Framework on "How to" Build Cross-Sectoral Collaboration for Health Systems Change (2020)
- Health System Transformation Through Cross-Sectoral Collaboration (2019)
- Scoping Review: Evolution of "Health in All Policies" through inter-sectoral collaboration to address social determinants of health in Canada (2018)
- Scoping Review: Chronic disease integration strategies and impact on healthcare costs/utilization in Canada over the past 10 years (2017)
- A Scoping Review of Theories Used for Interprofessional Teamwork in Healthcare: Implications for Policy, Practice and Research (2015)

Relational Coordination Collaborative Roundtable

- Local Health Integration Networks in Ontario: An Innovative Approach Using a Combination of Relational Coordination & Complexity Theories for Health Systems Change (2021)
- Policy Framework on "How to" Build Cross-Sectoral Collaboration for Health Systems Change (2020)
- Health System Transformation Through Cross-Sectoral Collaboration (2019)
- Sub-Regional Collaborative Tables for Transforming Care Delivery (2018)
- Health System Transformations Around the World (Café, 2018)

Collaborating Across Borders Conference

- Scoping Review of Interprofessional Teamwork Theories in Healthcare: Implications for Policy, Practice and Research (2017)

Journal: Management in Healthcare

- Liu, G., Tsasis, P., & El Morr, C. (2021). Impact of chronic disease integration strategies on healthcare outcomes and costs in Canada: A Scoping Review. *Management in Healthcare***.** 5(4):361-387.
- Liu, G., & Tsasis, P. (2017). Scoping review of inter-professional teamwork theories in health care: Implications for policy, practice and research. *Management in Healthcare***.** 2(1):67-85.

In summary, I have worked as a Case Manager, Research Analyst and Policy Analyst in various healthcare settings in Ontario, Canada. For the past eleven years, I have been working as a Coordinator in the Clinical Informatics / Decision Support Department. Since 2019, I am the Health Care Management Co-Editor of the Administrative Sciences Association of Canada (ASAC) Conference. In addition, I have been asked to be a reviewer for several journals and conferences (i.e., ASAC, Health Services Management Research, and Journal of Health Organization and Management). Academically, I have completed a BSc., Case Management Certificate and MBA. From completing this doctoral degree in Health Policy and Equity, I have a better appreciation regarding the key success and challenges for health systems integration and transformation. In the future, I am interested in developing innovative and sustainable strategies to improve the health care delivery system and patient experience as a researcher.

Contributors and Funding Sources

This work was supported by a dissertation committee including Dr. Peter Tsasis, Dr. Dennis Raphael, and Dr. Christo El Morr at York University, Faculty of Health, School for Health Policy and Management. A Minor Research Grant was received from Dr. Peter Tsasis (2018) to assist with the expenses related for transcription and use of the Relational Coordination Survey, which is proprietary.

Ethics Approval and Renewal

This research was initially approved by York University's Research Ethics Board on April 28, 2017 (Certificate # STU 217-058). As per discussions with Relational Coordination Analytics, it was recommended that the survey be done at baseline and again at follow-up to detect changes after one year, which should improve the rigour of this research study. An amendment was submitted to the Office of Research Ethics. The Ethics Renewal was accepted and approved on May 15, 2018, to conduct the follow-up survey.

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Glossary

Barrier:

Anything that prevents people from understanding each other; or anything used or acting to block someone from doing something; something that prevents something else from happening or makes it more difficult (Cambridge Dictionary)

Retrieved from https://dictionary.cambridge.org/dictionary/english/barrier

Challenge:

A situation of being faced with something that needs great mental or physical effort in order to be done successfully and therefore tests a person's ability. (Cambridge Dictionary)

Retrieved from https://dictionary.cambridge.org/dictionary/english/challenge

Electronic Medical Record (EMR) or Electronic Health Record (EHR):

An electronic (digital) collection of medical information about a person that is stored on a computer. An electronic medical record includes information about a patient's health history, such as diagnoses, medicines, tests, allergies, immunizations, and treatment plans. Electronic medical records can be seen by all healthcare providers who are taking care of a patient and can be used by them to help make recommendations about the patient's care. (National Cancer Institute) Retrieved from https://www.cancer.gov/publications/dictionaries/cancer-terms/def/electronic-medical-record

Enablers and Barriers:

An enabler supports and facilitates implementation, while a barrier impedes implementation. (IGI Global) Retrieved from https://www.igi-global.com/dictionary/enablers-and-barriers/9793

Enablers and barriers are inter-dependent. For example, strong working relationships foster a sense of trust, and are supported by a transparent process and structures that facilitate communication. A transparent process for the work of the collaboration builds trust among its members, contributes to a clear vision, and supports the emergence of leaders. Some enablers and barriers are more important than others. The context for an issue, which is dynamic and evolving, plays a role in how such enablers and barriers are perceived. (Wellesley Institute, 2011, p.9) Retrieved from https://www.wellesleyinstitute.com/wp-content/uploads/2012/09/Reducing-Health-Inequities-Enablers-and-Barriers-to-Intersectoral-Collaboration.pdf

Health System Enabling Factors:

Health system enabling factors are proposed as those core health system functions specified according to the design principles of coordinated/integrated health services delivery, needed to promote the context for optimal services provision. (WHO, 2014, p.11) Retrieved from https://www.euro.who.int/_data/assets/pdf_file/0016/260710/Transforming-health-services-delivery-towards-people-centred-health-systems.pdf)

Integration:

Integration involves making the connections between people and organizations to coordinate program delivery and facilitate change without duplicating services. It is central to the work of regional bodies and provincial ministries (vertical collaboration) and between service sectors at the same level (horizontal). Integration can be labour intensive and complex, but successful outcomes are more likely if there is dedicated staff who make connections between people and resources. Integration is separate from the work of delivering services and programs. It is simply not realistic for those directly involved in delivering programs to also integrate a range of services on an ongoing basis. Others are needed who have the big picture and see the potential

synergy of connecting individuals with particular agencies or ensuring groups and agencies talk with each other. Integration is a complex process whose importance is often understated. Its benefits lie in leveraging opportunities and identifying gaps. It requires an in-depth understanding of what various sectors do and the context for the work being carried out (Wellesley Institute, 2011, p.15) Retrieved from https://www.wellesleyinstitute.com/wp-content/uploads/2012/09/Reducing-Health-Inequities-Enablers-and-Barriers-to-Intersectoral-Collaboration.pdf

Inter-sectoral Collaboration:

Inter-sectoral collaboration is a process or approach and therefore not an end in itself. (Wellesley Institute, 2011, p.7) Retrieved from https://www.wellesleyinstitute.com/wp-content/uploads/2012/09/Reducing-Health-Inequities-Enablers-and-Barriers-to-Intersectoral-Collaboration.pdf

Defined as a recognized relationship between part or parts of the health sector with part or parts of another sector which has been formed to take action on an issue to achieve health outcomes in a way that is more effective, efficient or sustainable than could be achieved by the health sector acting alone. (WHO International Conference on Inter-sectoral Action for Health, 1997, p.3.)

Key Informant:

Key informant interviews are in-depth interviews of a select (non-random) group of experts who are most knowledgeable of the organization or issue. They often are used as part of program evaluations and needs assessments, though they can also be used to supplement survey findings, particularly for the interpretation of survey results. (Sage Research Methods, 2008) Retrieved from https://methods.sagepub.com/reference/encyclopedia-of-survey-research-methods/n260.xml)

Key Success Factors:

Key success factors (also known as competitive emphasis or strategic posture) state the important elements required for a company to compete in its target markets. In effect, it articulates what the company must do, and do well, to achieve the goals outlined in its strategic plan. (Business Development Bank of Canada) Retrieved from https://www.bdc.ca/en/articles-tools/entrepreneur-toolkit/templates-business-guides/glossary/key-success-factors

Member Checking:

Member checking, also known as participant or respondent validation, is a technique for exploring the credibility of results. Data or results are returned to participants to check for accuracy and resonance with their experiences. Member checking is often mentioned as one in a list of validation techniques. (Birt et al., 2016)

Resources:

Inter-sectoral collaboration depends on sufficient and sustained resources (human, financial, material) in order to carry out the necessary work (PHAC, 2007; Health Canada 1999). A collaboration simply cannot do the work of solving complex problems without resources. Resources can be funding for an initiative or in kind supports such as meeting space, access to technology, or expertise. (Wellesley Institute, 2011, p.12)
Retrieved from https://www.wellesleyinstitute.com/wp-content/uploads/2012/09/Reducing-Health-Inequities-Enablers-and-Barriers-to-Intersectoral-Collaboration.pdf

Chapter One: Introduction

Introduction

In 2007, the World Health Organization (WHO) issued a call to improve health system performance through better coordination and integrated care (WHO, 2017). Health systems around the world are attempting to implement integrated care strategies to improve quality, reduce or maintain costs, and improve the patient experience (Tsasis et al., 2013). Integration of care has emerged as a central challenge for health care delivery, particularly for patients with multiple, complex chronic conditions (Singer et al., 2011). It is agreed that health systems transformation through integration is required; however, there are multiple multi-level and context-specific challenges in delivering integrated care (Shortell, Gillies & Anderson, 1994; Suter et al., 2009; Bevan & Janus, 2011).

Integrated health service delivery is defined by WHO Regional Office for Europe (2016):

> "Integrated health services delivery is defined as an approach to strengthen people-centred health systems through the promotion of the comprehensive delivery of quality services across the life-course, designed according to the multidimensional needs of the population and the individual and delivered by a coordinated multidisciplinary team of providers working across settings and levels of care. It should be effectively managed to ensure optimal outcomes and the appropriate use of resources based on the best available evidence, with feedback loops to continuously improve performance and to tackle upstream causes of ill health and to promote well-being through inter-sectoral and multisectoral actions." (WHO Regional Office for Europe, 2016, p.14).

Health systems integration is a key component of health system reform with its goal of improving outcomes for patients, providers, and the health system (Oelke et al., 2015). However, agreements about integrating services are rare, which means that there are seldom cohesive conditions in place to support collaboration between various organizations (Willumsen, 2008). As a result, there are inherent silos, fragmentation of services, and system challenges in delivering integrated care to patients and families. This challenge of integrated care is apparent in many health systems around the world, in which many countries are struggling to tackle this

issue of integration through health systems transformation. However, there are few tools to assess on "how to" build integrated care (Tsasis et al., 2013) for health systems integration.

Gap in Literature on Health Systems Integration

Health systems integration is considered part of the solution to the challenge of sustaining Canada's health care system; however, there is little guidance for planners and decision-makers on "how to" plan and implement integrated health systems (Suter et al., 2009). There is a need for further knowledge and research on health systems integration to advance effective health systems transformational efforts for policymakers (Suter et al., 2009). A systematic literature review was undertaken on health systems integration by Suter et al. (2009) to guide decision-makers to plan for and implement integrated health systems, including definitions, processes and impact of integrated health service delivery systems.

Suter et al. (2009) concluded that "the literature does not contain a 'one-size-fits-all' model or process for successful integration, nor is there a firm empirical foundation for specific integration strategies and processes" (p. 16). As identified in the review, there is a wide spectrum of models for health systems integration. Suter et al. (2009) identified ten universal principles which are frequently presented for successful health systems integration to help decision-makers in planning, restructuring, and implementing strategies at the local context. These ten key principles for successful integration set the stage for my thesis research.

Ten key principles for successful integration:

I. Comprehensive Services across the Continuum of Care
II. Patient Focus
III. Geographic Coverage and Rostering
IV. Standardized Care Delivery through Inter-professional Teams
V. Performance Management
VI. Information Systems
VII. Organizational Culture and Leadership
VIII. Physician Integration
IX. Governance Structure
X. Financial Management

Source: Suter et al. (2009). Ten Key Principles for Successful Health Systems Integration.

Background

Challenges and Barriers for Health Systems Integration

Starting in the mid-1990s, Canadian policymakers, academics and practitioners began considering the concept of integrated care for Canada, as every province/territory was struggling to reduce health expenditures (Leatt et al., 2000). As per Canadian Public Health Association (CPHA, 2008), “System-wide changes to better prevent and manage chronic disease is complex” and “the importance of shifting health services towards health promotion, disease prevention, community-based care and chronic disease management has been repeated in every major health report and consultation over the past 15 years” (p. 4). However, the Canadian health system is complex and challenging to transform since each province or territory determines the services covered, leading to variation and fragmentation in service coverage across Canada reinforcing the historical focus on acute, episodic care (Tsasis, 2009).

It is reported by Singer et al. (2011) that “integrated organizational structures and processes may fail to produce integrated patient care” (p. 112). For the purposes of this paper, structures refer to the "institutions, legislation, policies, and mechanisms that determine how work is carried out" (Danaher, 2011, p.14). "It also includes the organizations or institutions that fund and legitimize the work of sectors to address population health” and ”it may refer to the architecture of a structure that houses multiple sectors” (Danaher, 2011, p.14). "For example, well designed structures can facilitate integration of services and strengthen communication among partners" (Danaher, 2011, p. 14). Process is "one of the means to achieve successful outcomes, rather than an end in itself" and is "seen as critical to creating energy and momentum in the work of the collaboration" (Danaher, 2011, p.15). Process is "central to the success of inter-sectoral collaboration and is closely tied to strong working relationships" where "it allows relationships and trust to grow and enables leaders to emerge" (Danaher, 2011, p. 15).

The barriers for service co-ordination and integration at the delivery level are that incentives are weakly tied with improvement objectives and there are multiple stakeholders with various mandate resulting in fragmentation (Denis & Forest, 2012). As reported by Denis & Forest (2012), “Ask any policy maker or health administrator about health reform, and he or she will confirm that improving health systems while meeting rising demands and expectations is a constant struggle” (p. 633). Other challenges include a lack of resources, a common agenda and knowledge, leadership, accountability and incentives, shared protocols and tools, and necessary technology and information-sharing (Martin-Misener et al., 2012).

Due to challenges in health systems integration, social determinants of health often are not addressed due to other competing policies, including wait lists, privatization, and human resources which are placed as top policy and funding priorities (Masuda et al., 2012). The challenge for prevention and population health is that no individual organization or sector has the sole responsibility or capacity to improve population health (Willis et al., 2017).

The definition of population health is defined by Public Health Agency of Canada as:

> “Population health is an approach to health that aims to improve the health of the entire population and to reduce health inequities among population groups. In order to reach these objectives, it looks at and acts upon the broad range of factors and conditions that have a strong influence on our health.” (Government of Canada, 2012) Retrieved from https://www.canada.ca/en/public-health/services/health-promotion/population-health/population-health-approach.html

Lack of Policy Development and Research on Health Systems Integration

In a leading policy paper titled *Towards a Canadian model of integrated health care*, Leatt et al. (2000) reported that “Canada does not have integrated health care” (p. 13). In a systematic review by Suter et al. (2009), the authors summarized the models of health systems integration from 1998 to 2006; however, there is no definitive conceptual model for health systems integration appropriate for all organizations given the complexity of health care service delivery. As identified by Suter et al. (2009), the current literature does not contain a one-size-

fits-all model or process for successful integration, nor is there a firm empirical foundation for integration strategies and processes.

In 2014, the WHO Regional Office for Europe (2014) developed a briefing note to transform the health service delivery towards people-centred health systems. It also stated a need to re-orient services such that the provision of care is proactive rather than reactive, comprehensive and continuous rather than episodic and disease-specific, founded on lasting patient-provider relationships rather than incidental provider-lead care (WHO, 2014). WHO (2014) suggested that it is necessary to address the entire delivery service system "as a complex and adaptive system" (p.1). To achieve people-centred care and integrated health services, "the other sectors and broader contextual factors whose influences prevail through an all-encompassing and dynamic effect" (WHO, 2014, p. 2) are critical, along with the "interactions between the health system and other sectors" (WHO, 2014, p. 3).

As per the WHO Regional Office for Europe (2016), the components associated with successful integrated care models include enabling patient engagement and self-management support, developing multi-professional working culture, adopting evidence-based clinical pathways and protocols, aligning incentives, managing resource, monitoring and improving performance, and investing in information technologies. To sustain transformations over time, integrated care models require actions from organizational, functional, professional and service delivery levels up to the system level (WHO, 2016). In addition, "integrated care should be centred on the needs of individuals, their families and communities" (WHO, 2016, p. 5).

Further Policy Development and Research on Health Systems Integration

Further research is needed to facilitate the process of integration and collaboration between organizations, professionals and users (Willumsen et al., 2012). In addition, legislation and regulation, solid leadership and advocacy, inter-sectoral action, integration of policies, partnerships between all stakeholders, financial and the provision and development of human

resources all have a role in fostering a positive environment to support chronic care (Nuno et al., 2012). In order to address population health, there needs to be collaboration and partnerships with various stakeholders; however, there are challenges in bringing individuals and organizations from different sectors and fields to work effectively together (Leung et al., 2016).

Health systems transformation may be achieved with stakeholder alignment on integration of care through dialogue among stakeholders (Tsasis et al., 2013). However, there are few tools to assess on "how to" build integrated care, namely a shared vision, and clear roles and responsibilities (Tsasis et al., 2013). Since there is a research gap on "how to" achieve successful health systems integration among various stakeholders and organizations, further policy development and research are needed to address the relationships between the organizations to support effective health systems integration and the need for health systems transformation. In this dissertation research, there is an opportunity to study diverse stakeholders from different sectors to understand the process on "how to" build intentional cross-sectoral collaboration to achieve health systems integration and transformation.

Statement of the Problem

In 2017, the Local Health Integration Networks (LHINs) in Ontario underwent health system transformation changes, which created a unique opportunity to conduct research to understand the patterns of intentional cross-sectoral collaboration among newly formed stakeholder groups. The project has been identified by Dr. Peter Tsasis who engaged with one of the LHINs as a means to assess the patterns of intentional cross-collaboration among the newly formed Sub-Region Collaboratively Tables. The "Tables" consists of members who represent LHIN funded agencies (i.e., hospitals, mental health and community), and specialty non-LHIN funded partners (i.e., primary care, long-term care, public health, and municipality).

Since the current health system does not effectively support integration and coordination, there is an opportunity to shed some light on this.

In this dissertation study, the application of Complex Adaptive Systems and Relational Coordination theoretical lens have been used. More specifically, the Relational Coordination survey has been used to assess and identify the patterns of communication and collaboration among the various stakeholders and "Tables". This dissertation also used the Ten Key Principles for Successful Integration identified by Suter et al., (2009). The research would help to better understand the process on "how to" build cross-sectoral collaboration for health systems integration. By identifying key success factors/enablers and challenges/barriers, the results would contribute to knowledge on cross-sectoral collaboration, including practical and policy implications and provide future directions for health systems integration and transformation.

Purpose of the Study

The purpose of this naturalistic inquiry study is to understand the patterns of communication and collaboration among the participants of the Sub-Region Collaborative Tables or "Tables" in one of the LHINs in Ontario, Canada during the period 2017-2019. This study aim is to understand the process on "how to" build intentional cross-sectoral collaboration to achieve health systems integration and transformation using Complex Adaptive Systems and Relational Coordination Theories, and Ten Key Principles for Successful Integration.

Research Questions

1) What are the patterns of communication and collaboration among stakeholder groups?

2a) Are there differences in Relational Coordination among stakeholder groups?

2b) Are there differences in Relational Coordination among the "Tables"?

3) Is there a difference in Relational Coordination at Baseline and at Follow-up?

4) What are the key success factors and enablers, and challenges and barriers for cross-sectoral collaboration?

5) What does a policy framework look like on “how to” build cross-sectoral collaboration to achieve health systems integration and transformation for leaders and policymakers?

Research Context

In Ontario, the Ministry of Health (MOH) oversees four programs, which are 1) Ontario Health Insurance Plan (OHIP), 2) Population & Public Health, 3) Provincial Programs & Stewardship, and 4) LHINs. The following details the current MOH structure:

1) The OHIP Program includes Primary Care (which is funded separately by the MOH).
2) The Population and Public Health includes Public Health Units (which are partially funded by the MOH and the municipality).
3) The Provincial Programs and Stewardship includes Emergency Health Services (which are partially funded by the MOH and the municipality).
4) The LHINs oversea Hospitals, Community Support Agencies (includes French Language and Mental Health Services), and Home & Community Care.

Note: The Ministry of Long-Term Care was created in June 2019, which was previously under the MOH.

The LHINs were established in 2006 to plan, integrate and fund health-care services at the regional levels. There are 14 LHINs formed geographically to improve access, patient experience, efficiency and accountability. The LHINs oversees a variety of health and social services, including Hospitals, Community Support Agencies (which includes French Language and Mental Health Services) and Home and Community Care, which are managed through accountability agreements. However, Primary Care, Public Health, Emergency Health Services and Long-Term Care do not fall directly in the LHINs’ mandate.

Ontario Patients First Act Legislation

In 2016, the “Patients First Act” legislation was introduced to improve Ontario's health system, putting patients at the centre of the system by focusing on patients' needs first. The “Action Plan for Health Care” promised to build a better health care system that is patient-centered and set a framework for health systems transformation. With the “Patients First Act” (2016), Ontario’s MOH mandated the 14 LHINs to create Sub-Regions and associated Sub-Region Collaborative Tables or “Tables”. By 2017, Ontario’s MOH approved 76 LHIN Sub-Regions and “Tables”; where each Sub-Region is distinct with varying geography (rural/urban), population density, and diversity of groups and communities.

A Sub-region is defined as “a smaller geographic planning region that will help health service providers better understand and address population health needs at the local level” (LHIN, 2021). Some regions are unique, for example, and include underserved communities, aging populations, single parents, and new immigrants. Sub-Regions are a key feature of the “Patients First Act” (2016) and serve to enable LHINs to identify and respond to local population needs and to better plan, integrate and improve performance of health services. Overall, the Sub-regions are to plan strategies to improve access, deliver better coordinated and integrated care, support patients in the local communities, and help sustain the health care system.

Emergence of the Sub-Region Collaborative Tables

The work of the Sub-Regions is informed by the “Tables” to identify population needs at local levels and planning within each of the Sub-Regions. All LHIN funded agencies (i.e., hospitals, mental health and community), and specialty non-LHIN funded partners (i.e., primary care, long-term care, public health, and municipality) are eligible to apply to sit on the “Table(s)” by completing an “Expression of Interest”. Applicants who volunteered to sit on the “Table(s)”

are selected based on their experience providing services within the LHIN Sub-region. There is no limit to the number of members that could sit on each of the "Table(s)".

The "Table(s)" inaugural meetings started in late 2017. These newly cross-sectoral collaborative "Tables" are to meet monthly to work collectively to identify, plan, implement and evaluate change opportunities to address Sub-region challenges and local population needs. With the "Patients First Legislation", the "Table(s)" are to focus on four key objectives:

1) Access: Improve access – providing faster access to the right care.
2) Connect: Connect services – delivering better coordinated and integrated care in the community, closer to home.
3) Inform: Support people and patients – providing the education, information and transparency they need to make the right decisions about their health.
4) Protect: Protect our universal public health care system – making decisions based on value and quality, to sustain the system for generations to come.

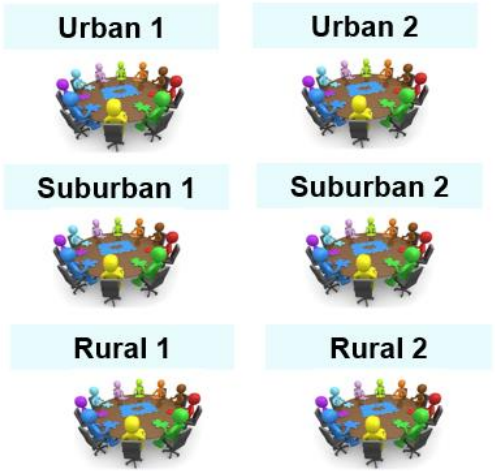
Source: Patients First: Action Plan for Health Care (Ministry of Health, 2017) Retrieved from https://www.health.gov.on.ca/en/ms/ecfa/healthy_change/

Since these cross-sectoral collaborative "Tables" are new, Dr. Peter Tsasis approached the LHINs to partner with York University and engaged with one of the LHINs to conduct this research study. This one LHIN has been chosen as the stakeholder representation of the "Tables" are mixed, including administrators and clinical leaders from various sectors and organizations. The LHIN is considered the Health Region. Each Sub-Region or "Table" have a different mix of representation of members from LHIN funded agencies (including Hospital Sector, Community Sector, Specialty Communities, and Mental Health) and non-LHIN funded stakeholders (including Primary Care, Long-Term Care, and Public health). A sample of Member Representation of a Sub-Region Collaborative Table is presented in Figure 1.

Figure 1: Sample of Member Representation of a Sub-Region Collaborative Table

This LHIN is the largest in Ontario serving a broad range of people from a variety of socio-demographics profiles (i.e., age, employment, etc.) with a diverse population (i.e., new immigrants, ethnic groups, etc.). This LHIN has six Sub-Regions "Tables" with a mix of population density (including urban, suburban and rural). For this research, the "Tables" are named "Urban 1", "Urban 2", "Suburban 1", "Suburban 2", "Rural 1", and "Rural 2". A sample of Six Sub-Region Collaborative Tables is presented in Figure 2.

Figure 2: Six Sub-Region Collaborative Tables



Proposed Research Study

In Chapter Two, the Literature Review identifies the gaps in the literature. In Chapter Three, the Theoretical Frameworks are discussed (Complex Adaptive Systems Lens, Relational Coordination Theory, and Ten Key Principles for Successful Integration), and in Chapter Four, the Research Methodology and Research Design are described. I propose to carry out this naturalistic research study that would include a mixed methods approach including quantitative surveys (Baseline & Follow-up Year 1), qualitative interviews, and member checking.

With the use of the Relational Coordination Survey, the patterns of communication and collaboration among the stakeholders and "Tables" study can be identified. Qualitative telephone interviews with key informants have been proposed to understand how the collaboration unfolded from the lived experience of the members which represented various stakeholder groups and "Tables". Thematic analysis is conducted where emergent and cross-cutting themes are identified as well as common constructs. Member checking has been proposed to confirm and validate the survey results and interview findings.

Finally, a policy framework is developed to provide further support on "how to" build cross-sectoral collaboration for leaders and policymakers involved in health systems integration and transformation. Ongoing evaluative research is urgently needed to strengthen the evidence base for health integration and transformation through cross-sectoral collaboration in Canada and around the world.

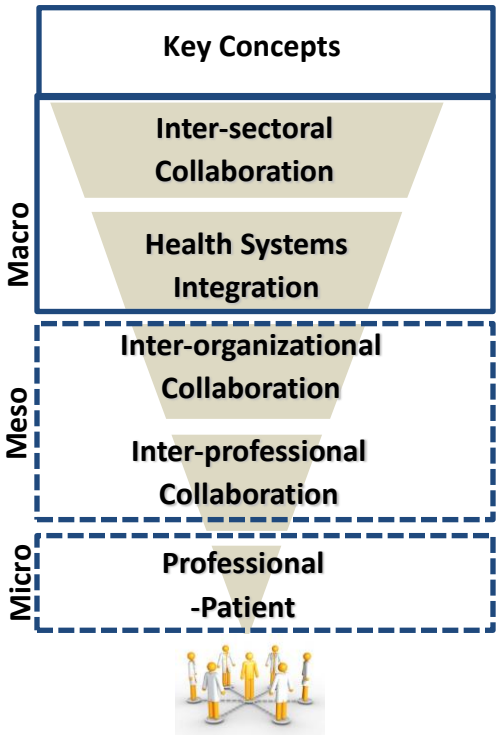
Chapter Two: Literature Review

Introduction

The purpose of this naturalistic inquiry study is to examine the patterns of communication and collaboration among the stakeholder groups and "Tables", and to identify the key success factors/enablers, and challenges/barriers for cross-sectoral collaboration. Specifically, the aim is to understand the process on "how to" build intentional cross-sectoral collaboration to achieve health systems integration and transformation using Complex Adaptive Systems Lens and Relational Coordination Theory, and the Ten Key Principles for Successful Integration. As a result, a policy framework is proposed on "how to" build cross-sectoral collaboration for health systems integration and transformation for leaders and policymakers.

The literatures review is guided by exploration of the micro-, meso, and macro-level context within which these "Tables" operate. The concepts at the micro-level (Professional-Patient), meso-level (Inter-professional Collaboration and Inter-organizational Collaboration), and macro-level (Health Systems Integration and Cross-Sectoral Collaboration) are highlighted. A Literature Review Roadmap is presented in Figure 3 to illustrate the key concepts.

Figure 3: Literature Review Roadmap



Inter-professional Collaboration to Improve Patient-Centred Practice

There is an opportunity to transform the health system through inter-professional collaboration to improve patient-centred practice. In Canada, the Romanow report suggested "changes in the way health care services are delivered, especially with the growing emphasis on collaborative teams and networks of health providers, means that traditional scopes of practice also need to change" (Health Canada, 2003, p. xxxvii). Patient-centred care is defined as "the direction of our health care system must be shaped around health needs of individual patients, their families and communities" (Health Canada, 2003, p. 50). Inter-professional Education for Patient-Centred Practice (IECPCP) was identified by the First Ministers Accord to be a key factor for health system reform in Canada (Health Canada, 2004). This message was reiterated by the Health Council of Canada (2005) to create opportunities for health providers to learn and work in inter-professional teams.

Oandasan & Reeves (2005a) carried out a systematic literature review for Health Canada in an attempt to advance IECPCP. Oandasan & Reeves (2005b) developed a conceptual framework, which included an overview into how micro (individual level), meso (institutional/organizational level) and macro (socio-cultural and political) levels influence the planning and implementation of inter-professional initiatives. There have been theories from the disciplines of education, social psychology, and organizational and systems that can contribute to this task (Reeves & Hean, 2013); further research is required in the application of theories.

Lack of Theories used in Complex Environments

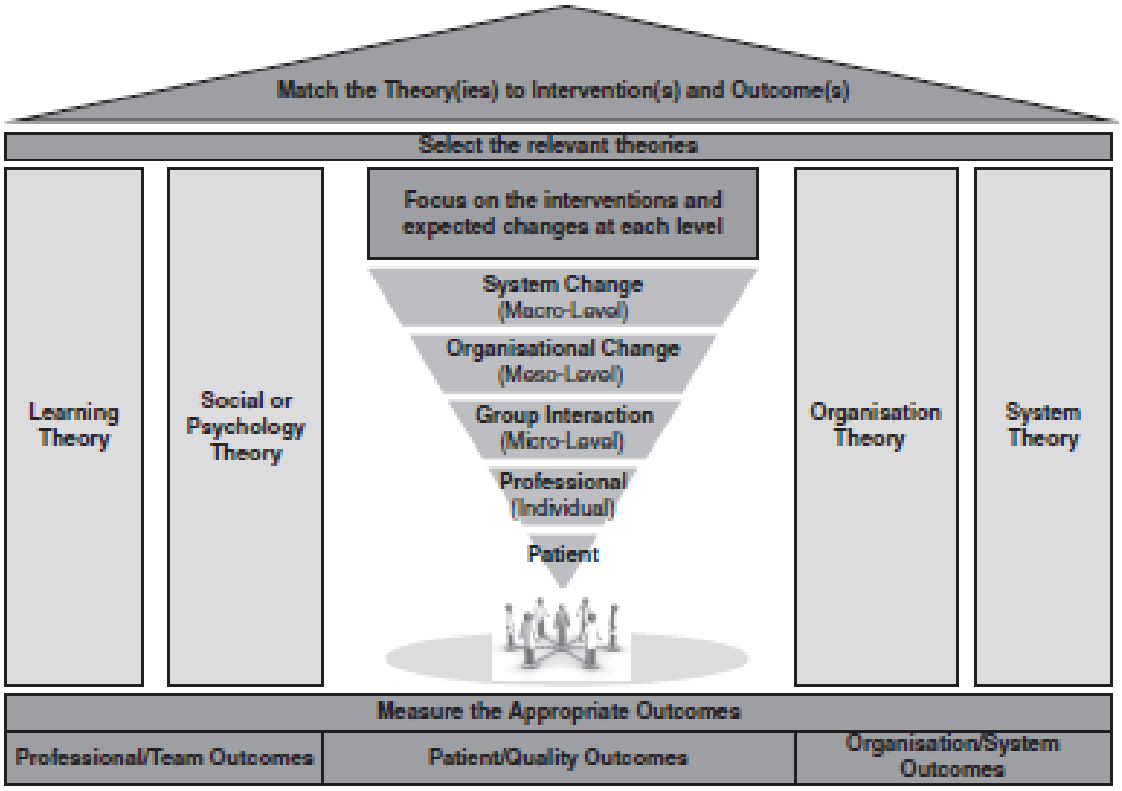
Reeves et al. (2007) identified a range of team and organizational and systems level theories that may inform future inter-professional practice and education activities. Suter et al. (2013) conducted a scoping review of theories to guide inter-professional education and

practice. Even though social/psychological and educational theories are increasingly popular, Suter et al. (2013) reported that organizational and systems theories are less well understood. As indicated by Suter et al. (2013), organizational and systems theories can be used to strengthen collaboration and to stimulate practice change. However, few studies used these theories to inform inter-professional change within complex health care environments.

Although there is still insufficient knowledge of the complex area of collaboration, it is reasonable to assume that collaboration is a dynamic and complex process (Willumsen et al., 2012). As per Willumsen et al. (2012), the collaborative process is characterized by circular, rather than straightforward pathways, due to incomplete understanding of problems and uncertainty, and there may be potential conflicts between the different organizations and/or professionals involved. There is a need to develop adequate research approaches for exploring collaborations between organizations, professionals, and users (Willlumsen et al., 2012).

In a scoping review of inter-professional teamwork theories, Liu & Tsasis (2017) reported that theory needs to be employed in the design and development of inter-professional teamwork interventions and outcomes. Liu & Tsasis (2017) indicated that the use of a single theoretical perspective, such as learning theory, social or psychological theories, are not substantive to underpin inter-professional teamwork. Rather, a multifaceted approach is recommended with the use of organizational or systems theoretical perspectives. A Conceptual Model for Policy, Practice and Research is presented in Figure 4 to show how theories can improve the effectiveness of inter-professional teamwork and suggest means of measuring and evaluating outcomes (i.e., professional/team, patient/quality, and organizational/system outcomes).

Figure 4: A Conceptual Model for Policy, Practice, and Research



Source: Liu & Tsasis (2017). Scoping review of inter-professional teamwork theories.

Challenges in Inter-organizational Collaboration

Although health systems are striving for integration, services remain fragmented (Oelke et al., 2015). There are political, financial, geographical technological, inter-organizational and inter-professional factors influencing the capacity and motivation of different parts the system to work together (Tsasis et al., 2013). Health delivery system redesign and integration at all levels is needed, where fragmented single disease management must be changed to integrated care; thereby benefiting patients and supporting teamwork among providers (Tsasis, 2009). In addition, the outcomes of integrated services should be better quality of health, less waste, improved efficiency and experience for patients and professionals (Nuno et al., 2012).

In the literature, managerial support for the creation of inter-organizational integration and inter-professional collaboration are frequently commented upon (Ahgren, 2007). The key role of management is to create favourable integrative and collaborative conditions; therefore, managers must ensure that organizational conditions are in place for collaboration between professionals, such as inter-organizational agreements on collaboration, appointment of network managers, and joint budgets for joint activities (Willumsen et al., 2012). However, agreements about integrating services are rare, which means that there are seldom cohesive conditions in place to support collaboration between various organizations (Willumsen, 2008).

Structural management support is important to facilitate interactions between organizations and professionals, as well as team leadership to develop sustainable inter-professional collaboration. Willumsen et al. (2012) proposed that further research on inter-organizational and inter-professional is needed to facilitate the process of integration and collaboration between organizations, professionals and users. Willumsen et al. (2012) also suggested that users be involved in the research as a referenced group to ensure that their needs are being addressed and to demonstrate positive outcomes.

Literature on Health Systems Integration

Despite a growth in the literature on health systems integration, including the roles of governance, policy, partnerships, culture and role clarity in achieving integrated care (Tsasis et al., 2013), there are multiple multi-level and context-specific challenges in delivering integrated care (Shortell, Gillies & Anderson, 1994; Suter et al., 2009; Bevan & Janus, 2011). There are different forms of integration. Vertical integration is about promoting communication between different hierarchical organizational levels and horizontal integration is about communication between organizations at the same level. However, as noted by Evans et al. (2016), differences in organizational contexts may be responsible for variability in the success of integrated care.

Types of integration can be described along a continuum (Ahgren & Axelsson, 2005):

- Full Segregation – no contact between providers
- Linkage – referrals between existing organizational units
- Co-ordination in Networks – coordinate various services to facilitate transfer of services between different organizational units based on existing structures
- Co-operation – network coordinators are appointed to improve contact between organizations, even if the units remain organizationally independent
- Full Integration – resources from different units are merged into a new organization

Research Gaps on "how to" Build Health Systems Integration

A systematic literature review was conducted to guide decision-makers to plan and implement integrated health systems by Suter et al. (2009). In the literature reviewed, there is no unified or commonly agreed upon conceptual model for health systems integration found (Suter et al., 2009). In addition, there was a lack of detailed information on "how to" enable successful integration (Suter et al., 2009). Suter et al., (2009) concluded that "the current literature does not contain a one-size-fits-all model or process for successful integration, nor is there a firm empirical foundation for specific integration strategies and processes" (p. 16).

Suter et al. (2009) identified ten universal principles for successful integrated health care systems and key areas for restructuring with the need to allow for organizational flexibility and adaptation to local contexts. These principles may be used by decision-makers to focus and guide integration efforts; however, further research is needed to address specific structures and mechanisms for success. Since the literature does not contain a model, process or strategy for health systems integration, further research and policy development work are needed on "how to" enable successful integration. The questions remaining are "what are the key ingredients or success factors?" and "how to create the conditions to achieve health systems integration?"

In the literature, stakeholder agreement within system boundaries has been identified as a necessary antecedent in developing effective and sustainable integrated systems (Kodner,

2009; Evans & Baker, 2012). The pre-requisites for integrated care include a shared vision, clear roles and responsibilities (Shortell et al., 1993; Suter et al., 2009; Evans & Baker, 2012, Tsasis et al., 2013). However, there are few tools to inform on "how to" build integrated care. Although the literature emphasizes the importance of promoting a collective understanding of the vision and developing trust between professional groups and organizations, there are no specific methods or tools on "how to" achieve these aims, other than the need for cultural change, open communication, and distributed leadership (Ling et al., 2012).

Challenges in Achieving Health Systems Integration Around the World

It has been almost 20 years since WHO (2002) reported that there is an opportunity to improve health care for chronic conditions and to curtail the growth in health care expenditures through integration. In 2007, the Organization for Economic Co-operation and Development (OECD) assessed whether coordination improves health system performance in terms of quality and cost-efficiency. The OECD found that disease and case management programs appeared to improve the quality of care; however, the evidence on cost-efficiency remained inconclusive (Hofmarcher et al., 2007). Integrated care appeared to improve some outcomes (i.e., improved system performance, better clinical results, enhanced quality and patient satisfaction); however, the evidence remains uncertain whether integrated care generates cost savings (Kodner, 2009).

For many countries, integrated care is seen as a possible solution for improving the quality of care and health outcomes of chronic disease patients; however, there are challenges in defining the population served and comparing the models of care in various settings and jurisdictions (WHO, 2016). There are various models and approaches for integrated care applied across a variety of settings with varying types and levels of integration (WHO, 2016). It is therefore challenging to determine the effectiveness for integrated care or to make comparisons across jurisdictions, as there are different approaches to care, provision of services, expected outcomes, funding methods, and incentives (WHO, 2016).

Wodchis et al. (2014) conducted case studies in seven countries (including Australia, Canada, Netherlands, New Zealand, Sweden, United Kingdom, and United States) in an attempt to identify key lessons for policymakers and services providers to enable better design, implementation and speed for successful integration. In the seven case studies which focused on the care of older patients in the community, all of the countries reported positive benefits as a result of integrated care. Wodchis et al. (2014) reported differences in the types of integration and models of care within each country; therefore, an ideal integrated care model could not be identified. In addition, there was no common approach to evaluating or measuring outcomes.

In a scoping review on Canada developments, Liu, Tsasis & El Morr, (2021) evaluated the impact of chronic disease integration strategies on health care outcomes and costs. In the scoping review, only 37 articles were identified from 2006 to 2020; however, after critically appraising the articles, only two articles measured health care outcomes and costs. There are limited studies and variations in disease-specific conditions and contexts; therefore, the evidence remains inconclusive whether integration improves outcomes. This review highlights the need for further research to support health systems integration to improve outcomes and costs in Canada. Ongoing evaluative research is urgently needed to strengthen the evidence base for health systems integration in Canada and around the world.

Health Systems Integration in Canada

"Integrated health systems are considered part of the solution to the challenge of sustaining Canada's Health care system" as per Suter et al. (2009, p. 16). In an effort to address the needs the community, there was a research partnership which involved community members and primary care (Ramsden et al., 2010). The researchers used community-based participatory research and transformative action method (i.e., including collaborative learning, facilitation and community action), designed to help address the needs of the community. The

theoretical constructs of community action are based on the principle that the skill and knowledge of individuals, families and communities are the strengths to enhancing health.

In a study by Tsasis et al. (2013), an outcomes mapping exercise was conducted with participants selected from organizations within one of the LHINs based on either experience, knowledge on research and/or implementation of integrated care. Tsasis et al. (2013) concluded that outcomes mapping may facilitate stakeholder alignment on the vision, roles and processes of integrated care delivery via participative and focused dialogue among diverse stakeholders on desired outcomes. Outcomes mapping may help stakeholders make sense of a complex system and foster collaborative capital to support information sharing, trust and coordinate change towards integration across organizational and professional boundaries (Tsasis et al., 2013).

Leung et al. (2016) evaluated the partnerships and governance at the environment-health nexus in Ontario, Canada. Successful partnerships included the concepts of embracing diversity and adopting an openness to flexible governance structures based on the needs of its partners within the local contexts (Leung et al., 2016). Integrated governance involves the structural design of the partnership and encompasses human interactions, such as identifying needs and roles, sharing mission and history, resolving conflicts, managing competing interests and adapting to new challenges (Leung et al., 2016). To foster partnerships, there is a need to learn from and improve existing practices with various actors and evaluate partnership functioning (Leung et al., 2016).

Willis et al. (2017) explored the unanticipated effects of multi-sectoral partnerships in chronic disease prevention by conducting interviews with staff involved with three Public Health Agency in Canada's Multi-Sectoral Partnership Initiatives. Based on the multi-sectoral partnerships, participants in the study recognized the importance of building trust-based relationships and developing adaptive processes (Willis et al., 2017). They identified the need for time and energy to solve issues on communication with each other and role clarification, and

also recognized that no single sector has the capacity to address complex health issues (Willis et al., 2017). This finding reinforced the need to engage partners from a variety of sectors to leverage various skills and resources (Willis et al., 2017).

Willis et al. (2017) recommended that leaders need to adopt an approach focused on facilitation and empowerment and create a shared vision, rather than the traditional "command and control" approach. The study raised several questions for consideration for partnership initiatives, including training, capacities (individual and organizational), and evaluation (Willis et al., 2017). Further, there is a need to identify ways of leveraging resources beyond the generic resources (i.e., time and money) to include skills, expertise, and communication channels (Willis et al., 2017). Further research is required to understand the context of partnership and on "how to" structure initiatives or interventions and build capacities with its partners (Willis et al., 2017).

Literature on Inter-Sectoral Collaborations

In the literature, there are research gaps identified on inter-sectoral collaboration. Shankardass et al. (2012) conducted a scoping review of inter-sectoral action involving governments and found 128 articles on inter-sectoral action across 43 countries. The authors reported that a variety of approaches were used to carry out inter-sectoral action; however, few articles provided details or attempted to provide information on the perspectives from the sectors involved (Shankardass et al., 2012). Shankardass et al. (2012) suggested that further research is needed on how and why certain strategies may tend to facilitate inter-sectoral action. To provide a better understanding from multiple viewpoints, qualitative interviews or case studies are suggested (Shankardass et al., 2012).

In a systematic review by National Collaborating Centre for Determinants of Health (NCCDH, 2012), the authors assessed the impact and effectiveness of inter-sectoral action. In this review, many of the studies reported limitations in methodological quality (i.e., small sample

size, short follow-up period). The review concluded that the impacts of inter-sectoral action on population health outcomes are mixed and limited (NCCDH, 2012). The included studies provided few details about the process, context, successes, and challenges of the inter-sectoral interventions and how these interventions are related to the observed outcomes (NCCDH, 2012). Since the relationships between sectors and how these relationships contributed to outcomes were not clearly articulated in the interventions, it is difficult to determine the effectiveness of inter-sectoral action (NCCDH, 2012). NCCDH (2012) reported that the successes and failures may be due to policies and other contextual factors.

In a systematic review by Ndumbe-Eyho & Moffat (2013), they searched articles published from 2001 to 2011 on inter-sectoral action and found only 17 articles related to social determinants. As most of the social determinants of health lie outside of the health sector, collaborations with sectors outside of health are required to develop policies and programs to improve health equity (Ndumbe-Eyho & Moffat, 2013). There are case studies of inter-sectoral action; however, there is limited evidence base on the impact of inter-sectoral action on the social determinants of health and health equity (Ndumbe-Eyho & Moffat, 2013). Ndumbe-Eyho & Moffat (2013) suggested that rigorous evaluations of inter-sectoral action are needed to strengthen the evidence base for improving health equity and public health practice.

In a scoping review by Chircop et al. (2014), they also evaluated the evidence on "how to" practice inter-sectoral collaboration. Chircop et al. (2014) identified that a majority of policy-focused publications described collaboration as a strategy to address inter-sectoral public policy issues; however, the articles failed to report how the process of collaboration unfolded. In addition, there were only three articles which examined practices of inter-sectoral collaboration in public policy through phenomenology (Chircop et al., 2014). As per Chircop et al. (2014), further research is needed to advance inter-sectoral collaboration to generate evidence for effective inter-sectoral collaborative practice and policy.

In a scoping review by Corbin et al., (2016), they evaluated the factors that make inter-sectoral partnerships for health promotion work. However, the review only included 26 studies, many with inconsistent methodologies and it was unclear how the various partnership processes developed, interacted, and influenced each other (Corbin et al., 2016). As per Corbin et al., (2016), there may be different types of inter-sectoral partnership structure or management depending on the leadership, communication channels, and interactions, including the issues with trust. Since the reviewed articles did not explicitly capture partnership functioning and interactions of key partners, further research is needed to evaluate partnership functioning and should include process- and objective outcome-focused measures (Corbin et al., 2016).

Research Gaps on "how to" Achieve Cross-Sectoral Collaboration

There are research gaps on "how to" achieve inter-sectoral collaboration. It is suggested that inter-sectoral collaborations work best when conditions such as strong working relationships, integration of services, coordination, and access to resources are in place (Health Canada, 1999; Public Health Agency of Canada, 2007). It is commonly known that successful partnerships are enabled by early engagement of partners, clearly stated purpose, shared values and strong communications (PHAC, 2016). Relationships can be strengthened by a shared vision or sense of purpose and by inter-sectoral collaborations, as well as leadership, relationships among partners, structures, processes and resources (Danaher, 2011).

The current literature does not provide detailed documents regarding the factors that contribute to success or analysis of barriers for cross-sectoral collaboration (Wakerson & Mitchell, 2005). Chircop et al. (2014) identified that a majority of policy-focused publications described collaboration as a strategy to address inter-sectoral public policy issues; however, the articles failed to report how the process of collaboration unfolded. Since there is a lack of evidence on "how to" achieve cross-sectoral collaboration, a policy framework on "how to" build

cross-sectoral collaboration for health systems integration and transformation is needed. Health systems reform should be modified to create the right context and conditions that supports self-organization for enabling successful cross-sectoral collaboration (Tsasis et al., 2012).

Considerations for Policy Development and Further Research

Frameworks for Policymakers and Researchers

It is recommended that policymakers and researchers use a framework for designing health systems integration. The "Innovative care for chronic conditions (ICCC) framework" (WHO, 2002) is useful, as it includes three levels: 1) micro level (i.e., partnership between patients, providers and communities), 2) meso level (i.e., linkages with health care organizations and community), and 3) macro level (i.e., policymaking and financial aspects of integration). The macro level includes legislation, leadership, advocacy, partnership, financing, allocation of human resources and policy integration (WHO, 2002). The three levels interact with and influence the others linked by feedback loops (WHO, 2002). The building blocks of this framework should be used by policy makers to redesign existing health care systems or build further capacity (WHO, 2002).

Due to the concerns regarding care coordination, policy efforts should be directed towards integrated-care models of care and improving health system performance (Hofmarcher et al., 2007). Hollander and Prince (2008) proposed the use of a best practice framework to organize delivery systems for persons with ongoing care needs, which was derived from a Canadian study involving leading experts and clients/families. The framework includes policy prerequisites, best practices (administrative and clinical), and linkages among populations, hospitals, primary care, and social and human services (Hollander & Prince, 2008). Morgan et al., (2007) suggested that models of care must be population-based and patient-centric, encompassing health promotion and preventative strategies. In a study protocol, Manca et al.

(2018) are using the chronic care model to engage and integrate national, regional, local community with providers.

A system change framework has recently been provided by Kania et al. (2018), which includes six conditions. As identified in the framework "The water of systems change", the first three conditions are Structural Changes (i.e., Policies, Practices, and Resource Flows) which are more explicit. The next two conditions are Relational Changes (i.e., Relationships & Connections and Power Dynamics) which are semi-explicit, and the last condition is Transformative Change (i.e., Mental Models) which is implicit.

Definitions for Structural Changes:
1) Policies: Government, institutional and organizational rules, regulations, and priorities that guide the entity's own and others' actions.
2) Practices: Espoused activities of institutions, coalitions, networks, and other entities targeted to improving social and environmental progress. Also, within the entity, the procedures, guidelines, or informal shared habits that comprise their work.
3) Resource Flows: How money, people, knowledge, information, and other assets such as infrastructure are allocated and distributed.

Definitions for Relational Changes:
4) Relationships & Connections: Quality of connections and communication occurring among actors in the system, especially among those with differing histories and viewpoints.
5) Power Dynamics: The distribution of decision-making power, authority, and both formal and informal influence among individuals and organizations.

Definition for Transformative Change:
6) Mental Models: Habits of thought deeply held beliefs and assumptions and taken-for-granted ways of operating that influence how we think, what we do, and how we talk.

Source: The Water of Systems Change. Kania et al. (2018).

Implications for Practice and Policy

WHO (2002) suggested positive policy work is needed to strengthen partnerships through supportive legislative frameworks, integration of policies, allocation of appropriate financing and incentives, and development of leadership and human resources for building integrated health systems. Even though there have been recurrent reports and consultations

recommending that health services should shift towards health promotion, disease prevention, and community-based care (CPHA, 2008), policy development and incentives are needed to drive integration at the system level to align care delivery to include hospitals, primary care and public health (Chappell & Hollander, 2011). The task for policymakers is to remove the barriers and create incentives that will strengthen the capacity of these collaborations (PHAC, 2007).

In a survey of leading chronic disease management programs, Wagner et al. (1999) reported that health systems must have leadership, incentives and resources to drive change. Further integrators are needed to organize and coordinate care to predefined populations via appropriate incentives and infrastructure (Ham, 2009). Legislation and regulation, solid leadership and advocacy, inter-sectoral action, integration of policies, partnerships between all stakeholders, financial, and the provision and development of human resources all have a role (Nuno et al., 2012). Also, leadership is required to facilitate joint planning between primary care, public health, and community and social services (Martin-Misener et al., 2012).

Need for Evaluation on Collaboration and System Outcomes

Much of the current research focuses on the effectiveness of a process or outcomes due to structural changes; however, there is a need to evaluate on collaboration and system outcomes. As reported by Kania et al. (2018), “attempting to foster systems change without building the capacity to see systems leads to a lot of talk and very little results” (p. 16) and “transforming a system is really about transforming the relationships between people who make up the system” (p. 7). Kania et al. (2018) recommends “addressing the less explicit systems change conditions often requires a shift in a foundation’s mental models about evaluation” (p. 15). To embrace systems changes and track progress from a system change, data should be gathered from multiple sources and from various perspectives of different stakeholders (Kania et al. , 2018).

Further evaluation work is needed to implement system changes (Kania et al., 2018). As suggested by Tsasis et al. (2013), outcomes mapping may facilitate stakeholder alignment on the vision, roles and processes of integrated care delivery via participative and focused dialogue among diverse stakeholders on desired outcomes. Outcomes mapping may help stakeholders make sense of a complex system and foster collaborative capital to support information sharing, trust and coordinate change towards integration across organizational and professional boundaries (Tsasis et al., 2013). The use organizational and system theories (i.e., complexity) are recommended and to further evaluate system outcomes (Liu & Tsasis, 2017).

In a systematic review by Bolton, Logan & Gittell (2021), the authors reviewed all the empirical studies assessing the predictors and outcomes of Relational Coordination from 1991 to 2019. Bolton, Logan & Gittell (2021) found evidence to support the Relational Coordination Theory and its related performance outcomes. Since there are few "tools" for evaluating collaboration, the Relational Coordination Survey can be useful, as it is a validated network tool to measure collaboration (Bolton, Logan & Gittell, 2021). As per Bolton, Logan & Gittell (2021), Relational Coordination is a network concept and can be applied in small groups and in large multi-sector ecosystems, as long as the work is inter-dependent.

Lessons Learned from the Literature Review

Based on above literature review on inter-professional collaboration, inter-organizational collaboration, health systems integration, and inter-sectoral collaboration, there have been research gaps identified. Firstly, there are insufficient use of theories for complex environments in the inter-professional literature. Secondly, there are challenges identified with inter-organizational collaborations. Thirdly, there is a lack of tools on “how to” `build health systems integration. Lastly, the literature on inter-sectoral collaboration have provided few details on

how the collaborations unfolded. Since there is no `one-size-fits-all` model established for health systems integration, further research is needed to shed a light on this.

The following questions remains unanswered.

1) What theories and tools are available to measure cross-sectoral collaboration?
2) Are there differences among the 'Stakeholders' or 'Tables"?
3) Why are some 'Tables' more successful? What are the key ingredients for success?
4) What are the key success factors and enablers, and challenges and barriers?
5) What does a policy framework look like on "how to" build cross-sectoral collaboration?
6) How do policymakers and leaders create the conditions to achieve health systems integration?
7) What are the implications for practice and policy for leaders, policymakers and researchers?
8) What further research work is needed to support health systems integration and transformation?

Lessons learned from this literature review have been considered in the design of this study, and strategies have been applied, where applicable, to contribute to the research on health systems integration and transformation through cross-sectoral collaboration.

- From the well-known saying "there is nothing as practical as good theory" (Lewin, 1952, p. 169). The use of Complex Adaptive Systems and Relational Coordination theoretical perspectives are explored in this research, as health care is a Complex Adaptive System. The rationale for using Complex Adaptive Systems in combination with Relational Coordination (Relational Model of Organizational Change and Complexity Leadership) theoretical perspectives is described detail in Chapter Three: Theoretical Frameworks.
- In the health systems integration literature, Suter et al. (2009) identified a research gap. "There is no `one-size-fits-all` model or process for successful integration, nor is there a firm empirical foundation for specific integration strategies and processes" (Suter et al., 2009, p. 16). Suter et al. (2009) identified ten key universal principles for successful integrated health care systems which have been used to guide this thesis study.

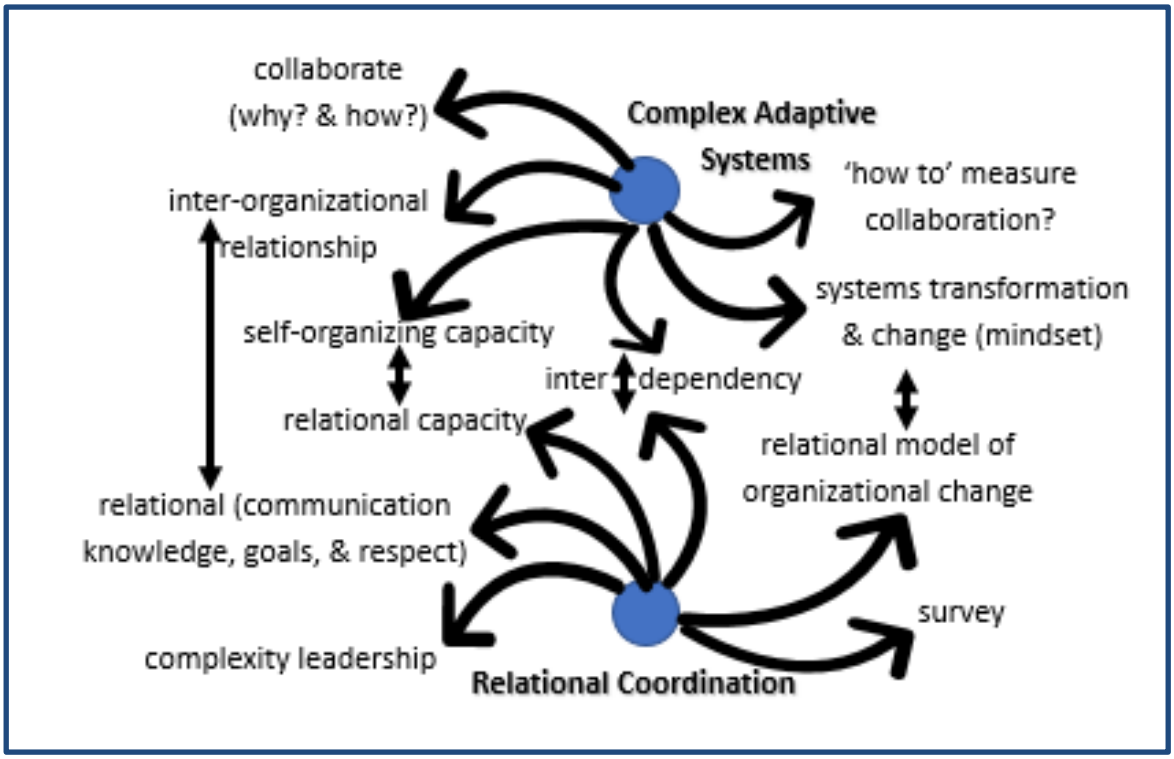
- In the inter-sectoral collaboration literature, the existing studies provided few details about how the collaborations unfolded. To better understand the perspectives from various sectors in determining appropriate strategies, Shankardass et al. (2012) suggested the use of interviews to gather detailed understanding from multiple perspectives. Qualitative interviews are conducted to understand the lived experience and views of the members.
- A framework for systems change is provided by Kania et al. (2018) which includes six conditions which are Structural Changes (i.e., Policies, Practices, and Resource Flows), Relational Changes (i.e., Relationships & Connections, and Power Dynamics), and Transformative Change (i.e., Mental Models). Although this framework identified the six conditions for systems change, further research is required in the use of this framework. In addition, a policy framework is needed on to on “how to” build cross-sectoral collaboration for leaders and policymakers involved in health systems integration and transformation.
- Further research is needed for evaluation on collaboration and system outcomes. Since the Relational Coordination Survey is a fully validated network tool to measure collaboration (Bolton, Logan & Gittell, 2021), the Relational Coordination Survey has been used in this study to identify the patterns of communication and collaboration among various stakeholders and “Tables”.

Chapter Three: Theoretical Frameworks

Introduction

In this Chapter, the Theoretical Frameworks, mainly the Complex Adaptive Systems lens and Relational Coordination theory are described to understand the evolution and importance of these perspectives. The rationale for the use of Complex Adaptive Systems lens and Relational Coordination theory are also discussed. In addition, the chapter highlights how these two theories appear to overlap to support the concepts of inter-organizational relationship, self-organizing and relational capacity, inter-dependency, and systems transformation & change (mindset) or relational model of organizational change. This chapter is guided by Figure 5 Theoretical Frameworks.

Figure 5: Theoretical Frameworks



Complex Adaptive Systems

In the field of "systems integration", many researchers have been using a range of theories, including organizational design, strategy, leadership, culture, learning, change and innovation, decision making, team, organizational, network performance, environmental contingency, transaction cost, resource dependence, structure, agency, and institutionalism (Burns & Pauly, 2002; Browne et al., 2007; Lega, 2007; Williams & Sullivan, 2009). More recently, the concepts of Complex Adaptive Systems and Social Capital have been applied to integrated care; however, the empirical research remains limited (Edgren, 2008; Edgren & Barnard, 2012, Goodwin, 2010). In a study by Tsasis et al. (2013), both Complex Adaptive Systems and Collaborative Capital theoretical perspectives have been utilized to describe the health care delivery system.

The Evolution of Complex Adaptive Systems

The concepts of Complexity Science and Complex Adaptive Systems have emerged mainly from the study of nature through the physical and biological sciences fields. Complexity results from the inter-relationship, inter-action and inter-connectivity of elements within a system and between a system and its environment (Gell-Mann, 1995). As per Gell-Mann (1995), the meaning of "complexity" is derived from the Latin word "complexus" meaning braided together. As defined by The Health Foundation (2010), Complex Adaptive Systems thinking is an approach that challenges simple cause and effect assumptions and sees health care and other systems as a dynamic process in which the interactions and relationships of different components simultaneously affect and are shaped by the system.

As per Plsek & Greenhalgh (2001), "In a complex adaptive system, agents respond to their environment by using internalized rule sets that drive action" (p. 625). "In a biochemical system, the "rules" are a series of chemical reactions" and "at a human level, the rules can be

expressed as instincts, constructs, and mental models" (Plsek & Greenhalgh, 2001, p. 625). It is important to note in human systems, patterns emerge from the interactions of agents through thoughts, experiences, and perceptions; and in organizations, individuals play out their roles, relationships, and expectations to generate patterns of competition or innovation (Human Systems Dynamic Institute, 2019). In addition, history, traditions, and expectations all influence behavior that shape the dominant patterns as the culture of that group (Human Systems Dynamic Institute, 2019).

Complex Adaptive Systems Theoretical Framework

"The new science of Complex Adaptive Systems may provide new metaphors" and "the machine metaphor lets us down badly when no part of the equation is constant, independent, or predictable" (Plsek & Greenhalgh, 2001, p. 625). A Complex Adaptive System is a "collection of individual agents with freedom to act in ways that are not always totally predictable, and whose actions are inter-connected so that one's agent's actions changes the context for other agents" (Plsek & Greenhalgh, 2001, p. 625). Complexity is the generation of rich, collective dynamical behaviours from simple interactions between large numbers of subunits (Rickles et al., 2007). Complex systems often exhibit self-organization, which happens when systems spontaneously order themselves without ''external'' control (Rickles et al., 2007).

Another important feature of a complex system is the idea of "feedback", where the output of some process within the system is ''recycled'' and becomes a new input for the system (Rickles et al., 2007). In complex systems, feedback occurs between levels of organization, where the micro-level interactions between the subunits generate some pattern in the macro-level which then ''back-reacts'' onto the subunits, causing them to generate a new pattern and "back-reacts" again and so forth (Rickles et al., 2007). This kind of ''global to local'' positive

feedback is called “co-evolution”, a term used in biology to describe the way organisms create their environment and are in turn moulded by that environment (Rickles et al., 2007).

Health Care as a Complex Adaptive System

“Across all disciplines at all levels and throughout the world, health care is becoming more complex” and Complex Adaptive System lens can describe “the challenges of health care in the 21st century” (Plsek & Greenhalgh, 2001, p.625). As per Rouse (2008), health care is a Complex Adaptive System due to its non-linearity and unpredictability. Due to non-linearity and unpredictability, there are tensions and paradoxes which can not easily be resolved (Plsek & Greenhalgh, 2001). Health care is comprised of independent agents with different needs and goals that are likely to create conflict (Tsasis et al., 2012),. As identified by Tsasis et al., (2012), there are competing issues due to weak ties and poor alignment among professionals and organizations, or barriers due to a lack of funding or bureaucratic structures, which makes health care inherently complex.

A number of scholars argue that health systems are complex and adaptive (Plsek & Greenhalgh, 2001; Begun, Zimmerman & Dooley, 2003). Health care delivery, like Complex Adaptive Systems, involves diverse professional groups and organizations, evolving patient needs, conflicting interests, and changing technologies and treatments which are all embedded within a particular social, political, and economic context (Tsasis et al., 2013). According to The Health Foundation (2010), the use of Complex Adaptive System lens emphasizes that “the sum of the whole was greater and more complex than the sum of individual parts” (p. 24).

Since “complexity theory draws attention to the evolving inter-relationships among system elements at various levels of the system” (The Health Foundation, 2010, p. 24), it has also been suggested that “patients and families can be understood as Complex Adaptive Systems” (The Health Foundation, 2010, p. 16). Therefore, The Health Foundation (2010) recommended by “understanding the non linear dynamics of features internal and external to

patients can improve how health is defined; enhance professionals' understanding of patients, disease and the systems in which they converge; help to develop future monitoring systems and be used to support change" (p. 16). The use of the Complex Adaptive System lens may help to define the complex nature of integration (Glouberman & Mintzbert, 2001a & 2001b).

Collaborate (why? & how?)

Unfortunately, health care policies fail to recognize the importance of relationship-building, trust, and alignment across organizations and professional groups (Tsasis et al., 2012). In each organization/sector, there are contextual differences in policy, governance, funding, history and patient populations, which may impact integrated care (Tsasis et al., 2012). For many leaders, the questions remain 'why' should they collaborate and 'how'? The Complex Adaptive Systems lens is useful for governments and Ministries to identify competing challenges and conflicting needs (Tsasis et al., 2012). Policies and management practices should be focused and promote system awareness and information-sharing to better understand the roles and activities of others in the system (Tsasis et al., 2012).

Kania et al. (2018) reported that systems changes are more likely to be sustained when the six conditions are implemented, which are 1) Policies, 2) Practices, 3) Resource Flows, 4) Relationships & Connections, 5) Power Dynamics, and 6) Mental Models. As described by Kania et al. (2018), "most systems theorists agree that mental models are foundational drivers of activity in any system" (p. 8). In addition, "changing mental models often means challenging power structures that have defined, influenced, and shaped those models historically and in the present" (Kania et al., 2018, p. 11). Kania et al. (2018) provided examples of complex systems changes in health care reform, racial inequities, and environment issues.

Inter-Organizational Relationships

Dr. Peter Senge is a “Systems Scientist”, and he uses systems theory to address economic and organizational change (Senge, 2013). In his book titled *The Fifth Discipline* (1990), Senge provides “ground breaking” ideas on building organizations and proposes the importance of recognizing inter-organizational challenges and transforming relationships (i.e., build sense of mutuality, shared vision and trust). Traditional management approaches through “Management by Instruction” (i.e., giving orders) and “Management by Objectives” (i.e., defining objectives) fail to manage change in turbulent environments (Dolan et al., 2000).

Organizations should not be controlled; rather, they should develop self-organizing capacity through the concepts of “Attractor Behaviour” and “Conditions for adaptation”, which are necessary for self-organization to develop relational capacities to manage constant change and to accept a set of values (Dolan et al., 2000). To manage organizational complexity, Dolan et al. (2000) suggests that cultural changes are necessary. Further, Dolan et al. (2000) emphasizes that the human aspects of changes are necessary when implementing change management and cultural change strategies.

Dolan et al. (2000) proposed the following “Conditions for adaptation” in turbulent environments:

- Reach shared ends and principles
- Generate trust to deal with uncertainty
- Work with flexibility
- Explore chaotic situation to develop creativity and innovation
- Simple structures and rules
- Self-organize
- Stimulate participation and collaboration
- Create social responsibility
- Create high quality relationships between oneself and others
- Accomplish well-being in both ethical and emotional aspect

Source: Dolan, Garcia, Diegoli & Auerach (2000). Organisational Values as "Attractors of Chaos”: An Emerging Cultural Change to Manage Organisational Complexity.

Self-Organizing Capacity

In the current health care system, there are competing challenges and conflicting needs for integrated care (Tsasis et al., 2012). Complex Adaptive System Theory suggests that given the right conditions, the health care system can and will self-organize into meaningful partnerships (Edgren, 2008). The application of "complexity" recognizes the role of shared value, social innovation and emergent behaviours (Willis et al., 2017). With self-organizing capacity, patterns will inherently emerge and may create opportunities for innovation, which occurs naturally from the interactions within a complex system without being imposed centrally (Plsek & Greenhalgh, 2001). In complex adaptive systems, the principle of self-organization suggests that once partnerships are formed, new partnerships can emerge, depending on the demand of the environment and the challenges (Tsasis et al., 2012).

Inter-dependency

Senge (1990) proposes that collaboration is essential for adopting changes particularly to recognize inter-dependencies and to develop a new mindset. As per Senge (1990), there are five disciplines for learning organizations: 1) personal mastery, 2) mental models, 3) building shared vision, 4) team learning, and 5) systems thinking. There will be challenges since every agent in each system is evolving together and interacting with others; thus, it is difficult to fully understand the entire system (Plsek & Greenhalgh, 2001). There needs to be "spaces for reflection and deeper conversations" to recognize that "we have met the enemy and he is us" (Senge, 2013). As per Senge (2013) "collaborating organizations must see themselves as part of the problem and consequently be open to changes in how they think and operate". To build sustainable collaborative networks that transform individuals, organizations and systems, it will take time to develop team learning and systems thinking in the entire network (Senge, 1990).

Systems Transformation & Change (Mindset)

Complex Adaptive Systems involve a dynamic network of agents acting and constantly reacting to what the other agents are doing which influences the behaviour and impacts the entire network (Holland, 1994). Ideally, systems that are integrated, self-organizing wholes consisting of smaller parts and at the same time, acting as parts of larger wholes are successful (Capra, 1982). In complex adaptive systems, tensions and paradoxes are natural, which cannot necessarily be resolved (Tsasis et al., 2012). However, it starts with the intention to truly understand "what people are saying and let solutions emerge", rather than "impose a direction" and recognizes the role of shared value, social innovation and emergent behaviours (Willis et al., 2017). Because the new process is complex with uncertainty and unpredictability, emergent design involves a mindset of curiosity, flexibility and experimentation (Suchman, 2011).

Since self-organizations cannot be controlled, the positive deviance affects the parameters shaping self-organization in human systems (i.e., flow of information, number and quality of connections, degree of diversity in perspectives, and power differentials) (Lindberg & Schneider, 2013). As demonstrated in a paper by Tsasis & Bruce-Barrett (2008), the implementation of Lean Thinking and change management theories can create a culture which allows organizations to quickly adapt to changing conditions. Further research is needed to explore the benefits of Lean Thinking and change management theories in health care networks, where various organizations need to work together (Tsasis & Bruce-Barrett, 2008).

'How to' measure collaboration?

Health system transformation may be achieved with stakeholder alignment on integration of care through dialogue (Tsasis et al., 2013). The application of a Complex Adaptive Systems lens in combination with other theoretical frameworks are needed to inform how the health care system functions (Tsasis et al., 2012). Since there are few tools to facilitate the application of a Complex Adaptive Systems perspective for integration efforts (Tsasis et al.,

2013), the use of Relational Coordination Theory and its associated survey can be used. As the Relational Coordination Survey is a fully validated network measurement instrument (Gittell, 2016), Relational Coordination Theory/Survey can be used to identify the patterns of communication and collaboration among various stakeholders and "Tables".

Relational Coordination

The Relational Coordination concept is simply how people work together and defined as "communicating and relating for the purpose of task integration" (Relational Coordination Collaborative, Retrieved from https://relationalcoordination.org/). Gittell's Theory of Relational Coordination postulates that effective coordination is achieved through frequent, timely, accurate and problem-solving communication through shared goals, shared knowledge and mutual respect (Gittell, 2006). Shared goals ensure that interests are aligned; shared knowledge allows participants to understand how their specific tasks fit within the overall process; and mutual respect enables participants to overcome status barriers that might otherwise prevent them from taking others' perspectives (Gittell, 2011). Communication and relationship can enable participants to coordinate their inter-dependence, particularly when work is highly inter-dependent, uncertain, and time constrained (Gittell, 2012).

Relational Coordination Theory

The conceptualization of coordination as a process of reciprocal inter-relating derives from Mary Parker Follett's work "Freedom and coordination: Lectures in business organization" (1949). Follett (1949) was a Social Worker and Management Theorists from Boston (Massachusetts, USA), who was a pioneer in the field of Organizational Theory and Behaviour. In Mary Parker Follett's work, she developed four "Principles of Coordination", namely principles

of 1) Early state, 2) Continuity, 3) Direct contact, and 4) Reciprocal relations. Follett is recognized as the “mother” of scientific management for developing the coordination principle.

> “Coordination as the reciprocal relating of all factors in a situation, shows us just what this process of coordination actually is, shows us the nature of unity. This sort of reciprocal relating, this interpenetration of every part by every other part and again by every other part as it has been permeated by all, should be the goal of all attempts at coordination, a goal, of course, never wholly reached” (Follett, 1949, p. 214).
>
> "When you have a purely up and down the line system of management, you lose all the advantage of the first-hand contact, that backwards and forwards, that process of reciprocal modification" (Follett, 1949, p. 198).

Dr. Jody Hoffer Gittell is a Professor of Management at Brandeis University's Heller School for Social Policy and Management (Massachusetts, USA) and is the Co-Founder of the Relational Coordination Collaborative. Gittell (2016) developed the Relational Coordination Theory proposing that highly inter-dependent work is most effectively coordinated by frontline workers with each other, their customers and their leaders through relationships of shared goals, shared knowledge and mutual respect, supported by frequent, timely, accurate, problem-solving communication.

Organizations either support or undermine these networks through the design of their structures (Gittell, 2016). To understand how organizations and their stakeholders can strengthen Relational Coordination to achieve their desired outcomes, Gittell developed the Relational Model of Organizational Change (Gittell, 2016). To support research and organizational change, Gittell developed and validated the Relational Coordination Survey. The conceptualization of the Relational Coordination Theory is described by Gittell (2015):

- Three dimensions of relationships of “shared goals”, “shared knowledge”, and “mutual respect” underlie effective coordination work, which exist between work roles rather than between individual participants.
- Relational forms of coordination influence quality and efficiency outcomes, which may be weaker or stronger depending on the nature of the work.
- Formal organizational structures can be designed to support relational forms of coordination, rather than suggesting that formal structures are necessarily substitutes or impediments to Relational Coordination.

Relational Coordination Survey & Its Seven Dimensions

Gittell's Relational Coordination Survey is a fully validated network measurement instrument to measure collaboration, which has been widely used to document relationships requiring coordination between individuals or groups (Bolton, Logan & Gittell, 2021). Relational Coordination has been implemented and studied in a variety of industries and sectors, including airlines, banking, criminal justice, education, health care, information technology, and manufacturing as per Relational Coordination Collaborative (RCC, 2019). As well, Relational Coordination has been implemented and studied in a wide array of countries, including United States, Canada, Denmark, Norway, Sweden, Netherlands, England, Ireland, Japan, China, Korea, Pakistan, Saudi Arabia, Australia and New Zealand (RCC, 2019).

Relational Coordination Survey has been used to identify the communication patterns and stakeholder relationships based on the seven dimensions. The seven dimensions of the Relational Coordination survey are: 1) frequent communication, 2) timely communication, 3) accurate communication, 4) problem-solving communication, 5) shared goals, 6) shared knowledge, and 7) mutual respect (Gittell, 2006). The seven dimensions of the Relational Coordination Theory have been validated to measure the strength of relationships and teamwork around a particular work process (Valentine et al., 2015).

The Relational Coordination Survey has been used with multiple stakeholder groups in an intra-organizational and inter-organizational context, such as in a new community coalition focused on increasing youth safety and improving police-community relationships in a high crime neighborhood (Hajjar et al., 2020). In this dissertation research study, the Relational Coordination Survey has been applied to assess the communication and collaboration in the context of health systems integration among the stakeholders and "Tables" from multiple organizations.

Relational Coordination is Necessary for Change

With Relational Coordination Theory, the quality of communication and relationships amongst participants is as important as the technical requirements of the work (Gittell, 2011). As reported by Fletcher et al., (2009), changing formal structures alone is not enough because the new structures will not be embraced or sustained unless the assumptions that underlie them are identified and questioned; therefore, 'discursive' or 'relational' space is needed to identify and question the current assumptions (Fletcher et al., 2009). There is a need to adopt change management principles including "organizational learning" (Senge, 2013) and "organizational culture" (Schein, 2010). As described by Schein (2010), the concept of organizational culture contributes to the dynamics of the organization and related changes.

The Relational Coordination Theory proposes that organizational structures and work processes can be designed to support or undermine the patterns of Relational Coordination (RCC, 2019). According to the Relational Coordination Collaborative (RCC, 2019), the Relational Coordination Theory is supported by strong evidence-based research findings; where the strength of Relational Coordination among participants in a work process predicts performance outcomes, which may include quality/safety, efficiency, customer satisfaction, workforce resilience, learning and innovation. Since performance outcomes are critically and strategically important for organizations to achieve its goals, the adoption of Relational Coordination can enable better communication and strengthen relational capacity (RCC, 2019).

Relational Capacity

Relational forms of coordination have been further developed to recognize the process, particularly the quality of communication and relationships among participants Gittell (2002). With Relational Coordination, the people involved can build information processing capacity

through communication, provide social support, and reduce stress through relational capacity (Gittell, 2016). The seven Relational Coordination dimensions support coordination activities are distinct from the formal coordinating mechanisms, as they cannot be pre-planned and are not explicitly stated in protocols or training programs (Gittell, 2000; Gittell, Seidner, & Wimbush, 2007). Through relational capacity and adaptive work, the stakeholders can perhaps better manage their inter-dependencies and improve their outcomes (Gittell, 2016).

Inter-dependency

Gittell (2016) supports that inter-dependence is the secret ingredient for peak performance. As described by Gittell (2015), Relational Coordination is a theory of coordination that makes the relational process visible and involves the inter-dependence of tasks and the people performing the tasks. The Relational Coordination Theory postulate that high quality relationships are needed to manage inter-dependence among participants under conditions of complexity, enabling emergent and adaptive responses (Gittell et al., 2017). Relational Coordination can be conceptualized as a network of relational and communication ties among participants in a work process, where the process (with its many inter-dependent tasks) and drives positive performance outcomes and adds value for an organization (Gittell, 2011).

Gittell conceptualizes Relational Coordination as operating through a network of ties among participants who inter-dependently transform inputs into outcomes of value for the organization (Gittell, 2011). Relational Coordination works at multiple levels, from small co-located teams (micro) to large complex multi-level system (macro) (RCC, 2019). In a systematic review, Bolton, Logan & Gittell (2021) reported that Relational Coordination is a network concept and can be applied in small groups or large multi-sector ecosystems as long as the work is inter-dependent.

Relational Model of Organizational Change

The Relational Model of Organizational Change (RMOC) demonstrates how structures can support Relational Coordination and provide guidance on "how to" build and sustain organizational changes (RCC, 2019). With RMOC, when conditions are inter-dependent, uncertain and constraint by time, this increases the need for communication (information exchange) and relational capacity through the seven Relational Coordination dimensions (RCC, 2019). In the RMOC, the structures (i.e., select and train for teamwork, shared accountability, shared rewards, shared conflict resolution process, boundary spanner roles, relational job design, shared meetings and huddles, shared protocols and shared information systems) impacts on Relational Coordination and performance outcomes (RCC, 2019).

Relational Coordination Theory proposes that organizations can design their structures to encourage systems thinking, strengthen Relational Coordination, and improve performance and outcomes (RCC, 2019). The RMOC suggests that structural interventions can be assessed and implemented, including human resources practices, job design, accountability, rewards, meetings, and information systems to strengthen Relational Coordination (RCC, 2019). In addition, the Organizational Structures Assessment Tool (OSAT) can be used by leaders to determine "How well does organizational structures support Relational Coordination?" However, the use of the Organizational Structures Assessment Tool (OSAT) is still in development and further research is currently being conducted to validate this tool (RCC, 2019).

Complexity Leadership

As discussed in an interactive panel symposium at Academy of Management in 2017, the concept of Complex Leadership has been emerging to understand how leaders can operate in today's complex environments (Gittell et al., 2017). Complexity Leadership considers the use of complexity science to demonstrate how organizations can be designed to operate as

Complex Adaptive Systems. As proposed by Gittell et al. (2017), Complexity Leadership is contrary to top-down perspectives grounded in bureaucratic and control. Complexity Leadership posits those high-quality relationships are needed to manage inter-dependence among participants in complex conditions, where emergent and adaptive work can be achieved without formal leaders to control and provide direct responses (Gittell et al., 2017).

Gittell's (2006) Relational Coordination Theory and RMOC supports that effective coordination under complex conditions can be improved by frequent, timely, accurate and problem-solving communication and by relationships of shared goals, shared knowledge and mutual respect. By focusing on Complexity Leadership as contributed by the Relational Coordination Theory will help to understand how leaders can create the right conditions to allow for adaptive capacity in complex adaptive organizations (Gittell et al., 2017). In this research, the use of Complexity Adaptive Systems and Relational Coordination Theories are used.

Combining Complex Adaptive Systems and Relational Coordination Theories

In a previous case study, Logan et al. (2016) used the combination of Relational Coordination and Complexity Theories in the context of an organizational change initiative. As demonstrated by Logan et al. (2016), the case study explored how change agents in one health care organization engaged, which provided an example of how the two theories support one another. While "Complexity" Theory draws on a systems approach, Relational Coordination Theory explores the dynamics of relationships and interactions that support successful performance and how organizational structures can either support or hinder the development of these dynamics (Logan et al., 2016). This case study contributes to the integration and further development of Complexity and Relational Coordination Theories in an organizational context.

Recent empirical research suggests that Relational Coordination is a predictor of an organization's adaptive capacity, including the ability to learn from failure, engage in

collaborative knowledge creation, and innovate (Carmeli & Gittell, 2009; Noel et al., 2013). As per Logan et al. (2016), with improved Relational Coordination, participants can adapt to changes, develop capacities and successfully manage their inter-dependence to improve outcomes. Relational Coordination Theory does not explicitly address organizational change; however, Relational Coordination Theory provides the connections for managing inter-dependencies. While Complexity Theory looks at how systems act, Relational Coordination Theory describes the nature and quality of human interactions (Logan, et al., 2016).

Rationale for Use of Complex Adaptive Systems and Relational Coordination Theories

There is a well-known saying "there is nothing as practical as good theory" (Lewin, 1952, p. 169). Since cross-sectoral collaboration is a complex relational process, the theoretical frameworks proposed in this study are Complex Adaptive System in combination with Relational Coordination. Relational Coordination Theory offers another insight into organizational change that is more directly complementary with Complexity Theory (Logan et al., 2016). The seven dimensions of Relational Coordination (i.e., shared goals, shared knowledge, mutual respect, and communication frequency, timeliness, accuracy and problem-solving) provides an assessment of the quality of interactions for high functioning self-organizing systems.

In consultation with Dr. Peter Tsasis and Dr. Jody Gittell, both Complex Adaptive Systems and Relational Coordination theories are recommended to address and assess the relational dynamics that supports (or hinders) the development of adaptive capacity in cross-sectoral collaboration. Therefore, in this dissertation research study, Complex Adaptive System and Relational Coordination Theories have been applied to understand the process on "how to" build cross-sectoral collaboration among various organizations to achieve health systems integration and transformation. Since the current health system does not effectively support

inter-dependence and cross-sectoral collaboration, there is an opportunity to shed some light on this, given the need to integrate and transform the health system.

Trust, Psychological Safety and Organizational Readiness

Trust, Psychological Safety and Organizational Readiness constructs are identified as potential cross-cutting themes in this study. Trust, Psychological Safety and Teaming by Edmondson (1999) and Organizational Readiness and Building Capacity by Wandersman & Scaccia (2017) are described briefly below. Further details are presented in Appendix A.

- Trust refers to interactions between two individuals or parties; trust exists in the mind of an individual and pertains to a specific target individual or organization. For instance, you might trust one colleague but not another (Edmondson, 2014).
- Psychological safety is experienced at a group level. People working together tend to have similar perceptions of whether or not the climate is psychologically safe (Edmondson, 2014).
- Organizational Readiness is a construct that encompasses the conditions that are necessary to ensure quality implementation (Scaccia et al., 2015). For Organizational Readiness, Wandersman's Center (Wandersman & Scaccia, 2017) developed a practical implementation science heuristic, abbreviated as "$R= MC^{2}$" to describe the key concepts:

    1. the "M" is the motivation to implement an innovation,
    2. the "C" is the general capacities of an organization, and
    3. the "C" is the innovation-specific capacities to implement a particular innovation.

Lessons Learned from Theoretical Frameworks

As identified in this Chapter, there are limited studies which directly applied Complex Adaptive Systems and Relational Coordination theories together. In a previous case study, Logan et al. (2016) used the combination of Relational Coordination and Complexity Theories in the context of an organizational change initiative in a single institution. In this dissertation

research study, Dr, Tsasis and Dr. Gittell recommended the use of Complex Adaptive Systems and Relational Coordination theories to study the impact of cross-sectoral collaboration with multiple stakeholder groups in the context of health systems integration and transformation.

The application of the Complex Adaptive Systems and Relational Coordination theories are suitable for this dissertation research study. The Relational Coordination Theory puts flesh on the bones of "Complexity" by adding insights regarding the nature and quality of human interactions that are conducive to high functioning self-organizing systems (Logan et al., 2016). This naturalistic study is unique as the collaboration took place "voluntarily" without mandates, with no formal interventions implemented and with no specific outcome measures. Since the "Tables" are able to self-organize and self-manage in this study, this may help to better understand and support on "how to" create the context and conditions for self-organization.

By using the Complex Adaptive Systems and Relational Coordination theories, and the Ten Key Principles for Successful Integration (Suter et al., 2009), this dissertation research study can provide a better understanding of the patterns of communication and collaboration among newly formed stakeholder groups or "Tables". The goal of this research is to identify the key success factors and enablers, and challenges and barriers for cross-sectoral collaboration and develop a policy framework on "how to" build cross-sectoral collaboration for health systems integration and transformation for leaders and policymakers.

In this Chapter, the Complex Adaptive Systems and Relational Coordination theories have been summarized. The concepts of Relational Model of Change (RMOC) and Complexity Leadership have been introduced to understand how leaders can work in complex environments. In addition, the constructs of Trust, Psychological Safety and Organizational Readiness have been identified as potential cross-cutting themes.

Chapter Four: Research Methodology and Research Design

Introduction

In this dissertation study, the research aim is to understand the patterns of intentional cross-sectoral collaboration and to discover the key success factors and challenges for achieving health systems integration and transformation. Since health care delivery systems are complex to study, a naturalistic inquiry approach has been used as it is well-suited for answering questions related to social processes. The Relational Coordination Survey has been used extensively to assess the communication and relationships among stakeholder groups. Since qualitative methods are an effective methodological approach to explore the phenomenon in order to gain "thick" description of the wholeness of the experience (Patton, 2002), interviews have been conducted with key informants. To strengthen the research, Methodological Triangulation and Member Checking have been performed to validate the findings.

A mixed-methods approach has been undertaken through the use of the Relational Coordination Survey (Baseline and Follow-up Year One), qualitative interviews (Baseline) and member checking. In summary, the study four phases are outlined below.

Phase 1: Baseline Survey

- The Relational Coordination Survey has been used to assess the communication patterns and relationships among the various stakeholders and "Tables".
- Participants have been asked to rank the most important factors necessary for building cross-sectoral collaboration.

Phase 2: Individual Interview (conducted with key informants by telephone)

- An interview guide has been used for participants who volunteered to be interviewed and who shared their views and experience being on the "Tables". Qualitative thematic analysis has been conducted to identify emergent and cross-cutting themes.

Phase 3: Follow-up Survey (Year 1)

- For the Follow-up Survey, the Relational Coordination Survey has been used to identify if there are any changes compared to the Baseline Survey.
- Participants have been asked to rank the Reasons for Participation on the "Tables".

Phase 4: Member Checking

- Members' checking has been done to validate the research findings.

Purposive Sampling

A purposive sampling method has been selected with members of the "Tables". Each member who participated on the "Tables" at baseline and follow-up (Year 1) has been invited through an email to complete the online survey via SurveyMonkey®. The survey is not mandatory where participation in the online survey is voluntary. Respondents who complete the baseline survey have been asked if they wish to take part in a telephone interview. If the respondents agree to participate in a telephone interview, they can provide their name and email. The researcher would contact and schedule them via email for a telephone interview.

Research Hypothesis and Research Questions

The research questions are to investigate the following:

1. What are the patterns of communication and collaboration among stakeholder groups?
2. a) Are there differences in Relational Coordination among stakeholder groups?
   b) Are there differences in Relational Coordination among the "Tables"?
3. Is there a difference in Relational Coordination at baseline and at follow-up?
4. What are the key success factors and enablers, and challenges and barriers for cross-sectoral collaboration?
5. What does a policy framework look like on "how to" build cross-sectoral collaboration to achieve health systems integration and transformation for leaders and policymakers?

Survey Questions

Data has been collected via online survey. Baseline Survey is presented in Appendix B and Follow-up Survey is presented in Appendix C in its entirety. Survey Questions including context, questions and responses at baseline and at follow-up are presented in Table 1.

Table 1: Survey Questions

Context	Questions	Responses	Base-line	Follow-up
Sub-Region(s) or "Table(s)"	Select the Sub-Region Collaborative Table(s) you represent.	(Urban 1, Urban 2, Suburban 1, Suburban 2, Rural 1, Rural 2)	√	√
Participant Demographics	Select the title(s) that best describes your current position.	Administrator, Clinical Lead, Physician Lead, Senior Executive	√	√
	How long have you been working in your current position?	<1year, 1-5 years, 5-10 years, >10 years	√	
Stakeholder Perspective	Select the stakeholder perspective you are representing that best describes your role on the Sub-Region Collaborative Table.	Primary Care, Community Sector, Specialty communities, Hospital Sector, Health Region (LHIN), Long-Term Care, Mental Health, Public Health	√	√
Current level of integration	Based on the stakeholder perspective you are representing on the Sub-Region Collaborative Table, what is the current level of relationship with each of the following organizations?	Not required=0, No relationship=1, Planning =2, Developing=3, Functional=4, Integrated=5	√	
Frequency of working together	How often does your organization currently work with each of the following organizations?	Not required=0, None=1, Rarely=2, Occasionally=3, Often=4, Very often=5	√	
Current communication	How does your organization currently communicate with the following organizations? Select all that apply.	Formal meetings, informal meetings, phone, fax, email, video conference, information system, or not required	√	

Relational Coordination Survey

The Relational Coordination Survey has seven questions, which includes four about communication patterns (frequency, timeliness, accuracy, and problem-solving) and three about stakeholder relationships (shared goals, shared knowledge, and mutual respect). These seven dimensions of Relational Coordination have been discovered through qualitative field research, which together form the construct and have been fully validated (Gittell, 2000). In developing the Relational Coordination Survey (Baseline and Follow-up), there have been numerous iterations for this dissertation research study. Some wording to the questions has been modified to tailor the survey to the "Tables" with consultation with academics, researchers and stakeholders.

The following academics, researchers and stakeholders have been consulted:

- Dr. Saleema Moore, Relational Coordination Analytics (RCA)
- Dr. Jody Gittell (RCC)
- Dr. Peter Tsasis (York University)
- "Table" Leads and Directors (LHIN)

The Relational Coordination survey response categories are based on a five-point ordinal Likert–type scale, with "one" indicating the worst response and "five" indicating the best for each Relational Coordination dimension (Gittell, 2000). "Zero" indicates the response is "Not required". Cronbach's Alpha has been used to analyze internal consistency of reliability. The standard for Cronbach's Alpha is 0.70 for exploratory studies, 0.80 for basic research studies, and 0.90 for applied research studies (Gittell, 2000). A higher Cronbach's Alpha is ideal for ensuring reliability. The Relational Coordination Survey Questions (including Dimension, Survey Questions and Responses at Baseline and at Follow-up) are presented in Table 2.

Table 2: Relational Coordination Survey Questions

Relational Coordination Dimension	Survey Questions	Responses	Base-line	Follow-up
Frequency of communication Consider all forms of communication, including in-person meetings, phone calls, e-mails, etc.	How frequently do people in each of these stakeholder groups communicate with your organization about addressing population health needs and planning within your Sub-Region?	Not required=0, Not Nearly Enough=1, Not Enough=3, Just the right amount=5, Too often=4, Much too often=2	√	√
Timely of communication Consider all forms of communication, including in-person meetings, phone calls, e-mails, etc.	Do people in each of these stakeholder groups communicate with your organization in a timely way to address population health and planning needs within your Sub-Region?	Not required=0, Never=1, Rarely=2, Occasionally=3, Often=4, Always=5	√	√
Accuracy of communication Consider all forms of communication, including in-person meetings, phone calls, e-mails, etc.	Do people in each of these stakeholder groups communicate with your organization accurately to address population health and planning needs within your Sub-Region?	Not required=0, Never=1, Rarely=2, Occasionally=3, Often=4, Always=5	√	√
Problem-solving communication Consider all forms of communication, including in-person meetings, phone calls, e-mails, etc.	When there is a problem related to addressing population health needs and planning within your Sub-Region, do people in these stakeholder groups point fingers or work with your organization to solve the problem?	Not required=0, Always point fingers=1, Mostly point fingers=2, Neither point fingers nor solve=3, Mostly solve=4, Always solve=5	√	√
Shared Goals	Do people in these stakeholder groups share your organization's goals for addressing population health needs and planning within your Sub-Region?	Not required=0, Not at all=1, A little=2, Somewhat=3, A lot=4, Completely=5	√	√
Shared Knowledge	Do people in these stakeholder groups know about the services your organization provides to address population health and planning needs within your Sub-Region?	Not required=0, Nothing=1, A little=2, Some=3, A lot=4, Everything=5	√	√
Mutual Respect	Do people in these stakeholder groups respect the services your organization provides with addressing population health needs and planning within your Sub-Region?	Not required=0, Not at all=1, A little=2, Somewhat=3, A lot=4, Completely=5	√	√

Ranking Questions

Ranking questions have been used to identify key success factors, enablers, challenges, and barriers for cross-sectoral collaboration. In the literature, many authors identified cross-sectoral collaboration as an important requirement for improving service delivery to various communities (Institute of Public Administration Australia, 2002). Ten relatively universal principles of successful health systems integration have been identified by Suter et al. (2009); however, more needs to be learned about the underlying factors for collaboration. As per Wakerman & Mitchell (2005), there are various rationales, both pragmatic and political, for collaboration. There are enablers and barriers, including relationships among partners, shared vision, leadership, resources, structures, and process (Danaher, 2011).

In the context of the "Tables", to identify the key success factors, enablers, challenges and barriers for cross-collaboration, participants have been asked to rank various constructs in order to determine their perspectives. The ranking questions have been used to identify the most important factors necessary for building cross-sectoral collaboration, which will further develop and provide support on the use of Complex Adaptive Systems and Relational Coordination theories and Ten Key Principles of Successful Integration.

The ranking questions and its related responses are:

- Relational Coordination (Baseline)
- Basic Structures (Baseline)
- Leadership & Organizational Culture (Baseline)
- Processes (Baseline)
- Integration Strategies and Enablers (Baseline)
- Reasons for Participation (Follow-up)

The Ranking Questions (Baseline) and Ranking Questions (Follow-up) are presented in Table 3 and Table 4 respectively.

Table 3: Ranking Questions (Baseline)

Constructs	Question	Responses	Base -line
Relational Coordination (i.e., communication, shared goals, shared knowledge, mutual respect)	**Relational Coordination Theory:** In order of importance, which of the following aspects of collaboration do you view as most important to advancing population health needs and planning within your Sub-Region Collaborative Table. [1= Most important, 7 = Least important]	-Frequent communication -Timely communication -Accurate communication -Problem-solving communication -Shared Goals -Shared Knowledge -Mutual Respect	√
Relational Coordination (i.e., communication) **Relational Model of Organizational Change** (i.e., shared information system) **Complex Adaptive Systems** (i.e., inter-dependency, inter-organizational relationships, self-organizing capacity, health systems transformation)	**Basic Structures:** In order of importance, which of the basic structures do you view as most important to advancing population health and planning needs within your Sub-Region Collaborative Table. [1= Most important, 5 = Least important]	-Governance structure to set priorities and policies -Organizational design with defined roles and tasks -Available resources (i.e., financial and human) and incentives -Information system for communication across all organizations -Standard reporting framework to demonstrate accountabilities across the network	√
Relational Coordination (i.e., shared knowledge) **Relational Model of Organizational Change** (i.e., shared rewards) **Complex Adaptive Systems** (i.e., inter-dependency, inter-organizational relationships, self-organizing capacity, health systems transformation)	**Leadership and Organizational Culture:** In order of importance, which aspects of leadership and organizational culture do you view as most important to advancing population health and planning needs within your Sub-Region Collaborative Table. [1= Most important, 5 = Least important]	-Leaders provide a vision for integrated care -Understand inter-organizational culture and values -Employees are empowered to support the new changes -Clinician engagement with key leaders is necessary for implementing changes -Commitment to knowledge transfer and exchange with the larger network	√

Constructs	Question	Responses	Base-line
Relational Model of Organizational Change (i.e., shared protocols) **Complex Adaptive Systems** (i.e., inter-dependency, inter-organizational relationships, self-organizing capacity, health systems transformation)	**Processes:** In order of importance, which of the processes do you view as most important to advancing population health and planning needs within your Sub-Region Collaborative Table. [1= Most important, 5 = Least important]	-Joint process for planning and delivering care to patients -Commitment to patient-centred care and patient involvement -Formal agreements (i.e., policies, accountabilities) between organizations -Shared performance measurement system for tracking indicators and outcomes -Continuous quality improvement strategies being considered and implemented	√
Relational Model of Organizational Change (i.e., Accountability) **Complex Adaptive Systems** (i.e., inter-dependency, inter-organizational relationships, self-organizing capacity, health systems transformation)	**Integration Strategies and Enablers:** In order of importance, which of the integration strategies and enablers do you view as most important to advancing population health and planning needs within your Sub-Region Collaborative Table. [1= Most important, 5 = Least important]	-Need to address inter-organizational structure and processes -Need to build strong leadership and inter-organizational relationships -Need to develop system performance indicators and accountabilities -Need to define a shared vision and shared goals -Need to align policies with adequate resources	√

Table 4: Ranking Questions (Follow-up)

Construct	Question	Responses	Follow-up
Relational Model of Organizational Change (i.e., Select & Train for Teamwork) **Complex Adaptive Systems** (i.e., inter-dependency, inter-organizational relationships, self-organizing capacity, health systems transformation)	**Reasons for Participation:** In order of importance, which of the following describes the reasons for your participation as a member of the Sub-Region Collaborative Table. [1=Most important, 7=Least important]	I want to work toward addressing patient needs and planning care at the local community level.	√
		I have clinical expertise and/or leadership skills.	
		I want to network with others.	
		I was asked by my employer to represent.	
		I was asked by my employer to network with other organizations.	
		I am able to think at a systems-level.	
		I am interested in transforming the system.	

Quantitative Methods

The quantitative analysis included the use of SPSS 24 Software and Microsoft Excel 2016 to analyze the statistical data. A p-value of less than .05 is considered to be statistical significance. It indicates strong evidence against the null hypothesis, as there is less than a 5% probability the null hypothesis is true, and the results are random (McLeod, 2019). As a result, the null hypothesis is rejected, and the alternative hypothesis is accepted. For the Relational Coordination Survey, Cronbach's Alpha has been used to measure reliability. Analysis of Variance (ANOVA) was initially proposed; however, due to small sample size in some of the groups, the Kruskal Wallis Test has been used to compare and determine if there are differences among the stakeholders and "Tables". The use of t-test has been employed to determine if there are differences between the views of Interviewees and Non-Interviewees.

Qualitative Methods

Interview Guide

An Interview Guide has been developed in consultation with academics and researchers, including Dr. Peter Tsasis (with expertise in Complex Adaptive System), Dr. Jody Gittell & Dr. Saleema Moore (with expertise in Relational Coordination), and with feedback from the LHIN Leads/Directors. The LHIN wanted the interviews kept to 30 minutes. A "mock" interview has been conducted to test the interview questions for clarity, which was done with a Health Administrator who also has experience as a health care provider. In the interviews, there are semi-structured, open-ended and probing questions, where participants could discuss and elaborate their perspectives. The Interview Guide is presented in Appendix D (with four parts).

Part 1: Previous State: Working relationships
Part 2: Current State: Working relationships
Part 3: Future State: Recommendations to improve integrated care
Part 4: Next steps: LHIN and patient-centred care

Key Informant Interviews

Key informant interviews have been completed with members of the "Tables" who volunteered and consented to participate in a 30-minutes telephone interview. The purpose of the interviews is to understand the various perspectives and lived experience of members who represent a stakeholder group and may sit on one or more "Tables". Before the interviews, the participants are informed that their participation is voluntary. They may refuse to answer any questions, and their responses are recorded. They are also told that the results will be kept anonymous, such that their name or organization will be confidential. To keep confidentiality, any identifying information has been removed in the results. The interviews have been recorded and transcribed using the York University Learning Technology Services for analysis.

Sample & Recruitment

Since qualitative methods are an effective methodological approach to explore the phenomenon in order to gain "thick" description of the wholeness of the experience (Patton, 2002), interviews have been conducted with the members to understand their lived experience and perspectives. Only members who volunteered to be interviewed have been contacted. Before conducting the interviews, participants have been informed that their responses are recorded and kept confidential. Once the participants provided their verbal consent, the interviewee told them that they also can refuse to answer any of questions. An Interview Guide has been used, which included semi-structured, open ended and probing questions.

Data Collection

The interview responses have been recorded, transcribed and organized based on thematic analysis or "nodes". The themes or "nodes" are derived from the use of Relational Coordination and Complex Adaptive Systems Concepts, the Ten Key Principles for Successful

Integration along with Implications for Practice and Policy. Emerging and Cross-cutting themes have been identified. Member checking, also known as participant or respondent validation, is a technique for exploring the credibility of results (Birt et al., 2016). In this study, the results have been shared in a one-time meeting in December 2019 with a few members with experience leading the "Tables" based on convenience to check for accuracy. Member checking may help identify common constructs and add value to validate the survey results and interview findings.

Data Analysis

The interview responses and analysis have been informed by Relational Coordination and Complex Adaptive Systems Theories, the Ten Key Principles for Successful Integration and Implications for Practice and Policy. The interview recordings have been organized and categorized into the following emergent themes based on the following concepts.

- **Relational Coordination Concepts**
  - Communication (Success, Challenges)
  - Shared Goals (Success, Challenges)
  - Shared Knowledge (Success, Challenges)
  - Mutual Respect (Success, Challenges)
  - Relational Model of Organizational Change Concepts
    - Shared Accountability (positive, negative)
    - Shared Protocols (positive, negative)
    - Shared Information (positive, negative)
- **Complex Adaptive Systems Concepts**
  - Inter-Organizational Relationships
    - Previous – Working Together (positive, negative)
    - Current -Relationship Building (positive, negative)
    - Future – Readiness to Collaborate (positive, negative)
  - Self-organizing Capacity
    - Learn & Adapt (positive, negative)
    - Negotiate and Steer
    - Feedback
  - Inter-dependency
    - System Awareness (positive, negative)
    - Alignment
    - Complexity
  - Systems Transformation & Change (Mindset)
    - Constructing a Shared Vision and Responsibility (positive, negative)
    - Mutual necessity by recognizing the value of others
    - Context

- **Ten Key Principles for Successful Integration (Suter et al., 2009):**
    1. Comprehensive Services across the Continuum of Care (positive, negative)
    2. Patient Focus
    3. Geographic Coverage and Rostering (positive, negative)
    4. Standardized Care Delivery through Interprofessional Teams
       (Note: Concept is similar to Relational Coordination Shared Protocols)
    5. Performance Management
    6. Information Systems
       (Note: Concept is similar to Relational Coordination Shared Information Systems)
    7. Organizational Culture and Leadership (positive, negative)
    8. Physician Integration (positive, negative)
    9. Governance Structure (positive, negative)
    10. Financial Management (positive, negative)
- **Implications for Practice and Policy Concepts**
    - Practice
        - Engagement (positive, negative)
        - Implementation
        - Barriers/Challenges
        - Opportunities
    - Policy
        - Policy Development & Framework (positive, negative)
        - System Integration - Top down
        - System Integration - Bottom up (positive, negative)
        - System Integration – Both

Validation and Reliability

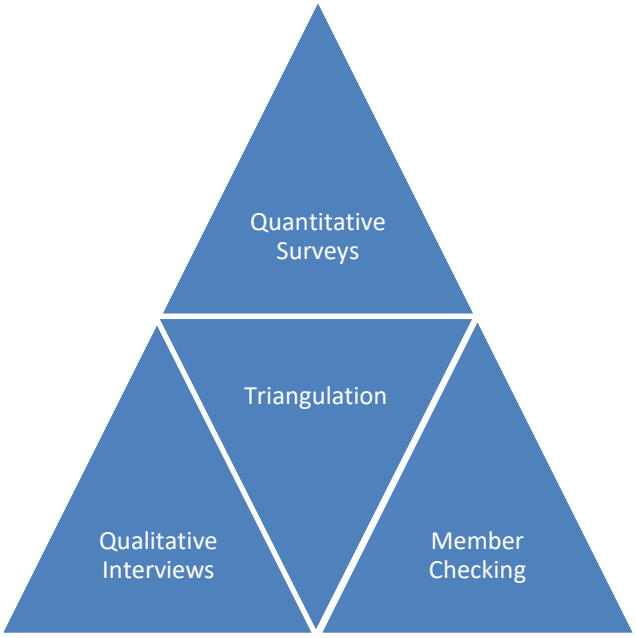
This research study uses a mixed methodology which includes quantitative surveys and qualitative interviews. In addition, member checking has been also conducted to confirm the findings, which strengthens the validity and reliability. In this study, the research questions and methodology have been pre-defined, and the results have been analyzed using thematic analysis and methodological triangulation. Lincoln and Guba (1985) suggested the use of triangulation to ensure internal validity, reliability, and transferability to enhance credibility and confirmability of the qualitative methods. With a variety of quantitative and qualitative data, the results can be compared to better understand the research phenomenon.

Methodological Triangulation

Triangulation is a method of conceptualizing mixed methods research based on critical interpretive methodologies (Denzin, 2012). Denzin (2009) defined “triangulation" by combining multiple observers, theories, methods, and data sources, researchers can hope to overcome the intrinsic bias that comes from single-methods, single-observer, and single-theory studies. “Triangulation” is a useful tool to provide more credibility and to support internal validity (Merriam & Tisdell, 2015). According to Kulkarni (2013), “triangulation” means using more than one method to cross-validate data and to capture differ dimensions of the same phenomenon.

In this dissertation study, Methodological Triangulation has been used to cross-validate the mix of data collected. In this study, the results from the quantitative surveys and the findings from the qualitative Interviews have been integrated or triangulated with member checking. The quantitative data includes the relational coordination concepts and ranking questions. The qualitative data includes qualitative interviews, which provide a better understanding of the contextual factors and the issues from the perspectives of the different stakeholders. Member checking helps to validate the data. Methodological Triangulation is presented in Figure 6.

Figure 6: Methodological Triangulation



Chapter Five: Results

Classification of "Tables"

Among the six "Tables", there are two "Suburban" regions with moderate population density (i.e., towns, cities), two "Urban" regions with a high population density (i.e., cities), and two "Rural" regions with low population density (i.e., counties). The "Tables" are labeled as "Suburban 1", "Suburban 2", "Urban 1", "Urban 2", "Rural 1" and "Rural 2". Population Served and Area (Approximate) is presented in Table 5 and Number of Members by Table in 2018 and 2019 is presented in Table 6. The number of members on each "Table", varied from 10 to 25.

Table 5: Population Served and Area (Approximate)

Tables	Population Served*	Area (KM^2)*	Population Density*	Example
Suburban 1	500,000	425	1176 /km^2	Moderate (i.e., Towns, Cities)
Suburban 2	400,000	225	1778 /km^2	
Urban 1	400,000	75	5333 /km^2	High (i.e., Cities)
Urban 2	300,000	75	4000 /km^2	
Rural 1	200,000	375	533 /km^2	Low (i.e., Counties)
Rural 2	100,000	325	308 /km^2	
Total	**1,900,000**	**1500 KM^2**	***Approximate**	

Table 6: Total Number of Members by Table in 2018 and 2019

	Total Number of Members	
Tables	**2018***	**2019^**
Suburban 1	14	22
Suburban 2	19	25
Urban 1	13	17
Urban 2	17	22
Rural 1	16	18
Rural 2	10	12
Total	**89**	**116**

NOTE:

During the period from 2018 to 2019, the total number of members increased with new members joining the "Tables". Due to this change in the sample size, this may impact the response rate (i.e., denominator) of the Follow-up Survey.

***13 members (2018) and ^23 members (2019) represent more than one "Table"**

Classification of Stakeholders

Initially, there had been 14 stakeholder sectors identified. However, due to small sample sizes, a few of the groups have been merged, resulting in the following eight stakeholders.

- Primary Care – Includes Community Health Centre, Primary Care (Team-Based Care), and Primary Care (Non-Team Based Care)
- Community Sector – Includes Community Services and Hospice
- Specialty Communities – Includes Francophone (Note: No participants from Indigenous)
- Hospital Sector – Includes Hospital and HealthLinks (Hospital-based)
- Health Region – Includes Local Health Integration Network Staff (LHINs)
- Long-Term Care
- Mental Health
- Public Health – Includes Public Health (Note: No participants from Municipality)

Study Period

During the research study period from December 2017 until December 2019, there was a change in the Ontario Government from the Liberal Party to Progressive Conservative Party who was sworn in on June 29, 2018. Since Phase 1 (Baseline Survey) and Phase 2 (Interviews) of the study took place in early 2018, there was no impact on the study. Due to a series of rumors regarding changes in the health system, the work of the LHINs and "Tables" was on hold, which affected the response rate for Phase 3 (Follow-up Survey) in early 2019. Also, during the period from 2018 to 2019, the total number of members increased with new members joining the "Tables". Due to the political climate and change in membership, these factors may impact the response rate of the Follow-up Survey.

Survey (Baseline and Follow-up) Response Rate

The response rate for the Baseline Survey was 62% (n=45) and for the Follow-up Survey was 25% (n=22). Due to a lower response rate than expected, reminders were sent out three times in the Baseline Survey and in the Follow-up Survey by the LHIN. Furthermore, due

to the change in government in 2018, the work of the "Tables" was on hold resulting in a lower response rate for the Follow-up Survey. The Survey Response Rates by Stakeholder is summarized in Table 7 and the Survey Response Rate by Table is summarized in Table 8.

Table 7: Survey Response Rates by Stakeholder

	Baseline Survey		Follow-up Survey	
Stakeholder	**Completed/Invited**	**Response Rate (%)**	**Completed/Invited**	**Response Rate (%)**
Primary Care	10/16	63	4/14	29
Community Sector	14/21	67	4/23	17
Specialty Communities	2/3	67	0/3	0
Hospital Sector	5/12	42	4/11	36
Health Region	2/3	67	5/20	25
Long-Term Care	2/2	100	0/2	0
Mental Health	8/10	80	4/7	57
Public Health	2/6	33	1/7	14
Total	**45/73**	**62**	**22/87**	**25**

Table 8: Survey Response Rate by Table

	Baseline Survey		Follow-up Survey	
Tables	**Completed**	**Response Rate (%)**	**Completed**	**Response Rate (%)**
Suburban 1	10/13	67	6/17	35
Suburban 2	10/15	67	4/19	21
Urban 1	5/13	39	1/13	8
Urban 2	11/15	73	5/17	29
Rural 1	6/12	50	4/13	31
Rural 2	3/5	60	2/6	33
Total	**45/73**	**62**	**22/87**	**25**

Distribution of Responses

Regarding the distribution of responses from the stakeholders in the Baseline Survey, most responses are from the Community Sector (31%) followed by the Primary Care (22%), and Mental Health (18%). In the Follow-up Survey, most responses are from Health Region (23%) followed by equally by Primary Care (18%), Community Sector (18%), Hospital Sector (18%), and Mental Health (18%). The Survey Response Distribution by Stakeholder is summarized in Table 9.

Table 9: Survey Response Distribution by Stakeholder

	Baseline Survey	**Follow-up Survey**
Stakeholder	**Distribution (%)**	**Distribution (%)**
Primary Care	22	18
Community Sector	31	18
Specialty Communities	4	0
Hospital Sector	11	18
Health Region	4	23
Long-Term Care	4	0
Mental Health	18	18
Public Health	4	5
Total	**100**	**100**

Regarding the distribution of responses from the "Tables" in the Baseline Survey, most responses are from the Urban 2 (24%) followed equally by Suburban 1 (22%) and Suburban 2 (22%). In the Follow-up survey, most responses are from Suburban 2 (27%) followed by Urban 2 (23%), and equally by Suburban 1 (18%) and Rural 1 (18%). The Survey Response Distribution by Table is summarized in Table 10.

Table 10: Survey Response Distribution by Table

	Baseline Survey	Follow-up Survey
Region	**Distribution (%)**	**Distribution (%)**
Suburban 1	22	18
Suburban 2	22	27
Urban 1	11	5
Urban 2	24	23
Rural 1	13	18
Rural 2	7	9
Total	**100**	**100**

Survey Response by Members

Based on the members who completed the survey, a majority of the responses are Senior Executives (Baseline 60%, Follow-up 64%) and Administrators (Baseline 13%, Follow-up 27%). There are Clinical Leads (Baseline 16%, Follow-up 9%) and Physician Leads (Baseline 11%, Follow-up 0%). The Survey Response by Role is summarized in Table 11.

Table 11: Survey Response by Role

	Baseline Survey	Follow-up Survey
Roles	**Distribution (%)**	**Distribution (%)**
Administrator	13	27
Clinical Lead	16	9
Physician Lead	11	0
Senior Executive	60	64
Total	**100**	**100**

Based on the members who completed the survey, a majority of responses have >10 years experience (33%), followed by 1-5 years experience (29%), and 5-10 years experience (22%). The Survey Response by Experience (Baseline) is summarized in Table 12.

Table 12: Survey Response by Experience (Baseline)

Experience	Distribution (%)
<1 year	16
1-5 years	29
5-10 years	22
>10 years	33
Total	**100**

Relational Coordination Strength

To classify the Relational Coordination Strength, all the Relational Coordination scores have been considered and divided into terciles or at 33% percentile increments. Relational Coordination scores of less than three are considered "Weak" (orange), Relational Coordination scores between 3 to 3.99 are "Moderate" (blue), and Relational Coordination scores of four or more are "Strong" (green). The Relational Coordination strengths are summarized below:

- Weak Relational Coordination Strength (orange)
  - Relational Coordination Score of less than three (<33% percentile)
- Moderate Relational Coordination Strength (blue)
  - Relational Coordination Score 3 to 3.99 (33-66% percentile)
- Strong Relational Coordination Strength (green)
  - Relational Coordination Score of four or more (≥67% percentile)

Relational Coordination Reliability

The Relational Coordination Survey is a validated measurement tool with overall high reliability (Gittell, 2000). The overall survey reliability has been measured using Cronbach's Alpha in this study. In this study, the seven items of the Relational Coordination exhibited high reliability with a Cronbach's Alpha value of .92 at baseline, which is above the standard for applied research.

Relational Coordination Survey Results

For the Relational Coordination Survey results, the overall Relational Coordination Index are “moderate” (blue) at Baseline and at Follow-up. The Relational Coordination Strength are also “moderate” (blue) for Frequent Communication at Baseline and Follow-up. Timely communication is “weak” (orange) at Baseline and “moderate” (blue) at Follow-up. Accurate Communication is “weak” (orange) at Baseline and Follow-up. Problem-Solving Communication, Shared Goals, Shared Knowledge and Mutual Respect are “moderate” (blue) at Baseline and Follow-up. Relational Coordination Survey Results are presented in Table 13.

Table 13: Relational Coordination Survey Results at Baseline and Follow-up

	Baseline Survey (n=45)		Follow-up Survey (n=22)	
Relational Coordination	**Mean**	**SD**	**Mean**	**SD**
Relational Coordination Index	3.11 (n=41)	.74	3.20	.56
Frequent Communication	3.38	.88	3.53	.71
Timely Communication	2.89 (n=44)	.83	3.02	.58
Accurate Communication	2.95 (n=44)	.82	2.96	.69
Problem-Solving Communication	3.12 (n=44)	.88	3.10	.81
Shared Goals	3.20 (n=43)	1.07	3.16	.76
Shared Knowledge	3.05	.66	3.13	.59
Mutual Respect	3.19 (n=44)	.98	3.48	.75

Legend

Weak Relational Coordination Strength

Moderate Relational Coordination Strength

Strong Relational Coordination Strength

Qualitative Interviews

The participants who completed the Baseline Survey have been invited to participate in an interview. Out of the 45 completed surveys, 18 participants have provided their email address in the survey and volunteered to be interviewed. The researcher has invited and attempted to contact the 18 participants; and twelve participants have consented to be interviewed. The twelve interviews have been recorded and transcribed resulting in a response rate of 27%. During the interview, the participants have been asked to select the stakeholder and "Table" they primarily represent. A list of Individual Interviews & Member Checking is presented in Appendix E. The Interview Response Rate by Stakeholder is summarized in Table 14, and the Interview Response Rate by "Table" is summarized in Table 15.

Table 14: Interview Response Rates by Stakeholder

Stakeholder	Completed	Invited	Response Rate (%)
Primary Care	1	10	10
Community Sector	5	14	36
Specialty Communities	0*	2	0
Hospital Sector	1	5	20
Health Region	1	2	50
Long-Term Care	0*	2	0
Mental Health	4	8	50
Public Health	0*	2	0
Total	**12**	**45**	**27**

Table 15: Interview Response Rate by Table

Tables	Completed	Invited	Response Rate (%)
Suburban 1	3	10	30
Suburban 2	3	10	30
Urban 1	0*	5	0
Urban 2	1	11	9
Rural 1	3	6	50
Rural 2	2	3	8
Total	**12**	**45**	**27**

Distribution of Responses

Regarding the distribution of responses from the stakeholders, most of the Interviewees are from the Community Sector (42%, n=5) followed by the Mental Health (33%, n=4). There is only one Interviewee from Primary Care (8%), Hospital Sector (8%), and Health Region (8%) and no Interviewees from Speciality Communities, Long-Term Care and Public Health. The Interview Response Distribution by Stakeholder is summarized in Table 16.

Table 16: Interview Response Distribution by Stakeholder

Stakeholder	Interviews	Distribution (%)
Primary Care	1	8
Community Sector	5	42
Specialty Communities	0*	0
Hospital Sector	1	8
Health Region	1	8
Long-Term Care	0*	0
Mental Health	4	33
Public Health	0*	0
Total	**12**	**100**

Regarding the distribution of responses from the “Tables”, there are three interviewees from Suburban 1 (25%), Suburban 2 (25%), and Rural 1 (25%). There are two interviewees from Rural 2 (16%), only one interviewee from Urban 2 (8%) and no interviewees from Urban 1. The Interview Response Distribution by “Table” is summarized in Table 17.

Table 17: Interview Response Distribution by Table

Table	Interviews	Distribution (%)
Suburban 1	3	25
Suburban 2	3	25
Urban 1	0*	0
Urban 2	1	8
Rural 1	3	25
Rural 2	2	16
Total	**12**	**100**

Interview Response by Members

Based on the interview response by role, a majority of interviewees are Senior Executives (92%). There is one Clinical Lead (8%) and there are no Administrator or Physician Leads. The Interview Response by Role is summarized in Table 18.

Table 18: Interview Response by Role

Roles	Interviews	Distribution (%)
Administrator	0	0
Clinical Lead	1	8
Physician Lead	0	0
Senior Executive	11	92
Total	**12**	**100**

Based on the interview response by experience, four respondents have >10 years experience (33%) and four respondents have 1-5 years experience (33%). Two respondents have < 1 year experience (17%) and two respondents have 5-10 years of experience (17%). The Interview Response by Experience is summarized in Table 19.

Table 19: Interview Response by Experience

Experience	Interviews	Distribution (%)
<1 year	2	17
1-5 years	4	33
5-10 years	2	17
>10 years	4	33
Total	**12**	**100**

Comparing Interviewees and Non-Interviewees

To compare if there are differences in Interviewees to Non-Interviewees, the Relational Coordination Survey has been used as it is a validated measurement tool. Since the Relational Coordination Index mean are similar for Interviewees and Non-Interviewees [Interviewees=3.12 (n=12), and Non-Interviewees=3.10 (n=33)], this indicates that the perspectives of Interviewees and Non-Interviewees are not different. This finding has been also confirmed using the independent t-test in which there are no significant differences in Relational Coordination between Interviewees and Non-Interviewees. Independent t-Test Comparing Interviewees and Non-Interviewees for Relational Coordination is presented in Table 20.

Table 20: Independent T-Test Comparing Interviewees & Non-Interviewees for Relational Coordination

Baseline Survey	Interviewees (n=12)		Non-Interviewees (n=33)		T-Test
Relational Coordination (RC)	Mean	SD	Mean	SD	Sig (2 Tailed)
RC Index	3.12	.97	3.10*	.64	.95
Frequent Communication	3.30	1.04	3.41	.82	.72
Timely Communication	2.80	1.05	2.93*	.75	.67
Accurate Communication	2.85	1.18	2.99*	.65	.63
Problem-Solving Communication	3.31	.73	3.05*	.93	.38
Shared Goals	3.29	1.32	3.17*	.99	.74
Shared Knowledge	3.02	.85	3.06	.58	.87
Mutual Respect	3.24	1.24	3.17*	.88	.84
*n is less than stated due to missing data					
Legend Weak RC Strength Moderate RC Strength Strong RC Strength					$t = \frac{\bar{X}_1 - \bar{X}_2}{SE}$

Interview Results

Using the Interview Guide, the interview recordings have been transcribed and organized based on thematic analysis. The interview results have been classified into emergent themes which are informed by Relational Coordination, Complex Adaptive Systems, Ten Principles for Successful Integration and Implications for Practice and Policy. The interviews have been further categorized into nodes with a sample quote to illustrate the perspective (i.e., positive or negative). See the interview results in Appendix F: Qualitative Interviews – Thematic Analysis, which includes the theme, node, and percentage of responses, with an example quote. Key informants have been coded by number from one to twelve (i.e., KI 1, KI 2, etc.).

Research Findings

The results include the quantitative surveys (baseline & follow-up) and qualitative interviews. The results are summarized below based on the research findings:

1) Variability in the communication pattern and collaboration among the stakeholders

2) Identified areas for improvement using Relational Coordination Survey
3) No difference comparing Relational Coordination Survey at Baseline and at Follow-up
4) Key success factors/enablers and challenges/barriers for cross-sectoral collaboration
5) Policy framework on “how to” build cross-sectoral collaboration to achieve health systems integration and transformation for leaders and policymakers

Finding 1: Variability in the Communication Pattern and Collaboration among the Stakeholders

The Relational Coordination Survey has been used to understand the patterns of communication and collaboration among the stakeholder groups. As demonstrated by the Relational Coordination Survey results, there are variability in the communication pattern and collaboration among the stakeholders. The results are presented on Table 21 Means (Standard Deviation) for Relational Coordination Dimensions with Stakeholders.

Table 21: Means (Standard Deviation) for Relational Coordination Dimensions with Stakeholders

Relational Coordination (RC) with Stakeholders	Primary Care Sector (n=44)		Community Sector (n=45)		Specialty Communities (n=44)		Hospital Sector (n=45)		Health Region (n=45)		Long-Term Care Sector (n=42)		Mental Health Sector (n=45)		Public Health Sector (n=45)	
RC Dimensions	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
RC Frequent Communication	2.82	1.19	3.36	1.19	2.48	1.86	3.49	1.46	4.18	1.15	3.64	1.50	3.69	1.41	3.38	1.34
RC Timely Communication	2.41	1.06	3.18	1.03	1.77	1.34	3.33	1.24	3.69	1.04	2.71	1.24	3.18	1.17	2.96	1.15
RC Accurate Communication	2.57	1.23	3.02	1.14	1.84	1.40	3.36	1.09	3.76	.98	2.69	1.28	3.27	1.20	3.16	1.17
RC Problem Solving Communication	2.86	1.23	3.44	1.20	2.07	1.86	3.49	1.22	3.56	1.10	3.07	1.24	3.36	1.23	3.16	1.31
RC Shared Goals	3.09	1.43	3.58	1.29	2.14	1.90	3.49	1.22	3.56	1.24	2.95	1.45	3.58	1.36	3.31	1.35
RC Shared Knowledge	2.75	.92	3.27	.86	1.91	1.34	3.40	.94	3.80	.99	2.88	1.11	3.33	1.07	3.07	1.16
RC Mutual Respect	2.89	1.24	3.49	1.24	2.16	1.82	3.44	1.31	3.60	1.27	3.26	1.27	3.51	1.34	3.24	1.33

Legend	
Weak RC Strength	**Weak RC Strength (<33% percentile) -> Relational Coordination Score of less than three**
Moderate RC Strength	**Moderate RC Strength (33-66% percentile) -> Relational Coordination Score 3 to 3.99**
Strong RC Strength	**Strong RC Strength (≥67% percentile) -> Relational Coordination Score of four or more**

The survey results and interviews (with example quotes) are highlighted to illustrate the viewpoints of the stakeholders.

Viewpoint of the Health Region

Based on the survey results, the Relational Coordination strength is "moderate" for most of the Relational Coordination Dimensions with the Health Region. The Relational Coordination strength is "strong" for Frequent Communication with the Health Region. In an interview with a Health Region member, the integration work has just started.

> "It's more like a developmental process. Right now, the LHIN approach is to have the plan, call the agencies with the expression of interest, and call the participants. As you work together, you get to know each other and then probably identify issues in which you would like to tackle. It's still at a very early stage, initial development stage. It's getting to know each other, and the epidemiology reports presented by the LHIN and the gathered the information from the organizations." (KI 10)

In these quotes, members reported they began and started to integrate with the Health Region.

> "I feel we just need to start. I feel like we need to talk and start to figure out where do we have the biggest issues or challenges. That's one of the things the tables are starting to do." (KI 10)

> "But it's probably too soon. I think the dynamics of the working group like this could take six months to evolve. But we've only been meeting for a few months. So, I think maybe three or four months down the road, I may have a different answer or a more clear answer for you." (KI 5)

> "Through the subregion table, the LHIN is looked at as more and always considered a body. But through this forum, the LHIN might even become more viewed as a partner. Getting the LHIN involved early in initiatives and in issues that effect the subregion. If there's some important people and people that can make decisions sitting at that table, that's important. People just aren't a name. That you actually know who people are and they can make decisions." (KI 5)

Viewpoints of Community, Hospital, and Mental Health

Based on the survey results, the Relational Coordination strength is "moderate" for all the Relational Coordination Dimensions with Community, Hospital, and Mental Health. As reported by the participants in the interviews, these quotes identified "self-interest" and "silos"

between the stakeholders due to structural barriers inherent in the current health system;

Further cross-sectoral relational coordination work is needed.

> "Even though, at the beginning, when they do the expression of interest it emphasizes that you don't represent your organization, you represent your own expertise or as a stakeholder in the sector. Even though being emphasized like that, still people are people, so when you still work in the organization, you're bound to have this kind of self interest." (KI 9)

> "There's a distance between hospitals and community health service providers and other non-hospital. If you brand it from primary, acute and community-based providers, those three broad categories, there's definitely divisions and silos. There are silos within each of those three categories as well. Right? There are going to be silos within community, or divisions between community agencies and divisions between hospitals, and even departments within those organizations." (KI 6)

> "Even in the community, there's opportunity there. I've already seen some shifting after the [community] have joined the LHIN. I think that the [community] need to continue to be available and accessible to the acute care facilities for advising on different projects and strategics directions. That will become important as well. So that we're not putting our efforts in a direction that the LHIN doesn't want us to go." (KI 5)

Viewpoints of Primary Care

Relational Coordination strength is "weak" with Primary Care for all the dimensions (except for "moderate" for Shared Goals). Since the Relational Coordination strength is "weak"; This indicates that the current health system is not as integrated with Primary Care. There is an interview respondent who reported a lack of Primary Care representation.

> "[The Table] is still trying to draw a primary care member to the table. I know there's been a lot of effort and work to do that. So, that may take a while." (KI 11)

Since Primary Care is funded by the OHIP, and is not directly funded by the LHINs, it is challenging for the LHINs to mandate Primary Care to integrate or collaborate. However, in an interview with a Primary Care participant, it is noted that that Primary Care is interested in integrating and collaborating with other hospitals and service providers.

> "The next level which is how does [Primary Care] now integrate or collaborate with a hospital, with other service providers. That's the part that we haven't done yet. And by me I don't mean just us, I mean we as a system. People need to be working together." (KI 1)

> "If we talk about the larger health care system, we need to bring in the community and primary care practitioners a lot more than currently is. To do that, those practitioners need to feel like they have at least an equal say around the governing table." (KI 6)

Viewpoints of Long-Term Care

For Long-Term Care, Relational Coordination Strength is "weak" for Timely and Accurate Communication, Shared Goals and Shared Knowledge, and "moderate" for Frequent and Problem-Solving Communication and Mutual Respect. However, there are no interviews conducted with Long-Term Care to understand their perspectives in this study. There are no comments from any of the key informants during the interviews regarding Long-Term Care. The MOH created a separate Ministry of Long-Term Care in June 2019. Since the Long-Term Care membership did not change from Baseline and Follow-up, and the data collection (i.e., Surveys and Interviews) have already been completed, this announcement did not impact this research.

Viewpoints of Public Health and Municipality (Emergency Services)

For Public Health, Relational Coordination Strength is "weak" for Timely Communication, and "moderate" for all of the dimensions. However, there are no interviews conducted with Public Health to understand their perspectives. Here is a quote from a Health Region member to support further collaboration with Public Health.

> "Public health is represented at the individual tables. They're not used to working with anyone sitting around the table. For [Public Health], this is a very new experience because Public Health hasn't been at the same table as the LHIN, or the LHIN health service providers for the most part." (KI 10)

There was no representation from the Municipality from the Emergency Health Services (include paramedic services) in this study. A Health Region member reported in an interview:

> "So that's where I'm thinking, that might be a gap where EMS [Emergency Medical Services] are not at the sub-region tables. As we do integration of the tables, do we need to relook at our membership?" (KI 10)

Viewpoints of Special Communities

Relational Coordination strength is “weak” with Specialty Communities for all the dimensions. This indicates that the current health system is not as integrated with Specialty Communities. There is a need for further collaborative work with Specialty Communities, as there are only two representatives from French Language Services on the “Tables”. There are no interviews conducted with French Language Services to understand their perspectives in this study. Moreover, there are also no representation from Indigenous Communities on the “Tables”. There are no survey results or interviews from Indigenous Communities to understand their perspectives in this study. There are respondents from the interviews who also reported that there are no Indigenous representation on the “Tables”.

> “I'm really hoping that we're going to find the way to bring the voice of Indigenous people into the company.” (KI 8)

> “We do not have any Indigenous representation on the tables. As much as we would like to, we don't have anyone from the community at this point. That's not saying that we can't do an engagement session with them outside of the table.” (KI 10)

Viewpoints of Patients & Family Members

There are no representation from Patients and Family Members in this study. This interview quote demonstrates the need to involve Patients and Family Members.

> “I've been recommending that we engage with the patient and the caregiver populations. Why are we not practicing that at the Table meetings? That's a real head scratcher to me and I think that has to be strongly recommend that we do that. I don't know how many spaces or seats, I'll leave that to others to think about, but I think the fact we have zero right now is a big problem.” (KI 6)

> “That's where we'll be looking at some of our engagement strategies is who's not at the table, that we might be able to have some good discussion and conversation to make sure we're meeting the needs of those communities as well.” (KI 10)

Finding 2: Identified Areas for Improvement using Relational Coordination Survey

In this study, the Relational Coordination Survey has been used to identify the communication pattern and collaboration as rated or scored by the members who represent a stakeholder group and a “Table”. The Kruskal Wallis Test has been used to determine if there are differences in Relational Coordination Index among the stakeholders or the “Tables”. There are no significant differences in Relational Coordination Index among the stakeholders or the “Tables”. However, the Relational Coordination Index and Dimensions can be used to identify “areas of strength” (Strong Relational Coordination Strength) or “areas for improvement” (Weak Relational Coordination Strength or Moderate Relational Coordination Strength). Relational Coordination by Stakeholders (Baseline) & Kruskal Wallis Test is presented in Table 22. Relational Coordination by Tables (Baseline) & Kruskal Wallis Test is presented in Table 23.

Table 22: Relational Coordination by Stakeholders (Baseline) & Kruskal Wallis Test

Ratings of Relational Coordination Dimensions	Ratings by Stakeholders																	
	Stakeholders	Primary Care (n=10)		Community Sector (n=14)		Specialty Communities (n=2)		Hospital Sector (n=5)		Health Region (n=2)		Long-Term Care (n=2)		Mental Health (n=8)		Public Health (n=2)	
	Relational Coordination	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
	Relational Coordination Index	3.06	.74*	3.03	.79		*	2.92	.37	3.54	.33	2.76	.29	3.41	1.03*	3.18	.88
	Frequent Communication	3.33	.98	3.19	.79	2.81	.44	3.08	.46	4.56	.09	2.50	.88	3.81	.91	4.31	.09
	Timely Communication	2.65	.94	2.87	.79	2.88	.35	2.85	.45	3.38	.00	2.06	1.33	3.34	1.06*	3.19	.09
	Accurate Communication	2.78	.81*	2.83	1.06	2.75	.35	2.98	.45	3.50	.53	3.44	.44	3.11	.82	3.06	.80
	Problem Solving Communication	2.97	.79*	3.21	.88	2.63	.88	3.10	.35	3.19	.97	2.69	.09	3.58	.50	2.19	3.09
	Shared Goals	3.49	.94	3.04	1.26		*	2.93	.90	3.31	.80	2.88	.18	3.34	1.36	3.38	1.06
	Shared Knowledge	3.09	.67	2.86	.54	2.94	.44	2.65	.52	3.44	.62	3.00	.35	3.34	.95	3.75	.35
	Mutual Respect	3.53	1.03	3.21	.79	2.75	.35	2.85	.37	3.38	.53	2.75	.35	3.41	1.52*	2.19	1.86

Legend

Weak Relational Coordination Strength

Moderate Relational Coordination Strength

Strong Relational Coordination Strength

***n is less than stated due to missing data**

Note: There were small samples (n=2) for the Stakeholder groups, including Specialty Communities, Health Region, Long-Term Care and Public Health

Kruskal Wallis Test

$$H = \left[\frac{12}{n(n+1)} \sum_{j=1}^{c} \frac{T_j^2}{n_j} \right] - 3(n+1)$$

(n = 41)

Ho: Relational Coordination Index in the Stakeholders is the same

Ha: At least one of the Stakeholders is different in Relational Coordination Index

H statistic = 3.92
df = 7
Critical Chi Square Value = 14.1 (alpha level .05)

Critical Chi Square Value **>** H Statistic
Accept Null Hypothesis (Not enough evidence to suggest RC Indexes are different)

Table 23: Relational Coordination by Tables (Baseline) & Kruskal Wallis Test

Ratings of Relational Coordination Dimensions	Ratings by Tables											
	Tables	**Suburban 1 (n=10)**		**Suburban 2 (n=10)**		**Urban 1 (n=5)**		**Urban 2 (n=11)**		**Rural 1 (n=6)**		**Rural 2 (n=3)**	
	Relational Coordination (RC)	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
	Relational Coordination Index	2.66	.81*	2.88	.60*	2.82	.81	**3.38**	.70*	**3.68**	.22 *	**3.73**	.15
	Frequent Communication	3.33	.81	2.76	.71	3.08	1.19	3.59	.86	**4.08**	.48	3.96	.31
	Timely Communication	2.50	.88*	2.70	.76	2.63	.88	3.03	.94	3.48	.36	3.46	.47
	Accurate Communication	2.51	.94	2.64	.84	2.64	.84	**3.38**	.52	**3.55**	.23 *	**3.42**	.19
	Problem Solving Communication	2.61	1.08	3.05	.60	2.73	.97	3.30	.81	3.83	.40 *	3.88	.45
	Shared Goals	2.79	1.25	2.89	1.04*	2.58	1.45	3.50	.84*	3.88	.18	4.08	.19
	Shared Knowledge	2.78	.88	2.89	.49	2.78	.65	3.14	.52	3.52	.36	3.67	.81
	Mutual Respect	2.46	1.36	2.98	.44	3.30	1.12	3.56	1.02	3.65	.26	3.67	.072

Legend

Weak Relational Coordination Strength

Moderate Relational Coordination Strength

Strong Relational Coordination Strength

***n is less than stated due to missing data**

Note: There were small samples (n=3) for Rural 2

Kruskal Wallis Test

$$H = \left[\frac{12}{n(n+1)} \sum_{j=1}^{c} \frac{T_j^2}{n_j} \right] - 3(n+1)$$

(n = 41)

Ho: Relational Coordination Index in the Tables is the same

Ha: At least one of the Tables is different in Relational Coordination Index

H statistic = 10.94
df = 5
Critical Chi Square Value = 11.1 (alpha level .05)

Critical Chi Square Value **>** H Statistic
Accept Null Hypothesis (Not enough evidence to suggest RC Indexes are different)

Relational Coordination Index and Dimensions by Stakeholders

With the use of Relational Coordination, it identifies areas which are “weak” or “moderate”. As identified in the Relational Coordination Survey, the Relational Coordination Index strength is “weak” as rated by Hospital Sector, Long-Term Care, and Specialty Communities, and “moderate” as rated by Primary Care, Community Sector, Health Region, Mental Health, and Public Health. There is an opportunity to improve on communication and collaboration with the specific stakeholders using targeted interventions and strategies.

Areas for Improvement

Since the Relational Coordination Index is “weak” as rated by the Hospital Sector, there is an opportunity to improve on communication and collaboration. In an interview, a hospital’s representative reported that further integration and collaboration efforts are needed with the Community Sector and Mental Health to prevent patients from returning back to the hospital.

> “We want to connect with partners in the community that are already doing the work. We're an acute care facility and don't do community work. There has to be an element of community work, or the community has to bring the patient back to the hospital.” (KI 5)

> “If it's just the psychosocial pieces and the needs can be met with community partners, they can make those connections really quite nicely. When the only option is for the patient to go back to the ED [Emergency Department] that's where it's important to link with other people. The patient doesn't need to go back to the hospital.” (KI 5)

In an interview, a community sector representative reported that further integration and collaboration efforts are needed to aid with the transition from Hospital to the community.

> “So, we're talking about hospital transition to community. Is there a way to engage community partners while the client is still in the hospital early on in that discharge or transition planning process so that we're not all, at the eleventh hour, scrambling at 5 o'clock on a Friday afternoon to figure things out.” (KI 12)

Note: No interviewees from Long-Term Care or Speciality Communities.

Overall, Relational Coordination Index strength is “moderate” as rated by Primary Care, Community Sector, Health Region, Mental Health, and Public Health. As per interviews with the participants from a Primary Care, a Community Sector, a Health Region, and a Mental Health representative, there is an opportunity to network, build partnerships, and participate in cross-sectoral planning work with other stakeholders and sectors.

> “It's been very good for networking. I've had an opportunity to meet and talk with people who I wouldn't otherwise necessarily had contact with. As a result, down the road, there may be more formalized partnerships that can develop. Often things develop as a result of relationships and conversations. It's been very good in terms of finding a place to have all fit together and interact and get to know each other a little bit.” (Primary Care, KI 1)

> “Many of us work in partnership already. There are some people that I learned from being at the table that I will probably when things quiet down, if they quiet down, seek out to try to reach out to them.” (Community Sector, KI 7)

> “We might have people who represent the community, some people who represent mental health, hospital sector, etc. What's really important is they share the work that they're doing as members of a collaborative with their respective networks. So all the community support services in the region will know what's going on because of the representative who sits at the table shares through the network.” (Health Region, KI 10)

> “As some of these plans roll out there'll be larger collaborations because of this table and players who don't know each other, or new initiatives for sure. The richness of some of these new partners may have some added advantage for the patients that we serve, in getting immediate right access to care. There's gonna be a lot more cross sectoral collaboration. It'd be great to pull in some of those players that people don't see every day in order for some of those cross-collaborations to occur right? I think it would be great to look at some non-LHIN funded services to bring to the table to do some cross-sectoral planning. So, even from other sectors, right?” (Mental Health, KI 11)

Note: No interviewees from Public Health.

Relational Coordination Index and Dimensions by Tables

Relational Coordination identifies areas which are “weak” or “moderate”. As identified in the Relational Coordination Survey, the Relational Coordination Index strength is *“*weak” as rated by rated by Suburban 1, Suburban 2, and Urban 1 and “moderate” rated by Urban 2, Rural

1, and Rural 2. There is an opportunity to improve on communication and relational dimensions with the “Tables” using targeted interventions and strategies.

Areas for Improvement

Since the Relational Coordination Index is “weak” rated by Suburban 1, Suburban 2, and Urban 1, there are opportunities to improve on Relational Coordination in these “Tables”. As described by participants in the interviews, there are issues regarding the lack of communication and shared knowledge, and lack of shared goals and mutual respect:

Lack of communication and shared knowledge:

> “When we talk about integrated access, when a patient is receiving care from various health care providers and the providers have no idea who their patient is drawing support from, it's just creating duplication, it's creating silos. The only time information is provided is upon request.” (Subregion 1, KI 6)

> “To name another issue people are wrestling with is there's some anxiety at the nervous level about the changes that will happen around rupture of different programs and health service providers.” (Subregion 2, KI 1)

Note: No interviewees from Urban 1.

Lack of shared goals and mutual respect:

> “We're not even quite there from a planning perspective, we don't have goals that were all identified and signing onto addressing. I think some of the frustration around the table from members is that we're starting to lose the plot around what are we doing here and why have we met four times and we haven't moved any markers whatsoever? We're going to start to lose some engagement if we can't collectively show that we have an actual plan going forward.” (Subregion 1, KI 6)

> “Those planning groups or attending those planning tables still partly having more like self-interests for say like to advance planning services or something for their own organization. So, this is a lot of things that the planning table has to deal with and to tackle with and the question number one is are we on the same page?” (Subregion 2, KI 9)

Note: No interviewees from Urban 1.

Overall, Relational Coordination Index strength is “moderate” rated by Urban 2, Rural 1, and Rural 2. In the interviews, participants reported openness to communication and shared knowledge, and willingness to develop shared goals and mentioned the importance of mutual respect.

Openness to communication and shared knowledge:

> “The group is still somewhat in its infancy. But we've become more comfortable with each other in terms of sharing our thoughts, being more open. The facilitator is making sure everyone was comfortable sharing their opinions. Specifically, asking for opinions as opposed to just sharing information and basically presenting information. It was really making sure that there were opportunities for dialogue.” (Urban 2, KI 4)

> “As the tables came together, we started talking about the population and the information and data that we had to date. Most of the members that sat around the table continued to contribute data from their organizations to help to support knowing the population, the needs of the community. Everyone brought their part to help to better understand a profile of those particular people that we want to serve in those areas.” (Rural 1, KI 10)

> “We've been discussing the importance of an environmental scan to understand what all the programs and services are in each of those areas, both LHIN and non-LHIN funded. That, I think is going to help us to understand a little bit more about each others’ roles.” (Rural 1, KI 10)

> “There's already a lot of resource sharing and information sharing happening. There's already been an increase in education and awareness being circulated around events or services, so that's already naturally started.” (Rural 2, KI 11)

Willingness to develop shared goals and mentioned the importance of mutual respect:

> “With the subregion, we are almost done prioritizing. We've had to whittle down; at a high level we've come up with some common goals that we wanted to work on. That process is effective.” (Urban 2, KI 4)

> “Because for the most part, they're like-minded people who all have a desire, a passion to do better and to make change in the community for the people that they serve. My experience so far has been, I think because of the level of maturity of these groups, because they've worked together closely before, it lends itself to being able to forge ahead and not have that disruptive stage that other groups that might be brand new.” (Rural 1, KI 10)

"Everybody has fully been participating and attending meetings. Our group is, on a group dynamics component, working efficiently and effectively. Based on the diversity of backgrounds from the group there's actually been a lot of respect and consideration to other viewpoints. Everybody has felt, seen, heard, and understood. There's a lot of respect, safety, and trust within this group. It's working well actually compared to other tables that I've sat at. I think we've accomplished quite a bit." (Rural 2, KI 11)

Finding 3: No difference Comparing Relational Coordination Survey at Baseline and at Follow-up

For comparing the Relational Coordination Survey at Baseline and a Follow-Up (Year 1), independent t-test have been used. In this study, there are no significant differences in Relational Coordination Index or Dimensions. There are marginal improvements in some of the Relational Coordination measures from baseline to follow-up (i.e., Index, Frequent Communication, Timely Communication, Accurate Communication, Shared Knowledge and Mutual Respect) and worsening in some of the Relational Coordination measures (i.e., Problem-Solving Communication and Shared Goals). Results of Independent T-Test Comparing Baseline and Follow-up Surveys for Relational Coordination is presented in Table 24.

Table 24: Independent T-Test Comparing Baseline and Follow-up Surveys for Relational Coordination

	Baseline Survey (n=45)		Follow-up Survey (n=22)		T-Test
Relational Coordination (RC)	**Mean**	**SD**	**Mean**	**SD**	**Sig (2 Tailed)**
RC Index	3.11 (n=41)	.74	3.20	.56	.62
Frequent Communication	3.38	.88	3.53	.71	.49
Timely Communication	2.89 (n=44)	.83	3.02	.58	.51
Accurate Communication	2.95 (n=44)	.82	2.96	.69	.97
Problem-Solving Communication	3.12 (n=44)	.88	3.10	.81	.92
Shared Goals	3.20 (n=43)	1.07	3.16	.76	.86
Shared Knowledge	3.05	.66	3.13	.59	.62
Mutual Respect	3.19 (n=44)	.98	3.48	.75	.23
Legend **Weak RC Strength** **Moderate RC Strength** **Strong RC Strength**					$t = \frac{\bar{X}_1 - \bar{X}_2}{SE}$

Although the results from baseline to follow-up are not significant, the use of the Relational Coordination Survey can be a useful tool to identify communication patterns and collaboration and to address any relational gaps. The Relational Coordination Survey can be used to determine level of collaboration, identify change improvement, and develop strategies needed for improving cross-sectoral relational coordination. Since this study is a naturalistic inquiry study, there are no formal structural changes or interventions. There are no significant results demonstrated from baseline to follow-up in Relational Coordination Index or Dimensions as it takes time to develop relational capacity. As discussed in the interviews, the following two quotes illustrates that it takes time to build long-term relationships and trust.

Takes time to build long-term relationships and trust:

> "That's where the rubber hits the road and where having those really positive long-term relationships with some trust in people will be very helpful. It's just too early in the process and we haven't had to make any difficult decisions together. That tends to be when you learn whether you've got that trust or not." (KI 12)

> "I don't think trust comes automatically because we're members of the same planning table. It doesn't mean that we're all aligned and really fully trust each other and depend on each other. That hopefully will come with time as we get to know each other better." (KI 6)

Finding 4: Key Success factors, Enablers, Challenges and Barriers for Cross-Sectoral Collaboration

This research is a naturalistic inquiry study with no formal structural changes (i.e., resources or interventions), performance targets or measurement of outcomes. However, this research may provide lessons learned on "how to" build cross-sectoral collaboration, including key success factors & enablers and challenges & barriers. It is important to prime right conditions for success and recognize enablers, and challenges and barriers to strengthen cross-sectoral collaboration for health systems integration and transformation. The results include the Survey Ranking Questions and the Qualitative Interviews – Thematic Analysis.

Survey Ranking Questions

The ranking questions have been used to identify the most important factors necessary for building cross-sectoral collaboration, which will further develop and provide support on the use of Complex Adaptive Systems and Relational Coordination theories and Ten Key Principles of Successful Integration. In the Baseline and Follow-up Survey, participants have been asked to rank in order of priority the factors necessary for building cross-sectoral collaboration:

- Relational Coordination (Baseline)
- Basic Structures (Baseline)
- Leadership & Organizational Culture (Baseline)
- Processes (Baseline)
- Integration Strategies and Enablers (Baseline)
- Reasons for Participation (Follow-up)

Using the Survey Ranking Questions, “one” is considered most important, “two” is the second most important, “three” is the third most important, “four” is the fourth most important, “five” is the fifth most important, etc. The results may help to determine key success factors for cross-sectoral collaboration within the “Tables”. The results are presented in Table 25 Survey Ranking Questions.

Table 25: Survey Ranking Questions

Survey Ranking Questions (Baseline)			
Total (n=45)	**Mean**	**SD**	**Ranking**
Importance of Relational Coordination Dimensions (1=Most Important to 7=Least Important)			
Frequent Communication	5.40	2.02	**7**
Timely Communication	4.89	1.70	**6**
Accurate Communication	3.89	1.71	**3**
Problem Solving Communication	3.98	1.58	**4**
Shared Goals	2.53	1.63	**1**
Shared Knowledge	4.02	1.87	**5**
Mutual Respect	3.29	2.15	**2**
Importance of Basic Structures (1=Most Important to 5=Least Important)			
Governance structure to set priorities and policies	2.29	1.50	**1**
Organizational design with defined roles and tasks	2.98	1.23	**3**
Available resources (i.e., financial and human) and incentives	2.47	1.34	**2**
Information system for communication across all organizations	3.18	1.15	**4**
Standard reporting framework to demonstrate accountabilities across the network	4.09	1.13	**5**
Importance of Leadership and Organizational Culture (1=Most Important to 5=Least Important)			
Leaders provide a vision for integrated care	1.76	1.30	**1**
Understand inter-organizational culture and values	3.04	1.24	**2**
Employees are empowered to support the new changes	3.60	1.05	**5**
Clinician engagement with key leaders is necessary for implementing changes	3.29	1.25	**3**
Commitment to knowledge transfer and exchange with the larger network	3.31	1.47	**4**
Importance of Processes (1=Most Important to 5=Least Important)			
Joint process for planning and delivering care to patients	2.11	1.13	**1**
Commitment to patient-centred care and patient involvement	2.13	1.42	**2**
Formal agreements (i.e., policies, accountabilities) between organizations	3.62	1.40	**4**
Shared performance measurement system for tracking indicators and outcomes	3.67	1.19	**5**
Continuous quality improvement strategies being considered and implemented	3.47	.94	**3**
Importance of Integration Strategies and Enablers (1=Most Important to 5=Least Important)			
Need to address inter-organizational structure and processes	3.64	1.09	**5**
Need to build strong leadership and inter-organizational relationships	2.49	1.12	**2**
Need to develop system performance indicators and accountabilities	3.56	1.34	**3/4**
Need to define a shared vision and shared goals	1.76	1.21	**1**
Need to align policies with adequate resources	3.56	1.27	**3/4**

Survey Ranking Questions (Follow-up)			
Total (n=21)	**Mean**	**SD**	**Ranking**
Importance the Reasons for Participation on the Table (1=Most Important to 7=Least Important)			
I want to work toward addressing patient needs and planning care at the local community level.	1.76	1.61	**1**
I have clinical expertise and/or leadership skills.	3.29	1.15	**4**
I want to network with others.	4.95	1.02	**5**
I was asked by my employer to represent.	6.29	.96	**7**
I was asked by my employer to network with other organizations.	6.24	.70	**6**
I am able to think at a systems-level.	3.14	.96	**3**
I am interested in transforming the system.	2.33	.97	**2**

The Survey Ranking results are listed in priority from the most important factors to the least.

Based on the top ranked results, interview quotes are presented to illustrate the perspective(s).

The most important Relational Coordination Dimensions are listed in order of priority:

1) Shared Goals
2) Mutual Respect
3) Accurate Communication
4) Problem Solving Communication
5) Share Knowledge
6) Timely Communication
7) Frequent Communication

Quote on Shared Goals: “Different organizations have their own mission vision, so basically we have to start somewhere. At least the LHIN or the Ministry see they've got to have a platform for people to come together to have more collaboration. At least start from somewhere and get going and it is always the process of continuous improvement. So, that's good.” (KI 9)

The most important Basic Structures factors are listed in order of priority:

1) Governance to set priorities and policies
2) Available resources (i.e., financial and human) and incentives
3) Organizational design with defined roles and tasks
4) Information system for communication across all organizations
5) Standard reporting framework to demonstrate accountabilities across the network

Quote on Governance to set priorities and policies: “The fact that the LHIN is at the table and they're active participants, I think certainly it means that we have the blessing of the LHIN to do this work. The other thing that comes out of all of this obviously is that the LHIN is there and they're hearing what the priorities are.” (KI 3)

The most important Leadership and Organizational Culture factors are listed in order of priority:

1) Leaders provide a vision for integrated care
2) Understand inter-organizational culture and values
3) Clinician engagement with key leaders is necessary for implementing changes
4) Commitment to knowledge transfer and exchange with the larger network
5) Employees are empowered to support the new changes

Quote on Leaders provide a vision for integrated care: “Yes, I would say that the leadership team, and the senior leadership team very much sees the need for the system to work in a more integrated way.” (KI 12)

The most important Processes are listed in order of priority:

1) Joint process for planning and delivering care to patients
2) Commitment to patient-centred care and patient involvement
3) Continuous quality improvement strategies being considered and implemented
4) Formal agreements (i.e., policies, accountabilities) between organizations
5) Shared performance measurement system for tracking indicators and outcomes

Quote on Joint process for planning and delivering care to patients: “We're trying to go to the patient rather than the patient coming to us. Even if they're in the community. I think

that there has to be a vision for that. And there is here. But I think that it's really going to shape how we move forward as our organization and as a table where we have the capability and the buy in to go to the patient and give that patient a 'really go above and beyond' their expectations. That's the goal." (KI 5)

The most important Integration Strategies and Enablers are listed in order of priority:

1) Need to define a shared vision and shared goals
2) Need to build strong leadership and inter-organizational relationships
¾) Need to align policies with adequate resources
¾) Need to develop system performance indicators and accountabilities
5) Need to address inter-organizational structure and processes

Quote on Need to define a shared vision and shared goals: "I like the idea around the Ministry of Health and even the LHIN taking a more leadership role and being able to say, "Here are some of the outcomes we want to drive". That would be hugely constructive to be able to structure our funding and reporting relationships in alignment with our new vision or a revised vision. I think to be able to come out ahead of it like that would go a really long way." (KI 6)

In the Follow-up Survey, participants have been asked to rank the Reasons for Participation as a member on the "Table" from most important to least important (from one to seven). The most important Reasons of Participation on the "Table" are listed in order of priority:

1) I want to work toward addressing patient needs and planning care at the local community level
2) I am interested in transforming the system
3) I am able to think at a systems-level.
4) I have clinical expertise and/or leadership skills.
5) I want to network with others.
6) I was asked by my employer to network with other organizations.
7) I was asked by my employer to represent.

Based on the top two ranked result, interview quotes are presented to illustrate the concept(s).

Quote on I want to work toward addressing patient needs and planning care at the local community level: "We've been at it a long time; this subregion model is in its early days. One of the challenges is to have a localized look at the needs and to address the needs in a localized way. A lot of services are regional and it doesn't always make sense." (KI 3)

Quote on I am interested in transforming the system: "There are at least more than 20 people sitting around the table to spend two hours once every month to go and work on this kind of collaborative planning. So, it is a lot of time and effort and there's no perfect world. Just to start doing it and with the good intention to continuously improve the process. That's so much the LHIN can do." (KI 9)

Qualitative Interviews – Emergent Themes

Based on the thematic analysis of the qualitative interviews, key success & enablers, and challenges & barriers are identified. Refer to Table 26 Emergent Themes - Key Success & Enablers, and Challenges & Barriers.

Table 26: Emergent Themes - Key Success & Enablers and Challenges & Barriers

The key primers for success identified are:

- **Systems Transformation & Change (Mindset)**
  - Mutual necessity by recognizing the value of others (100%)
  - Construct a shared vision and responsibility (67%)
  - Need to consider context (67%)
- **Inter-dependency**
  - Alignment (100%)
  - Complexity (83%)
  - Feedback (50%)
- **Positive Inter-organizational Relationships**
  - Positive Current – Relationship building (92%)
  - Shared Knowledge – Relational Coordination (83%)
- **Self-organizing Capacity**
  - Learn and adapt (83%)
  - Negotiate and steer (83%)
  - System awareness (67%)

Enablers identified are:

- **Need to include collaboration in policies**
  - Create opportunities for collaboration (100%)
  - Need to have an implementation plan (83%)
  - Policy development and framework (75%)
  - Engagement (58%)
- **Need for further integration**
  - Comprehensive services across the continuum of care “Agreement” (83%)
  - Geographic coverage and rostering “Regional perspective” (75%)
  - Organizational “leadership” (75%) and “culture” (67%)
  - Shared Information System (67%)
  - Governance Structure (50%)
  - Shared Protocols (50%)

The challenges identified are:

- **Negative Inter-organizational Relationships**
  - Negative Current – Relationship Building (92%)
- **Negative Relational Coordination**
  - Negative Communication (58%)

Barriers identified are:

- **Systems Integration Barriers**
  - System Barriers (92%)
  - Physician Integration “Lack of integration” (67%)
  - Financial Management “Lack of funding” (67%)
  - Performance Management “Lack of performance measurement” (53%)
  - Patient Focus “Lack of patient representation” (67%)

Key Primers for Success

Key primers for success identified from the interviews are the emergent themes of:

- Systems Transformation & Change (Mindset)
- Inter-dependency
- Positive Inter-organizational Relationships
- Self-organizing Capacity

Systems Transformation & Change (Mindset)

- For the concept of "Systems Transformation & Change (Mindset)", all of the respondents from the interviews (100%) reported the importance of "Mutual necessity by recognizing the value of others". Sixty-seven percentage reported the importance to "Construct a shared vision and responsibility" and 67% reported the "Need to consider context".

  Mutual Necessity by recognizing the value of others: "The sense where everybody operates in their own vacuum are gone." (KI 3)

  Construct a shared vision and responsibility: "I think at the end of the day it's the LHIN co-chair that's really driving the agenda. But then I like the idea around like driving common visions common goals. We recognize that regions and towns are going to look a bit different from each other and so that's where we want essentially be creative within the local area." (KI 6)

  Need to consider context: "And it's also important to recognize context because what works in one place isn't necessarily going to work in another place." (KI 1)

Inter-dependency

- For the concept of "Inter-dependency", 100% of the respondents reported the importance of Alignment, 83% reported the importance of Complexity, and 50% reported Feedback.

  Alignment: "I think that creating those spaces where people can link with each other, talk about joint problems or common problems, and then collaboratively problem solve". (KI 4)

  Complexity: "They have to start doing it in some manner anywhere because there won't be any ideal process or ideal situations that you can really do things in a perfect manner. So, it's trial and error. You have to start from somewhere." (KI 9)

  Feedback: "I am a big believer in when people help to build it, they're less likely to sabotage it. When they help to build it, they're likely to bring up why something won't

work, and you have the opportunity to work together to mitigate those risks in advance." (KI 5)

Positive Inter-organizational Relationships

- For the concept of "Positive Inter-organizational Relationships", 92% of the respondents reported the importance of Positive Current - Relationship Building, and 83% reported the importance of Shared Knowledge – Relational Coordination.

  Positive Current – Relationship Building: "As you work together you get to know each other and then you probably know to get those issues in which you would like to tackle. It's still at a very early stage "initial development stage"." (KI 10)

  Shared Knowledge – Relational Coordination: "There's been a lot of ah-ha moments at the table where I think every single one of us has kind of went, oh, we didn't know that about us because we're specifically looking at local information or trying to anyway. It's been great format to learn more and be very specific about our region and what the needs are. There's been lots of ah-ha moments." (KI 2)

Self-organizing Capacity

- For "Self-organizing Capacity", 83% of the respondents reported the importance of "learn and adapt" and "negotiate and steer", and 67% reported the importance of "systems awareness".

  Learn and Adapt: "If we can figure it out, small bits at a time, for really complex clients and trial things and then learn from those trials and then make changes as we see the need to make changes, I think that's how we build integration." (KI 12)

  Negotiate and Steer: "Certainly, I think partnership development is something I am a big fan of, and I think some of that's going to happen organically for sure. But as far as top-down, I don't know what more the LHIN can do. I think what's been positive is that you know the Tables has provided a vehicle by which, you know, we're all sort of making new relationships." (KI 6)

  Systems Awareness: "They've done a good job in identifying barriers and some gaps in the system so far, without even knowing all programs service inventory. I think every organization that sits at the table, knows their own clientele well enough to know what the gaps are for their particular clients that they serve." (KI 10)

Enablers

Important enablers identified from the interviews are the emergent themes of:

- "Need to include collaboration in policies"
- "Need for further integration"
- Organizational "leadership" and "culture"
- "Shared Information System", "Governance Structure", and "Shared Protocols"

"Need to include collaboration in policies"

- For "Need to include collaboration in policies", all the respondents (100%) reported that an important enabler is to "Create opportunities for collaboration", and 83% reported the "Need to have an implementation plan". Also, 75% reported that an important enabler is to have a "Policy development and framework", and 58% reported "Engagement" to be important.

  Create opportunities for collaboration: "We're actually talking to each other, which hasn't happened before. I'm hopeful through these conversations we will come up with some good solutions. But without that dialogue occurring we're never going to get there and facilitating these dialogues." (KI 1)

  Need to have an implementation plan: "So, I think that when we start to actually work on the strategies together. When we start to plan, we do a series of pilots or even proof of concepts together. I think that's where those relationships are really going to deepen. You get to know people by working directly with them, by designing the business processes, and implementing and monitoring. I really believe very strongly, from a community development perspective, that when you start to act together you really build those relationships." (KI 12)

  Policy development and framework: "I think a framework is helpful, but if it becomes too directive, and it limits what you can do locally. So, I think it needs to be informed by what happens but, if there isn't some sort of framework or directive, everybody does their own thing, and you wind up at the end with a very, sometimes a bit of dog's breakfast of approaches. I personally think that a framework is helpful, but not one that tells you exactly how to do everything." (KI 3)

  Engagement: "Great engagement. The LHIN has really entered that engagement. It was an opportunity to hear from other individuals who were involved with other agencies. I found that interesting, which made it easier to focus on." (KI 8)

"Need for further integration"

- For “Need for further integration”, 83% of respondents reported that an important enabler is “Agreement” on Comprehensive services across the Continuum of Care. Seventy-five percentage reported an important enabler is to have a “Regional Perspective” on Geographic Coverage and Rostering.

    “Agreement” on Comprehensive services across the Continuum of Care: “You know right now, we're basically doing a logic model for the issues we have identified. We've done some group work at the table to look at what are the major issues in these neighborhoods, and now we're developing logic models around addressing those. We did a voting exercise, and the results were fairly clear, so I think there was a fair bit of consensus.” (KI 3)

    “Regional Perspective” on Geographic Coverage and Rostering: “We know how expensive health care can be and that some areas are doing something extraordinarily well and others aren't. We don't want to mess around with the ones who are doing something extraordinarily well. I agree with the LHIN’s approach in saying let’s redress some of the more local challenges and leave alone what we think is going well.” (KI 6)

Organizational “leadership” and “culture”

- Seventy-five percentage of the respondents reported an important enabler is Organizational “leadership” and 67% reported an important enabler is Organizational “culture”.

    Organizational “leadership”: “Yes, I would say that the leadership team, and the senior leadership team very much sees the need for the system to work in a more integrated way.” (KI 12)

    Organizational “culture”: “Well, I think there needs to be what I would say is permission from the top that the ground level can collaborate. So, that’s the beginning for me and then demonstration of that by leadership or I’m going to say expectations by leadership that that is happening and demonstrated not just kind of lip service that’s demonstrating by enabling time and permission to do certain things.” (KI 2)

“Shared Information System”, “Governance Structure”, and “Shared Protocols”

- Sixty-seven percentage of respondents reported an important enabler is “Shared Information System”, 50% reported an important enabler is “Governance Structure”, and 50% reported an important enabler is “Shared Protocols”.

    Shared Information System: “I think some of the other things that will probably work well is to start electronic solutions, like Connecting Ontario. It’s through contractual

relationships that we have, but there is some shared documentation. I think right now is more clinical. I think it would be nice to have a platform where things are shared. Just even from some of the pieces that we are doing electronically around sharing of clinical information has helped with collaboration. I think there is an electronic piece in terms of a platform or system that needs to be in place." (KI 4)

Governance Structure: "Let's be mindful around governance and structures and accountabilities and responsibilities, all the stuff." Because I think if we can start mapping out what that looks like in a fair and equitable manner that people will be more comfortable to buy in a little more." (KI 6)

Shared Protocols: "Integrated care to me means that the patient and his or her family where appropriate is going to have access by consent of course. The patient is going to be granting access to his or her record to that person's circle of care." (KI 6)

Challenges

The challenges identified from the interviews are the emergent themes of:

- "Negative Inter-organizational Relationships"
- "Negative Relational Coordination - Communication"

"Negative Inter-organizational Relationships"

- 92% of respondents who reported "Negative Inter-organizational Relationships" as a challenge in the interviews. The following quotes also illustrate that it will take time to develop relationships.

  "That is, part of the trust issue, it's not even an issue of trust it's an issue of protecting turf." (KI 6)

  "I think once we get down to the work, one of the things that is happening as we speak, is breaking off into subgroups to do a bit of a deeper dive. I think that that's when some of that hands-on work will emerge, and some of the partnerships will happen there. I think it's just a teeny bit premature to be talking about new relationships being sparked." (KI 3)

"Negative Relational Coordination - Communication"

- 58% reported "Negative Relational Coordination - Communication" as a challenge. The following quotes illustrate the importance of developing a shared communication platform.

"Even there's information being shared, I don't think that it's leading change." (KI 1)

"So, when I think of integration I think of an integrated, a purpose for integrated care planning, and for me that means you have to start with mapping it on a shared communication platform...An easy way to communicate about important things as a basic for integration is the most important thing." (KI 2)

Barriers

Barriers identified from the interviews are the emergent themes of:

- Systems integration barriers
- Lack of integration
- Lack of funding
- Lack of performance measurement
- Lack of patient representation

- 92% of respondents who identified "System integration barriers".

  "We don't always find the system is ready, there's only so much the entire system has to be ready, lots of folks who are not. That's the challenge." (KI 2)

  "But you can also appreciate that the high vast majority of people in my agency are frontline service providers. And so those are not really discussions that they're focusing on, [they] provide service to clients and they're not really talking about integrated care." (KI 6)

- 67% of respondents who reported a "Lack of integration".

  "We're frequently dealing with the challenges of a disintegrated system without those; the delineation between the sectors and the struggles between sectors." (KI 12)

  "I'm saying that our system gets lots of feedback about how come you guys don't talk to each other and know what each other is doing." (KI 2)

- 67% respondents who reported a "Lack of funding".

  "The community tends to have a perspective that is resentment that all the money from the funder goes to the hospital, not enough goes to the community." (KI 1)

  "When you're a community agency, we don't have the infrastructure that the hospital has or that even home and community care have." (KI 7)

- 53% respondents who reported a “Lack of performance measurement”.

  “There's nothing from an accountability agreement standpoint that requires agencies to do that. If the language changes in the accountability agreements, or if accountability agreements were going to be held by the table itself as an entity, that's where I think we'll see a greater contribution by all sectors towards whatever those standards are.” (KI 10)

- 67% of respondents who reported a “Lack of patient representation”.

  “That's a huge blind spot and it generates tension in the community when there's a saying when a lot of people with experience say like “not for us, without us” is one of their sorts of mottos or slogans. You can't blame them for saying it because traditionally the patients voice is really not part of the discussion. I just feel like that's a big red flag we're actively involved with.” (KI 6)

Qualitative Interviews – Cross-Cutting Themes

Based on the thematic analysis of the qualitative interviews, the cross-cutting themes identified are: 1) Trust and Mutual Respect, 2) Psychological Safety and Mental Models, and 3) Readiness for Collaboration and Building Capacity. For each of these themes, an interview quote is presented to describe whether the theme is positive or negative from the respondents’ perspectives.

1) Trust and Mutual Respect

- 25% of the respondents reported that Trust and Mutual Respect is positive.

  “I would say there's a high level of respect amongst everyone who's in the group. I think that there's a high level of trust, because people allow people to continue their thoughts. They may agree to disagree, but they don't do it in such a way that's negative and disruptive, and making a person look bad, or feel bad if that makes sense. Respect is utmost I think in the group. I would say trust is fairly high up there as well. If I were ranking it, I would say probably a four to five on trust, and a five out of five on respect.” (KI 10)

- 42% of the respondents reported that Trust and Mutual Respect is negative.

  “I still see organizations joining those tables are still really focusing on their self-interests. I can say most of those, at least 60% of them are really focusing on their

own interests because when they talk, they talk about their own organizations, how their clientele, their niches, and then compete for the leadership. So, this is still happening at the table." (KI 9)

2) Psychological Safety and Mental Models

- 42% of the respondents reported that Psychological Safety and Mental Models is positive.

  "I think that there will be. There's good open dialogue. People feel free to voice their concerns at the table, from my observation." (KI 5)

- 42% of the respondents reported that Psychological Safety and Mental Models is negative.

  "There's been some sharing of information on value…I say that with a bit of hesitation because there's a perspective that some of the information that gets shared is planted based on whoever's presenting it. It's not necessarily vetted before it gets presented in that meeting. There's been a couple of occasions where one particular organization has presented information which was really serving their own interests." (KI 1)

3) Readiness to Collaborate and Building Capacity

- 92% of respondents reported positively towards Readiness to Collaborate and Building Capacity.

  "I think there's still work that needs to be done, when it comes to the transitions and having the right people at the table will be helpful in building and strengthening those relationships. It's developing and strengthening those relationships, so that you know who to contact. It all goes back to the inventory, and understanding what services available, and what gaps are there, and how do we address those gaps?" (KI 10)

  "I feel we just need to start. I feel like we need to… Talking about it so much and start to figure out where do we have the biggest issues or challenges. I think that's one of the things the sub LHIN tables are starting to do. (KI 12)

- 58% of respondents reported negativity towards Readiness to Collaborate and Building Capacity.

  "I don't know to what degree all the voices have been vented at the table. One of the criticisms I've had is there feels like there are quite a few people from the local hospital. Whereas every other organization just has one person. That can be potentially problematic." (KI 1)

> "I think that integrated care is absolutely where we need to go, and where people would like to go. It's how we're going to get there will be part of the challenge that these tables will need to be thinking about and working on, as we go through our strategies to do that." (KI 10)

Validating the Results Using Member Checking

Member checking has been done with members of the Health Region, who had participated on "Tables" and have experience leading and working with multiple stakeholder groups. Five Health Region members participated in the member checking process for a one-hour one-time session on December 11, 2019. During the member checking, the Health Region members appeared very interested in hearing the findings and agreed with the results presented. Not only did the Health Region members provide additional context to describe the differences in the "Tables"; but also confirmed the survey results and interview findings. The themes based on responses from member checking are presented in Appendix G.

Methodological Triangulation – Common Constructs

Methodological Triangulation is a strategy used to present the common constructs from the survey results and qualitative interviews, and to validate the findings using member checking. First, the Relational Coordination Index Scores from the survey results have been ranked by the highest to the lowest by the "Tables". Second, the survey results have been correlated with the interviews responses to understand the underlying constructs and context from the perspective of the "Tables". Lastly, once the common constructs have been determined, the findings have been confirmed with member checking.

The "Rural 1 and 2 Tables" and "Urban 2 Table" are coloured in "blue" as these "Tables" have "moderate" Relational Coordination Index scores. The "Suburban 1 and 2 Tables" and "Urban 2 Table" are coloured in "orange" as these "Tables" have "weak" Relational Coordination

Index scores. In this study, the "Rural 1 and 2 Tables" and "Urban 2 Table" with "moderate" Relational Coordination scores reported "inter-dependency" as an important construct, and the "Suburban 1 and 2 Tables" with "weak" Relational Coordination scores reported "inter-organizational challenges".

Inter-dependency

By linking the Relational Coordination Survey results and interviews with member checking, it has been discovered that the "Rural 1 and 2 Tables" and "Urban 2" with "moderate" Relational Coordination identified "inter-dependency" as an important construct for building cross-sectoral collaboration. Sample quotes from interview responses and member checking are provided to illustrate "inter-dependency". Methodological Triangulation: Inter-dependency Construct is presented in Table 27.

Table 27: Methodological Triangulation: Inter-dependency Construct

Survey Results		Interviews (KI=Key Informant)	Member Checking (MC)
Ranking *(Highest to Lowest)*	**Relational Coordination Index - Mean**	**Example Quotes**	**Observed by Health Region Members**
Rural 2 Table	3.73	"There's been a lot of ah-ha moments at the table where I think every single one of us has kind of went, oh, we didn't know that about us. It's been great format to learn more about our region and what the needs are." (KI 2)	"There appeared to be stronger collaboration among the Rural 1 and Rural 2 "Tables", since these smaller rural communities are accustomed to collaboration due to necessity and limited resources." (MC)
Rural 1 Table	3.68	"I think because of the evolution of the maturity of the group working together over the last couple of years, bringing the sub-region dimension or lens into the conversation, into the new collaborative table has been a fairly for lack of a better word, easy at bringing people together." (KI 10)	"Some "Tables" have been already established through "working groups" and functioning. For example, some of the participants knew each other or had prior history and experience working together, which have made it easier to build on collaboration." (MC)
Urban 2 Table	3.38	"The grassroots or more dynamic approach that's happening right now is really effective. I feel it is more effective that people are participating more. I don't know if that's from a greater sense of ownership around how things are being progressing, rather than a top-down approach." (KI 4)	"The Urban 1 and Urban 2 "Tables" are challenging because there are distinct diverse populations and several working groups have been formed. (MC)

Inter-organizational Challenges

By linking the Relational Coordination Survey results and interviews with member checking, it has been discovered that the "Suburban 1 and 2 Tables" and "Urban 1" with "weak" Relational Coordination identified "inter-organizational challenges" as an important construct. Sample quotes from interview responses and member checking are provided to illustrate "inter-organizational challenges". Methodological Triangulation: Inter-Organizational Challenges is presented in Table 28. There has been no one interviewed from the "Urban 1 Table".

Table 28: Methodological Triangulation: Inter-Organizational Challenges

Survey Results		Interviews (KI=Key Informant)	Member Checking (MC)
Ranking *(Highest to Lowest)*	**Relational Coordination Index - Mean**	**Example Quotes**	**Observed by Health Region Members**
Suburban 2 Table	2.88	"We need to be moving in the direction of more collaboration between organizations because there is clearly a lot of fragmentation and silos that have been inadvertently setup within the system." (KI 1)	"Both "Suburban Tables" consistently had lower scores for Relational Coordination." (MC)
Urban 1 Table	2.82	No interviews from Urban 1.	"Some members do not find their time is effectively spent in the meetings unless the work impacts them, and so some of the members did not continue their participation or only attended when needed. As a result, this made it very difficult for continuing the work planning and building collaboration at these "Tables"." (MC)
Suburban 1	2.66	"Yeah, I think a lot of people are really sensitive around governance models, so I think we have to support the very real concerns people have around when we talk about integrated care at the end of the day there is concern around who has what decision making authorities. "Let's be mindful around governance and structures and accountabilities and responsibilities." Because I think if we can start mapping out what that looks like in a fair and equitable manner people will be more comfortable to buy in a little more." (KI 6)	"The Health Region members revealed that the "Tables were a nebulous test". They further explained the mandate was unclear, with little governance structure or accountability for performance. There was no additional funding available, resources or incentives. This resulted in challenges among all of the "Tables", including ambiguity of goals, protection of turf, and motivation to engage." (MC)

Finding 5: Policy framework on "how to" build cross-sectoral collaboration to achieve health systems integration and transformation for leaders & policymakers

A policy framework is needed to enable health systems integration and transformation. As demonstrated in these interview quotes, there are concerns regarding the need for policy development and framework to help initiate health systems integration and transformation.

> "But I think at the end of the day my other big policy piece is around revisiting how the LHIN define and structure the Agreements. Unless the LHIN were to get really creative around saying, "Okay, now park what you know about Agreements for a minute and imagine what a new service agreement might look like." Like if you were to map future state model against what that service agreement as it ties to funding and service targets and everything else." (KI 6)

> "If the LHIN can't resolve that, then none of this can happen because that's the enabler. Right? That's the technical enabler when it says we're not going to affect your funding, there's not going to be any adverse impact to your funding that you get from the LHIN to be able to operate in this new service environment." (KI 6)

> "I believe standardization is really important, but I don't want to say at the risk of innovation. Because I think that each of the sub-region tables, there's going to be standardized approaches and standardized direction. It doesn't mean that there's not room to try something new and different, as long as it's not really contravening what the standardized processes are. If that makes sense." (KI 10)

A policy framework on "how to" build cross-sectoral collaboration to achieve health systems integration and transformation for leaders and policymakers has been developed in this study. The following summarizes the five key findings from the interviews and member checking for developing a Policy Framework:

1) Need structures to support Relational Coordination and Capacity
2) Address health care as a Complex Adaptive System
3) No One-Size-Fits-All Model for successful integration
4) Consider the context among the "Tables"
5) Evaluate collaboration and performance

1) Need structures to support Relational Coordination and Capacity

There is a need for structures to support Relational Coordination and Capacity.

> Interview Quote: “It's not formalized. And I think that's part of the struggle that I have with this table is unfocused and I didn't want to say disorganized, but there needs to be more structure applied including what you're describing there that clarity around what the decision-making process should look like.” (KI 1)

As confirmed by member checking, the Health Region members revealed that the “Tables are a nebulous test” (MC). Since there are no formal structural changes, performance targets or additional funding provided in this study, there are no improvements demonstrated in Relational Coordination Survey at Baseline to Follow-up. One Health Region member reported:

> Member Checking Quote: “The mandate was unclear, with little governance structure or accountability for performance. As well, there were no additional funding available and uncertainty of available funding for projects, including resources and incentives. This resulted in challenges among all of the “Tables”, including ambiguity of goals, protection of turf, and motivation to engage”. (MC)

2) Address Health Care as a Complex Adaptive System

As per interview findings, there is evidence in this research to substantiate the need to address health care as a Complex Adaptive System. The sample quotes are reported by respondents to demonstrate support for “Systems Transformation & Change (Mindset)”, “Inter-dependency”, and “Self-organizing Capacity”.

> Systems Transformation & Change (Mindset): “It's about time that we look at the health care sector as a whole. We want to talk about primary and acute and community-based health service providers, plus of course the patient and his or her family, where appropriate.” (KI 6)

> Inter-dependency: “The sense where everybody operates in their own vacuum are gone.” (KI 3)

> Self-organizing Capacity: **“**I think that if we can figure it out, small bits at a time, for really complex clients and trial things and then learn from those trials and make changes as we see the need. That's how we build integration. It's been collaborative with good engagement. As things roll, you have people doing what you need them to do, even when you're not looking.” (KI 12)

In addition, as per member checking, there is agreement that self-organization is important in cross-sectoral collaborative work. For example, one of the Health Region members reported:

> Self-organizing Capacity: “Some “Tables” started from “scratch” in the first meeting and then went through the five stages of team development (Forming, Storming, Norming,

Performing, and Adjourning). Some “Tables” were already established through previous “working groups” and functioning.” Further, “Some of the participants had prior history and experience working together previously through participation in working groups.” (MC)

3) No One-Size-Fits-All Model for Successful Integration

In this study, it has been identified there is no ‘one size-fits-all’ approach for successful integration. During the interviews, respondents have been asked about their opinion regarding the approach for “Systems Integration”. As a result, 67% reported a “Top Down” approach, 67% reported a “Bottom up” approach, and 50% reported “Both – Top down and Bottom up” approach. Sample quotes are provided to illustrate “Top down”, “Bottom up”, and “Both – Top down and Bottom up” approaches.

> “Top-Down” approach:
> “To start integration from top down is easier because you need leadership to have the kind of leadership mission to look at integration. If the organization or some stakeholders have that kind of mission, they're determined to start new integrated initiatives.” (KI 9)

> “Bottom-up” approach:
> “I think the grassroots or more dynamic approach that's happening right now is really effective. I feel it is more effective that people are participating more. I don't know if that's from a greater sense of ownership around how things are being progressing, rather than a top-down approach, which I think, people become a bit more passive with.” (KI 4)

> “Both – Top-down and Bottom-up”:
> “The ministry's going to provide some directives in terms of approach and probably consistency across the province. We're doing this integration, but I think it's the steering committees that are going to be the people who are going to make it happen and come up with the ideas on how it's going to work. I see very much it's grassroots and the bottom-up, but I also see there's a top-down piece too.” (KI 10)

However, as revealed in this quote, the “Bottom up” approach may create bias in the “Tables”:

> “Because there's a recognition that resources are limited, and organizations are at risk. If you're having the bottom-up approach, it's going to come from a biased perspective. Sometimes it's the loudest voice at the bottom that will direct where things go, which is not necessarily the best way to go. The problem of having a bottom-up approach is we're seeing in the tables there's a lot of jockeying for position that happens.” (KI 1)

4) Consider the Context among the "Tables"

It is important to consider the context among the "Tables", as there has been variability identified among the "Tables" in this study. To understand the variability among the "Tables", the results of the Relational Coordination Survey have been matched with the interviews and validated with member checking. The Relational Coordination Survey results demonstrated "moderate" Relational Coordination among "Rural 1 and 2 Tables" and "Urban 2 Tables", as compared to the "Urban 1 Table" and "Suburban 1 and 2 Tables". There is variability due to the context among the "Tables", as demonstrated by an interview quote by the Health Region:

> "Urban is a totally different ball game. It's different. Every subregion table will have its different nuances and flavors to them. Other social determinants of health, those are part of what we need to put in our considerations for what we're doing." (Health Region, KI 10)

There is variability as demonstrated by an interview quote by a member from the "Suburban Table" and another member from the "Rural Table":

> "People are relatively nice to each other for the most part. But that doesn't mean they trust each other though. Some of the whispers around like, Oh, here's another committee that's not going to end up doing any," some of those whispers are starting." (Suburban 1, KI 6)

> "It's a smaller table and I think this group is a well-knit group. I think it's very organized and well led, and there's a lot of participation. It is a long journey, but I think the group was able, is able, to move along, make decisions, and everyone's participating well." (Rural 2, KI 11)

The following quotes are validated from member checking regarding the "Tables":

- The Urban 1 and Urban 2 "Tables" were challenging because there were distinct diverse populations, and three working groups were formed. (MC)

- The Suburban 1 "Table" worked hard on communication, knowledge sharing, and goal setting. There was no formal intervention in the Suburban 2 "Table". Overall, it was observed and agreed that the "Suburban Tables" consistently had lower Relational Coordination. (MC)

- There appeared to be stronger collaboration among the Rural 1 and Rural 2 "Tables", since these smaller rural communities are accustomed to collaboration due to necessity and limited resources. Overall, it was observed and agreed that the "Rural Tables" consistently had higher Relational Coordination. (MC)

5) Evaluate Collaboration and Performance

There is a need to evaluate collaboration and performance. The following interview and member checking quotes demonstrate the need to 1) Address challenges in collaboration, 2) Create opportunities for collaboration, and 3) Evaluate performance and outcome measures.

1) Address challenges in collaboration:

> "And as you're probably aware there is long standing tension between hospitals and service providers. There's this tension that exists there." (KI 1)

> "To share those good practice with others and the collaborative, but that kind of development is not easy because it's not that easy that people will easily buy in or give up what they're doing." (KI 9)

> "Everybody thinks going to the table is to really to go and get resources for themselves. I think there's still a lot of those hidden agendas there. Until the work group is able to really work somehow together with a common kind of goal and objective." (KI 9)

> "Some members do not find their time is effectively spent in the meetings unless the work impacts them, and so some of the members did not continue their participation or only attended when needed. As a result, this made it very difficult for continuing the work planning and building collaboration at these "Tables"." (MC)

2) Create opportunities for collaboration:

> "I think we're driven by our performance requirements that don't always recognize things like integrated care or networking or that sort of thing." (KI 3)

> "I think its openness to hear each other or support each other, despite the fact that there might be some competitiveness in terms of financial funding." (KI 4)

> "You know, we all need to report our activity through the targets and the targets are set up in a way that doesn't recognize networking. They're very much based on individual organizations, and you need to see so many people (clients)." (KI 3)

> "It's not always easy to do and it takes a lot of time. Has an impact sometimes on other things. So it's finding of that balance. Is time, people, and money…Not one over another, it's all three." (KI 8)

3) Evaluate performance and outcome measures:

> "Well, there needs to be a joint account…Like a joint agreement about integration that everybody kind of signs on to, like a code of integration or some talk about a similar document that everybody signs on for. To me that would be a start and because if you signed up then you've got a little bit more skin in the game, you know?" (KI 2)

> "We don't have accountability by organization at a sub-region level at this point in time. There are nine measurements that have been recommended the ministry wants to start looking at. Some of those involve the number of coordinated care plans, the number of clients who've been connected to primary care, and the number of patients who have seen a physician within seven days of discharge of the hospital. I think it's going to be interesting to see how the ministry's going to capture this information." (KI 10)

Summary of Results

In this study, the use of the surveys (baseline & follow-up) and the interviews provides insights to understand the perspectives of the various stakeholders and "Tables". The results are summarized below based on the research findings:

1) Variation in the communication pattern and collaboration among the stakeholders

    - There are inherent silos in the current health system (i.e., structural barriers).
    - The LHIN invited members to participate through an "expression of interest".
    - The stakeholders met only a few times to start integration work together.
    - The viewpoints of the stakeholders are identified:
        - The Health Region is seen as a partner.
        - Need to further collaborate with Community, Hospital and Mental Health.
        - Lack of representation from Primary Care.
        - MOH created a separate Ministry of Long-Term Care in June 2019.
        - Public Health and Municipality (Emergency Services) are new stakeholders.
        - Lack of representation from Special Communities (French Language Service and Indigenous Communities).
        - Need to involve Patients/Families.
    - There are opportunities to do further cross-sectoral relational coordination work.
    - It is challenging for the LHINs to mandate stakeholders to integrate or collaborate.

2) Identified areas for improvement using Relational Coordination Survey

    - There are no significant differences in Relational Coordination among the stakeholders or the "Tables" (Kruskal Wallis Test).
    - Relational Coordination can be useful to identify "areas of strength" (Strong Relational Coordination Strength) or "areas for improvement" (Weak or Moderate Relational Coordination Strength).
    - Relational Coordination strength is rated lower by Speciality Communities, Hospital Sector, and Long-Term Care, compared to Primary Care, Community Sector, Health Region, Mental Health and Public Health.

- Relational Coordination strength is rated lower by the Subregion 1, Subregion 2, and Urban 1, compared to Urban 2, Rural 1, and Rural 2.

3) No difference comparing Relational Coordination Survey at baseline and at follow-up

- There are no significant differences in Relational Coordination at baseline and at follow-up (Independent t-test).
- Relational Coordination Survey can be used to determine level of collaboration, identify change improvement and develop strategies to improve cross-sectoral relational coordination.
- There are no structural changes (i.e., resources or interventions) and no performance indicators or measurement of outcomes in this study.
- It takes time to build long-term relationships and trust with members of the "Tables".

4) Key success factors/enablers and challenges/barriers for cross-sectoral collaboration

- It is important to prime right conditions for success and recognize enablers and challenges & barriers to strengthen cross-sectoral collaboration for achieving health systems integration and transformation.
- The Ranking Survey Questions are supported by the qualitative interviews:
    - The most important Relational Coordination Dimension is "Shared Goals".
    - The most important Basic Structures factor is "Governance to set priorities and policies".
    - The most important Leadership and Organizational Culture factor is "Leaders provide a vision for integrated care".
    - The most important Processes is "Joint process for planning and delivering care to patients".
    - The most important Integration Strategies and Enablers is "Need to define a shared vision and shared goals".
    - The two most important Reasons of Participation on the "Table" are "I want to work toward addressing patient needs and planning care at the local community level" and "I am interested in transforming the system".
- From interview results, emergent themes are identified:
    - The key primers for success identified are the concepts of Systems Transformation & Change (Mindset), Inter-dependency, Positive Inter-organizational Relationships, and Self-organizing Capacity.
    - The enablers identified are "Need to include collaboration in policies" and "Need for further integration" (i.e., Comprehensive services across the continuum of care "Agreement", Geographic coverage and rostering "Regional perspective", Organizational "leadership" and "culture", Shared Information System, Governance Structure, and Shared Protocols).
    - The challenges identified are "Negative Inter-organizational Relationships" and "Negative Relational Coordination - Communication".
    - There are "Systems integration barriers" identified.
    - There are a "Lack of integration", a "Lack of funding", and a "Lack of performance measurement".
    - There is also a "Lack of patient representation".
    - The cross-cutting themes identified are: 1) Trust and Mutual Respect, 2) Psychological Safety and Mental Models, and 3) Readiness for Collaboration and Building Capacity.

5) With Methodological Triangulation, the Relational Coordination survey results and the interviews findings have been correlated and then validated with member checking to identify the common constructs.
    - The “Rural 1 and 2 Tables” and “Urban 2 Table” with “moderate” Relational Coordination reported “inter-dependency”.
    - The “Suburban 1 and 2 Tables” and “Urban 1 Table” with “weak” Relational Coordination identified “inter-organizational challenges”.

6) There is a need to develop a Policy framework on “how to” build cross-sectoral collaboration to achieve health systems integration and transformation for leaders and policymakers. The key findings for developing a Policy Framework are:
    1) Need structures to support Relational Coordination and Capacity
    2) Address health care as a Complex Adaptive System
    3) No “one-size-fits-all” model for successful integration
    4) Consider the context among the “Tables”
    5) Evaluate collaboration and performance

Chapter Six: Discussion

Introduction

The findings in this research study characterized the process of developing and managing relationships with six newly established "Tables" using quantitative surveys and qualitative interviews. In this mixed methods research study, emergent and cross-cutting themes have been identified through thematic analysis. From the interviews, the emergent themes for key success factors identified are Systems Transformation & Change (Mindset), Inter-dependency, Positive Inter-organizational Relationships, and Self-organizing Capacity. Also, other key success factors, enablers, challenges, and barriers for health systems integration have been identified. This evidence supports the application of Complex Adaptive Systems and Relational Coordination Theories.

Methodological Triangulation has been used to match the common constructs from the survey results, qualitative interviews, and member checking. Although there are no statistically significant differences in this research, the "Rural 1 and 2 Tables" and "Urban 2" with "moderate" Relational Coordination reported "inter-dependency", and the "Suburban 1 and 2 Tables" with "weak" Relational Coordination identified "inter-organizational challenges". This evidence confirms what is in the current literature, in which there is no "one-size-fits-all" approach for health systems integration. Also, this suggests that health care system must be seen as a Complex Adaptive System. In this dissertation, a policy framework "how to" build cross-sectoral collaboration to achieve health systems integration and transformation has been developed for leaders and policymakers.

Use of Relational Coordination Survey and Theory to Assess Cross-Sectoral Collaboration

In this study, the Relational Coordination Survey has been used to assess the communication patterns and collaboration among the stakeholders. The overall Relational Coordination strength is “moderate”. As identified in the survey findings, there are variation in Relational Coordination strength among the stakeholders, which have been confirmed using the interview results. In the interviews, the Health Region is seen as a partner. The Community, Hospital and Mental Health have indicated the need to further collaborate with other sectors. For example, the Hospital representative has reported that further collaboration is needed with the Community and Mental Health to prevent hospital emergency visits. The Community has suggested a need to work with the hospital to support patients who are transitioning back home.

The Relational Coordination strength is “mixed” (“weak” or “moderate”) for Public Health and Long-Term Care; however, according to the interviews, Public Health is “new” to collaborating at the “Tables”. For Specialty Communities, the Relational Coordination strength is “weak”, and for Primary Care, the Relational Coordination strength is “weak” for most of the dimensions (except “moderate” for Shared Goals). Since there are variability among the stakeholders, the use of the Relational Coordination Survey results can be shared and discussed with key stakeholders as a baseline and to improve on cross-sectoral collaboration.

As demonstrated in the literature, the Relational Coordination Survey can be used to assess communication and inter-organizational relationships to improve on cross-sectoral collaboration (Gittell, 2009). The use of Gittell’s (2009) theory of Relational Coordination proposes that participants engage in frequent, timely, accurate, and problem-solving communication, supported by relationships of shared goals, shared knowledge and mutual respect. Relational Coordination is a manifestation of high-quality relationship, including the dimensions of shared goals, shared knowledge and mutual trust which fosters psychological safety; thus, enables organizational members to engage in learning (Carmeli & Gittell, 2009).

Since some of the stakeholders are new, political alignment and a sense of shared responsibility are needed (Gittell, 2016). As advised by Gittell (2016), when shared goals, share

knowledge and mutual respect are well-established, participants recognize and embrace inter-dependence which allows those with less power to be elevated and those with more power to be comfortable with sharing it. As shared by Gittell (2016), since power is not only equalized, it is expanded for everyone and eventually participants' sense of power and efficacy extends beyond their own team and throughout the broader system. As per Gittell (2016), "There can be no organizational or social transformation without personal transformation" (p. 12).

Use of Relational Coordination to Identify Areas for Improvement

In this study, the Relational Coordination has been useful to identify areas of improvement for each of the stakeholders and "Tables". Although there is no statistical difference in Relational Coordination Index, the Relational Coordination strength is rated "weak" by Speciality Communities, Hospital Sector, and Long-Term Care, compared to "moderate" for Primary Care, Community Sector, Health Region, Mental Health and Public Health. Although there is no statistical difference in Relational Coordination Index, the Relational Coordination strength is rated "weak" by Subregion 1, Subregion 2, and Urban 1, compared to "moderate" by Urban 2, Rural 1, and Rural 2. With the use of the Relational Coordination, where Relational Coordination strength are "weak" or "moderate", this indicates an opportunity to improve on the relational coordination dimension(s).

The Relational Coordination Survey could be disseminated with the stakeholders at the "Tables" to identify strengths and improvement areas for each of the Relational Coordination dimensions. The Relational Coordination Survey provides a visual mapping for participants and leaders as a guide to identify areas of strength, engage in discussion, and create opportunities to improve relational coordination through interventions. As per Relational Model of Organizational Change (RMOC), structural, relational and work process interventions are necessary to foster cross-sectoral collaboration (Gittell et al., 2011). In this dissertation study,

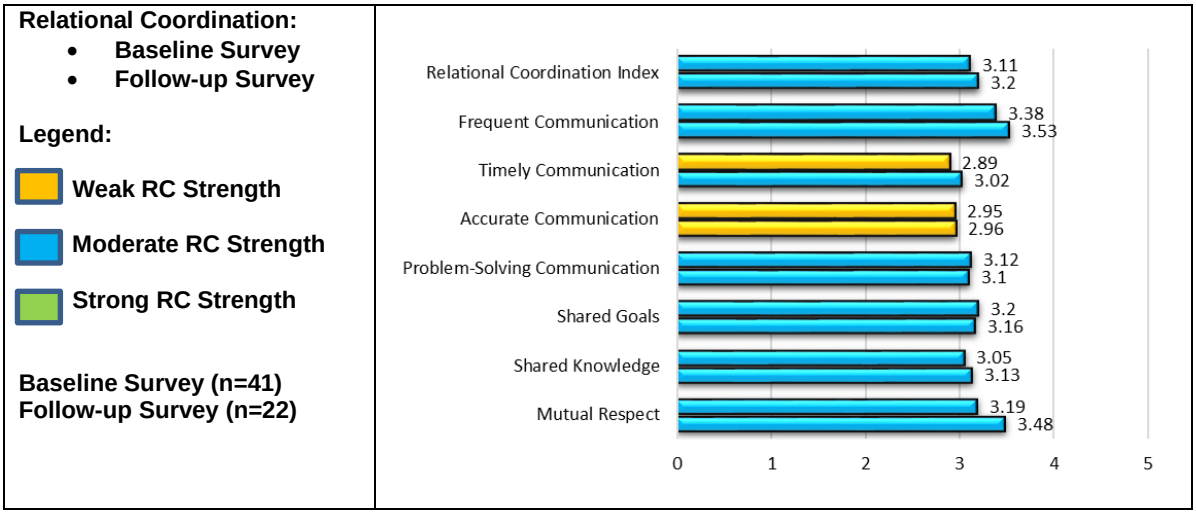
the Relational Coordination Survey has been presented to the Health Region Leaders; however, the it has not been shown to the “Tables”.

Use of Relational Coordination Survey to Monitor Collaboration

In this dissertation study, the Relational Coordination Survey has been administered at baseline and follow-up (Year 1); however, there are no differences using the independent t-test. This is not a surprise as this is a naturalist inquiry study with no formal structural changes (i.e., resources or interventions), performance targets or outcomes. There have been no clear mandates for the “Tables” to collaborate, only that the “Table” members volunteered to participate. In addition, there have been no specific goals, other than to work collaboratively to improve population health at the local levels. From the interviews, all of the sectors have reported an interest in networking, building partnerships and participating in cross-sectoral work.

From the interviews, the respondents have reported that it takes time to build long-term relationships and trust with members of the “Tables”. During the member checking, a few of the Health Region Leaders have mentioned they tried to create the right conditions for collaboration. In the future, the Relational Coordination Survey can be used to assess collaboration, develop strategies to support cross-sectoral collaboration and determine any changes over time. Bar Graph Comparing Baseline and Follow-up Surveys is presented in Graph 1.

Graph 1: Bar Graph Comparing Baseline and Follow-up Surveys



Use of Relational Model of Organizational Change to Support Cross-Sectoral Collaboration

As identified in this study, there have been inter-organizational challenges and system barriers due to inherent silos; however, there have been no structural changes (i.e, resources or interventions), performance measurements or outcomes implemented. In the current literature, Gittell (2016) indicated that outdated organizational structures contribute to the siloed behaviours; however, there is an opportunity to redesign structures to better support Relational Coordination. Based on the Relational Model of Organizational Change (RMOC), the organizational structures that predict high levels of Relational Coordination are those that connect across workgroups rather than reinforce the silos separating them (Gittell et al., 2010).

The RMOC proposes that relational, structural and work process interventions are primers to change deep-seated patterns of interaction (Gittell et al., 2011), and are necessary synergistically to support changes in relational dynamics (Gittell, 2016). The RMOC is a bootstrapping process where new structures and new relationships are needed to support the development of the other. The RMOC illustrates a more complete picture of how this happens and the essential role that high-quality relationships play in the process. Also, the RMOC

suggests that structural interventions can be assessed and implemented to strengthen Relational Coordination using the Organizational Structures Assessment Tool (RCC, 2019).

The use of the Organizational Structures Assessment Tool (OSAT) can be used in future research to determine "How well does organizational structures support Relational Coordination?". The OSAT uses an interview-based scoring grid from 'worst practice' to 'best practice' to construct a holistic Organizational Structures Assessment based on eleven organizational structures across two domains of 1) Human Resource Practices and 2) Coordinating Mechanisms. These structures have been demonstrated to influence the strength of Relational Coordination among staff or partners engaged in a common work process, with subsequent impact on performance outcomes (Gittell, 2002; Gittell, 2009; Gittell et al., 2010).

Organizational Structures Assessment Tool:

Domain 1: Human Resource Practices

- Select and train for teamwork
- Shared accountability
- Shared rewards
- Shared conflict resolution process
- Relational job design

Domain 2: Coordinating Mechanisms

- Relational leadership
- Boundary spanner roles
- Shared meetings and huddles
- Shared relational space
- Shared protocols
- Shared information system

Source: Veterans Affairs Health Services Research & Development (2021). "What are we learning about Relational Coordination Interventions in Healthcare". Seminar by Heba Naim Ali, Heather Gilmartin & Jody Hoffer Gittell on November 15, 2021. Retrieved from https://www.hsrd.research.va.gov/for_researchers/cyber_seminars/archives/video_archive.cfm?SessionID=4054&Seriesid=54

Unfortunately, the use of the OSAT is in the development stage and has not yet been fully validated; however, there is an opportunity to redesign structures to better support Relational Coordination (Gittell, 2016). As per Gittell (2016), structural interventions would help to support new relational dynamics when introduced into a context where relational patterns emerge and transform the way people see themselves within the new structure. When these structures are designed to support relational coordination, they form a relational dynamic work system where participants can build shared goals and shared knowledge across diverse boundaries in a mutually respectful way, which enables high performance (Gittell et al., 2000).

Use of Complex Adaptive Systems & Relational Coordination Theories

The Complex Adaptive Systems and Relational Coordination Theories have been used in this study to illuminate the complex nature of cross-sectoral collaboration and building relationships. According to the complex systems lens, the two common complex systems' fundamental themes are the universal inter-connectedness and inter-dependence of all phenomena, and the intrinsically dynamic nature of reality (Capra,1996). As per Complex Adaptive Systems Theory, “complex” emphasizes that the necessary competence to perform a task is not owned by any one part; rather, it comes as a result of cooperation within the system, and “adaptive” means that system change occurs through successive adaptations, which consists of subsystems or “agents” acting in dependence on one another (Edgren, 2008).

Using a “machine model” thinking to study organizational behaviour is problematic (Suchman, 2011). According to Suchman (2011), “To modify a machine's function, we make a new blueprint and build exactly according to specification” (p. S44). In addition, by following the “machine model” thinking may not be appropriate with inter-dependent organizations with complex tasks (Edgren, 2008). As emphasized by Edgren, (2008), with Complex Adaptive Systems, the focus is on the interaction and communication between agents. In human

systems, change management and cultural change strategies are required (Dolan et al., 2000). The Relational Coordination Survey offers a tool to humanize the change management process by assessing collaboration and developing cultural change strategies (Gittell, 2016).

Although the Relational Coordination Theory does not explicitly address organizational change; however, it provides the connections for managing inter-dependencies. While Complexity Theory looks at how systems act, Relational Coordination Theory describes the nature and quality of the human interactions (Logan, et al., 2016). According to Logan et al. (2016), "Together the two theories complement one another - Relational Coordination Theory puts flesh on the bones of complexity theory by adding insights regarding the nature and quality of human interactions that are conducive to high functioning self-organizing systems" (p. 9). Complexity science suggests the structures identified by Relational Coordination Theory can be designed and implemented by actors to support quality human interactions (Logan et al., 2016).

Suchman et al. (2011) suggests that interventions informed by Relational Coordination improves the participants' capacity to self-manage their independence, to understand their common goal, to understand how their individual work fits into the larger work process, and to carry out their work with an awareness of how their actions affect the work of others. It is important to go beyond the microsystem and understand the broader context, including the mesosystem (set of inter-dependent microsystems) and macrosystem (i.e., regulatory, cultural, social and political environment) within which the microsystems are in (Gittell, 2016).

As per Tsasis et al. (2012), in Complex Adaptive System, there are competing challenges and conflicting needs for integrated care, where tensions and paradoxes are natural, and cannot necessarily be resolved. By identifying and understanding roles and activities of others in the system is a practical starting point for organizations seeking to partner with other providers to deliver integrated care (Tsasis et al. (2012). However, a key gap in the literature is the lack of information on what successful integration looks like in order to evaluate the health system

(Oelke et al., 2015). Future work should be anchored in a Complex Adaptive Systems lens and focus on relationship-building the system's capacity to self-organize (Tsasis et al., 2012).

Adoption of Complexity Leadership to Create the Conditions for Cross-Sectoral Collaboration

In the Ranking Survey, leadership has been identified as a key success factor (i.e., "Leaders provide a vision for integrated care") as well as an important enabler from the interviews. Based on the literature on leadership, it emphasizes the importance of promoting a collective understanding of the vision and developing trust between professional groups and organizations (Ling et al., 2012). However, there are no specific methods or tools on "how to" achieve these aims, other than the need for cultural change, open communication, and distributed leadership (Ling et al., 2012). As per Lindberg & Schneider (2013), with the complexity view, leadership should be seen as informal, distributed, and relational.

Moreover, it is not easy for leaders to work in complex environments and to support changes across diverse sectors. As expressed by Mahatma Gandhi, "be the change you wish to see in the world". Gittell (2016) supports that change agents play a critical role in creating organizational change and that change happens in relational ways. Relational interventions are important to foster intentional change in ways people relate to one another by engaging with them, as opposed to manipulating them, demonstrating a positive relational contagion (Gittell, 2016). As a result, a positive relational contagion can spread and extend demonstrating a resonance between positive deviance and Relational Coordination (Gittell, 2016).

To support Relational Coordination, leadership training at all levels of the organization can support systems thinking by building shared knowledge across the system (Gittell, 2016). Gittell (2016) also recommends Relational Coordination, Relational Co-production and Relational Leadership to effectively support structures. As per Gittell (2016), "A kind of bootstrapping is needed" (p. 265). With the new structures, Gittell (2016) expresses the need to

lead differently reinforcing the need to bring people together. To support Relational Coordination with the new structure, leaders should foster a relational climate of mutual respect and shared knowledge, while helping participants develop shared goals (Gittell, 2016). To effectively change structures and policies, leaders would be required to first enact or live the changes in a way that helps others visualize the change needed and to see why it is possible and desirable (Gittell, 2016).

In a book titled *Developing Relationship Leadership* by Hornstrup et al. (2012), the authors provided theoretical perspectives and practical solutions for leaders who are undergoing organizational change initiatives. The book includes systems and communication theories, as well as coaching and organizational development strategies to support systems change efforts. As identified by Gittell et al. (2017), there is new research on "Complexity Leadership" which is generating new ways to think about leadership and organizing for today's complex environments. There is current research being conducted to compare and integrate Complexity Leadership with the Relational Coordination Theory to support new insights on "how to" design and lead organizations to operate as Complex Adaptive Systems (Gittell et al., 2017). Further research can contribute and help support the conditions needed for cross-sectoral collaboration.

No 'one-size-fits-all' Model for Health Systems Integration and Transformation

During the interviews, interviewees have been asked to openly comment on their preferences, "Will it be more important to implement policy directives from 'above' or solicit participation and buy-in from 'below'"? Unfortunately, there was no clear consensus in this study in terms of the responses to whether system integration should be "top down", "bottom up" or "both". The findings in this research are in alignment with the current literature, where "there is no 'one-size-fits-all' model or process for successful integration, nor is there a firm empirical foundation for integration strategies and processes" (Suter et al., 2009, p. 16). However, there

are reports to suggests that leaders need to learn, adapt, and change from a “command and control” to a “negotiate and steer” approach (Leung et al., 2016; Willis et al., 2017).

In the literature on Complex Adaptive Systems, the focus is on the interaction and communication between agents, which supports the understanding why the traditional “top down” method of managing may not be appropriate with inter-dependent organizations for complex tasks (Edgren, 2008). Organizations should not be controlled; rather both approaches, including “bottom-up” and “top-down” are required as both “development” and “control” values are needed (Dolan et al., 2000). “Development values” create new opportunities for action (i.e., self-learning, self-organization, and flexibility) and “control values” bring the various sub-systems together to guide activities (i.e., centralization, planning, and order) (Dolan et al., 2000).

Key Success Factors and Enablers for Health Systems Integration and Transformation

Based on the results from the Ranking Survey Questions where members have rated the factors from the most important to the least important, the most important factors for health systems integration have been identified. These findings are further supported by the interviews in this research study. When comparing these results to the literature, these findings are in alignment with the literature on Complex Adaptive Systems, Relational Coordination, and Ten Key Principles for Successful Integration.

Integration Strategy & Enabler: “Need to define a shared vision & shared goals”

The Integration Strategy & Enabler is the “Need to define a shared vision & shared goals”. In this study, some of the “Tables” have been able to establish a shared vision with clear goals. As identified in the literature, the pre-requisites for integrated care include a shared vision, clear roles, and responsibilities (Shortell et al., 1993; Suter et al., 2009; Evans & Baker, 2012, Tsasis et al., 2013). However, since there are few tools to inform on “how to” build

integrated care, the Complex Adaptive Systems lens could be used for governments and Ministries to identify competing challenges and conflicting needs to promote system awareness and for organizations to re-examine its role and vision (Tsasis et al., 2012).

Relational Coordination Dimension: "Shared Goals".

The most important Relational Coordination dimension is "Shared Goals". Based on the results of the Relational Coordination Survey, the "Rural 1 and 2 Tables" and "Urban 2" have "moderate" strength for "Shared Goals" and the "Suburban 1 and 2 Tables" and "Urban 1 Table" have "weak" strength. As per Relational Coordination Theory, shared goals ensures that interests are aligned, shared knowledge allows participants to understand how their specific tasks fit within the overall process, and mutual respect enables participants to overcome status barriers that might otherwise prevent them from taking others' perspectives (Gittell, 2011). Clear goals are a key success factor, including careful management of both active participants and stakeholder interactions, which can be complex or changing (Wakerman & Mitchell, 2005).

Basic Structures: "Governance to set priorities and policies"

The most important Basic Structures is "Governance to set priorities and policies". In this study, the mandate has been unclear for the "Tables", as there have been no governance structural changes and no new policies being implemented. As identified in the literature, successful community collaborations at the local levels are important, and broad policy changes are needed at a systems level; such that the right conditions are in place to enable collaborations across sectors for change through policy work (Danaher, 2011). Leung et al. (2016) support that successful partnerships include the concepts of embracing diversity, shared mission and openness to mix of governance forms as determined by local partners and context.

Leadership & Organizational Culture: "Leaders provide a vision for integrated care"

In the Ranking Survey, the most important Leadership & Organizational Culture factor is that "Leaders provide a vision for integrated care". In the interviews, a majority of the respondents (75%) have reported that the "senior leadership team very much sees the need for the system to work in a more integrated way" (KI 12). Wagner et al. (1999) also reported that health systems must have leadership, incentives and resources to drive change. The capacity to carry out cross-sectoral collaboration and integrated service delivery is dependent on leadership, where local leaders and champions are necessary to support the collaboration (Gray, 2002).

Processes: "Joint process for planning and delivering care to patients"

The most important Process is "Joint process for planning and delivering care to patients". In the current literature, Singer et al. (2011) have acknowledged that integrated organizational structures and processes may fail to produce integrated patient care. However, health systems around the world are trying to implement integrated care strategies to improve quality, reduce or maintain costs, and improve the patient experience (Tsasis et al., 2013). The outcomes of integrated services should be better quality of health, less waste, improved efficiency and experience for patients and professionals (Nuno et al., 2012).

Reason of Participation on the "Table": "I want to work toward addressing patient needs and planning care at the local community level"

The most important Reason of Participation on the "Table" is "I want to work toward addressing patient needs and planning care at the local community level". In this study, the members applied to sit on the "Table(s)" voluntarily by completing an "Expression of Interest", and then were selected based on their experience providing services within the region. In alignment with the current literature, as argued by Lindberg & Schneider (2013), change efforts

are best led from people with firsthand knowledge of their work, history and norms. To implement effective inter-sectoral collaboration requires political will and innovative solutions to build communication across sectors to address local population health needs (WHO, 2017).

Emergent Themes: Key Success Factors and Enablers for Systems Integration and Transformation

As identified in the interviews, the following emergent themes have been identified for key success factors and enablers. They key primers for success are the concepts of "Systems Transformation & Change (Mindset)", "Inter-dependency", "Positive Inter-organizational Relationships", and "Self-organizing Capacity". The enablers identified are "Need to include collaboration in policies" and "Need for further integration". When comparing these results to the current literature, these findings are in alignment with the literature on Complex Adaptive Systems, Relational Coordination, and Ten Key Principles for Successful Integration.

Key Success Factor: "Systems Transformation & Change (Mindset)"

"Systems Transformation & Change (Mindset)" have been identified in the interviews as a key success factor, where change is recognized as an evolving learning process, rather than a series of programmatic steps (Tsasis et al., 2012). By taking one step at a time will give opportunities to identify and make use of the emergent new patterns, and then be able to introduce small changes (Suchman et al., 2011). Because the new process and work is complex with uncertainty and unpredictability, Suchman (2011) "emergent design involves a mindset of curiosity, flexibility and experimentation" (p. S45). The application of "complexity" recognizes the role of shared value, social innovation and emergent behaviours (Willis et al., 2017). It is critical to identify the mental models at play on an ongoing basis (Kania et al., 2018).

Key Success Factor: "Inter-dependency"

Moreover, "Inter-dependency" has been identified in the interviews as a key success factor. This finding is in alignment with the principles of Complex Adaptive Systems, where "inter-dependence" is a fundamental part of collaboration (Wakerman & Mitchell, 2005), and Relational Coordination support settings with high degrees of task inter-dependence, uncertainty, and time constraints (Gittell, 2000). Relational Coordination Theory supports that quality relationships are needed to manage inter-dependence among participants under conditions of complexity, enabling emergent and adaptive responses (Gittell et al., 2017).

Key Success Factor: "Positive Inter-organizational Relationships"

"Positive Inter-organizational Relationships" have been identified in the interviews as key success factors. In the literature, cross-sectoral collaboration is accomplished mainly through voluntary agreements between organizations where the extent of collaboration is dependent on the involvement of organizations from different sectors and their willingness to collaborate (Axelsson & Axelsson, 2006). Since cross-sectoral collaboration is a complex relational process, the Relational Coordination Survey can be used to assess the relational dynamics that support the development of adaptive capacity for collaboration (Gittell et al., 2017).

Key Success Factor: "Self-organizing Capacity"

"Self-organizing Capacity" has been identified in the interviews as another key success factor, which is in alignment with the current literature on Relational Coordination and Complex Adaptive Systems theories. As per Logan et al., (2016), "Together the two theories complement one another - Relational Coordination Theory puts flesh on the bones of complexity theory by adding insights regarding the nature and quality of human interactions that are conducive to high functioning self-organizing systems" (p. 9). Health system reform should be modified to

create the right context and conditions that supports self-organization for enabling successful cross-sectoral collaboration (Tsasis et al., 2012). With the use of Complex Adaptive System lens, changes can occur when conditions are favourable through self-organization (Tsasis et al., 2012).

Enabler: "Need to include collaboration in policies"

An enabler identified in this study is the "Need to include collaboration in policies". However, no policy, governance or structural changes have been implemented in this study. Similarly, in the current literature, there is a lack of evaluation in terms of the implementation of collaboration in policies (Gray, 2002). To create fundamental changes, collaborators need to be engaged in capacity building and policy advocacy (Danaher, 2011). Organizational experts suggest ways to align relational work with organizational norms in measurable ways, such as creating measures and rewards for relational work and including relational work in regulatory or reimbursement systems (Gittell, 2016). To bring about sustainable changes in relational coordination, organizations need to adopt structures of shared accountability, and policymakers then have to support the changes in the broader legal and policy context (Gittell, 2009).

Enabler: "Need for further integration"

Another enabler identified in this research is the "Need for further integration". Even though there are no formal integration changes in this study, all the members interviewed (100%) agreed on the need to plan Comprehensive services across the continuum. The other concepts related to successful integration are Geographic coverage & rostering (Regional perspective), Shared information system, Governance structure, and Shared protocols. As indicated by Gittell (2016), outdated organizational structures contribute to the siloed behaviours; however, there is an opportunity to redesign structures to better support Relational

Coordination, Co-production, and Leadership. When these structures are designed to support relational coordination, they form a relational dynamic work system where participants can build shared goals and shared knowledge across diverse boundaries in a mutually respectful way, which enables high performance (Gittell et al., 2000).

In this study, other concepts related to successful integration are “Organizational Leadership and Culture”. In the Relational Coordination Survey and interview results, there are differences between the “Tables”. As identified in the member checking, some of the members knew each other, had prior history working together on projects previously which made it easier for collaborating. Because the context affects each part of the system, including the political, economic, culture, social and organizational climate; thus, context determines the mission, funding, and the relationships (Corbin et al., 2016). As identified in the literature, it is important to consider the history, traditions, and expectations, which influences the behavior that shape the cultural patterns of that group (Human Systems Dynamic Institute, 2019).

In this research, shared information systems, such as electronic medical/health records (EMR/EHR) and tools have been identified to be important enablers for sharing among health care providers and patients. The Romanow report reported “there are clear benefits to Canadians from electronic health records” (Health Canada, 2003, p. xxvi). Although the use of EMR/EHR and electronic tools are important enablers; further research is recommended to support the collaboration with patients and providers. In a book chapter titled *Creating a Supportive Environment for Self-management in Healthcare via Patient Electronic Tools* by Balouchi et al. (2014), the authors suggest that an effective self-management program must be customized as a “one-size-fits-all” approach does not account for individual patient experiences. Therefore, the use of patient electronic tools does not eliminate the role of health care providers; rather, should promote collaborations among the patients and providers (Balouchi et al., 2014).

In a study by Graetz et al. (2015), they studied the impact of electronic health records and teamwork on diabetes care in primary care settings. In their study, Graetz et al. (2015)

assessed the combination of team cohesion with lab values during the EHR implementation. Graetz et al. (2015) concluded that higher cohesion care teams experienced modest but statistically significantly greater EHR-related health outcome improvements compared with patients cared for by providers practicing in lower cohesion teams. The implementation of EMR/HER systems are inherently complex and not always successful (Graetz et al.,2015). As recommended by Graetz et al. (2015), future studies should explore which factors promote greater team cohesion such as the development of shared goals and knowledge, and the roles played by organizational culture & leadership.

Emergent Themes: Challenges and Barriers

From the interviews in this research, emergent themes have been identified for challenges and barriers. The challenges are the concepts of "Negative Inter-organizational Relationships" and "Negative Relational Coordination - Communication". There are systems integration barriers identified, including a "Lack of integration", "Lack of funding", "Lack of performance measurement" and "Lack of patient representation". When comparing these results to the current literature, these findings are in alignment with the literature on Complex Adaptive Systems, Relational Coordination, and Ten Key Principles for Successful Integration.

Challenge: "Negative Inter-organizational Relationships"

The challenge identified in this study is "Negative Inter-organizational Relationships". In the interviews, there are negative inter-organizational relationships identified where some of the participants reported issues with trust, respect and self-interest. In the literature, mutual respect and appreciation of all participants skills and contributions to the collaboration is necessary and a lack of this is a barrier (Gray, 2002). Trust is an enabler for effective collaboration, innovation, leadership, team and organizational performance and sustained change (Dietz & Gillespie,

2011). The task for policymakers is to remove the barriers and create incentives that will strengthen the capacity for cross-sectoral collaboration (PHAC, 2007).

Challenge: "Negative Relational Coordination - Communication"

Another challenge identified in this research is "Negative Relational Coordination - Communication". In the interviews, it has been identified that it will take time to develop relationships and shared communication platforms. Moreover, it will take time and dedicated resources to bring groups to the table to develop relationships and build communication (Edgren & Bernard, 2012). In the current literature, health systems transformation may be achieved with stakeholder alignment on integration through dialogue among stakeholders (Tsasis et al., 2013). As per Benzer et al. (2016), leaders can help by 1) linking innovations to compelling, shared strategic goals, 2) providing resources both to support innovations and to develop local capability to support organizational change, and 3) promoting access to knowledge and cross-fertilization of ideas through both formal and informal communication channels.

Barriers: "Systems Integration"

There are "Systems Integration" barriers identified in this study. For example, as expressed by an interviewee, "We need to be moving in the direction of more collaboration between organizations because there is clearly a lot of fragmentation and silos that have been inadvertently setup within the system" (KI 1). As discovered in this study from the interviews, the "Suburban 1 and 2 Tables" had more challenges compared to the "Rural 1 and 2 Tables". As confirmed by member checking, it has been revealed that the "Rural Tables" come from smaller communities are accustomed to working collaboratively due to necessity and limited resources. In the literature, as noted by Evans et al. (2016), differences in organizational contexts may be responsible for variability in the success of integrated care. By identifying and

understanding the roles and activities of others in the system is a practical starting point for organizations seeking to partner with other providers to deliver integrated care (Tsasis et al., 2012).

Barriers: "Lack of integration"

As identified in the Relational Coordination Survey results, the Relational Coordination strength is "weak" with Primary Care and Specialty Communities due to a "Lack of integration". In the interviews, there are inherent silos typically between primary care, acute and community-based providers. Gittell (2016) revealed there are challenges with change, where change may be resisted by participants initially due to perceived threats to their power, professional identities or due to outdated structures that continue to reinforce the existing dynamics and ways of thinking. However, as per Gittell (2016), structural interventions can support new relational dynamics when introduced into a way where relational patterns emerge in the new structure.

In this research, there have been no structural or policy changes and no additional funding or resources provided to support the collaboration. For example, in the interview quotes, "Everybody thinks going to the table is to really to go and get resources for themselves. I think there's still a lot of those hidden agendas there. (KI 9)" and "The community tends to have a perspective that is resentment that all the money from the funding goes to the hospital, not enough goes to the community" (KI 9). As identified in the literature, everyone needs to understand when working with multiple sectors requires considerable investment (time/resources) and commitment (Danaher, 2011). Resources can be either an enabler or barrier, and funding is required for innovation and partnerships to develop which is often tied to performance through accountability agreements (Danaher, 2011).

In this study, there have been no formal evaluations established or performance outcome measurements. As revealed by a Health Region Leader during the member checking,

the “Tables was a nebulous test” (MC) as there have been no changes in governance or structure implemented. There have been no additional funding or resources, and no incentives or accountabilities for collaboration. Also, “This resulted in challenges among all of the “Tables”, including ambiguity of goals, protection of turf, and motivation to engage (MC)”. However, as argued by Gittell (2016), changing structures is not sufficient, shared accountability and rewards are needed to connect across all the roles to achieve a desired outcome, to encourage participants to problem-solve and support the goals.

Barriers: “Lack of patient representation”

There is no “patient representation” on the “Tables” which has been identified in this research as a barrier. As revealed by an interviewee, “There's a saying when a lot of people with experience say 'not for us, without us' is one of their motto's or slogans. You can't blame them for saying it because traditionally the patients’ voice is really not part of the discussion. I just feel that's a big red flag. (KI 6)” In the current literature, to make positive changes with patients to improve health, it is important to understand the system in which their health journey takes place (Martin & Sturmberg, 2013). Willumsen et al. (2012) also suggested that users be involved in the research as a referenced group to ensure that their needs are addressed.

Cross-Cutting Themes

From the interviews in this study, the following cross-cutting themes have been identified: 1) Trust and Mutual Respect, 2) Psychological Safety and Mental Models, and 3) Readiness for Collaboration and Building Capacity.

Trust and Mutual Respect

In this research, the use of the term “Mutual Respect” has been used in the Relational Coordination Survey. During the interviews, it has been observed that some respondents used the terms “Trust” and “Mutual Respect” interchangeably. One participant separated the two concepts in this quote, “Respect is utmost I think in the group. I would say trust is fairly high up there as well. If I were ranking it, I would say probably a four to five on trust, and a five out of five on respect. (KI 10)” Even though this study primarily focused on “Mutual Respect”; both “Trust” and “Mutual Respect” are identified as important enablers for collaboration. As identified by a recent research by Hajjar et al. (2020), the quality of relationships between organizations are key in the formation stage to build relationships based on trust and mutual respect.

In the literature, enablers of successful collaboration include identifying common objectives, clarifying roles and responsibilities, joint action planning, sharing power, building trust and managing conflict (Mitchell & Shortell, 2000; Shortell et al., 2002). Unfortunately, health care policies fail to recognize the importance of relationship-building, trust, and alignment across organizations and professional groups (Tsasis et al, 2012). However, as more organizations and professionals engage in knowledge-building process and make adjustments to practice that consider independencies will contribute to new ideas and opportunities (Tsasis et al., 2012).

Psychological Safety and Mental Models

In this study, the use of “Psychological Safety” and “Mental Models” have been identified as cross-cutting themes in the interviews. In the interviews, a respondent reported “There's good open dialogue. People feel free to voice their concerns at the table, from my observation. (KI 5)” However, there have been also concerns due to self-interest. Another interviewee revealed “There's been a couple of occasions where one particular organization has presented information which was really serving their own interests. (KI 1)” Mental Models need to be

explored to further understand on how to change deep-seated beliefs and assumptions. "Psychological Safety" and "Mental Models" are both important concepts and need to be further explored in future studies in the context of cross-sectoral collaboration.

Psychological Safety is an important enabler for learning from failures and for critical thinking (Edmondson, 1999). As per Edmondson, (1999), because learning is a process in which members are engaged in asking questions, seeking feedback, experimenting, reflecting on results, and discussion errors or unexpected outcome of actions, Psychological Safety is vital. As suggested by Edmondson (2014), leaders can encourage reflection, promote sharing of ideas and create psychological safety among individuals in groups, across groups in organizations, and across organizations in ecosystems. For example, the use of Psychological Safety was identified as a key success factor in the Chilean Mine Rescue in 2010, due to the complexity and urgency of the task, and the need to work collaboratively across sectors.

As per Kania et al. (2018), Mental Models are the underlying thoughts "that influence how we think, what we do, and how we talk" (p. 4). Mental Models shape the meaning we assign to external data and events and guide our participation in public discourse; however, it is argued by Kania et al. (2018) that Mental Models poses the greatest challenge for change. Most system theories agree that "Mental Models are foundational drivers of activity in any system" (Kania et al., 2018, p. 8). By recognizing the importance of Mental Models can motivate individuals to create needed system wide changes, for example with the Black Lives Matter movements (Kania et al., 2018). "Changing Mental Models often means challenging power structures that have defined, influenced, and shaped those models historically and in the present" (Kania et al., 2018, p. 11).

Readiness for Collaboration and Building Capacity

In the interviews, there have been divergent respondents which include those who reported issues due to “Readiness for Collaboration” and those who were open to “Building Capacity”. For example, one respondent reported “We don’t find that the system is ready. There’s a lot of folks who are not, that’s the challenge” (KI 2). On the other hand, one respondent explained optimistically “We’ve actually been talking to each other, which hasn’t happened before, I’m hopeful through these conversations we will come up with good solutions” (KI 1). With the member checking, it was revealed that the “Tables was a nebulous test” (MC), in which the “Table members volunteered to sit on the “Tables” and the “Tables were primarily self-managed“ (MC).

Although there have been no formal structural changes with no additional funding or resources provided in this study, there are issues with competitiveness and resentment. For example, one respondent mentioned “It’s openness to hear each other or support each other, despite the fact that there might be some competitiveness in terms of financial funding” (KI 4). Another respondent explained that “The community tends to have a perspective that is resentment that all the money from the funder goes to the hospital, not enough goes to the community” (KI 1). In this study, there may be underlying issues with “Readiness” which needs to be explored in future studies. In the current literature, as identified by Benzer et al. (2016), structure may affect “Readiness”; but “Readiness” is unlikely to affect structure, as structure is conceptually related to professionalization and bureaucracy common in the health care industry.

For cross-sectoral collaboration, it is essential to assess organizational readiness and design conditions and opportunities for building capacity. Change management experts have emphasized the importance of establishing organizational readiness for change; however, the scientific basis for it is limited as organizational readiness for change is a multi-level, multi-faceted construct (Weiner, 2009). For “Organizational Readiness”, the key concepts are 1) the “General Capacities” of an organization, 2) the “Innovation-specific Capacities” needed to

implement a particular innovation, and 3) the “Motivation” to implement an innovation (Wandersman & Scaccia, 2017).

In this study, the Organizational Readiness Survey have been partially used in the Follow-up Survey; however, due to low response rate, the results are not used in this report. In the future, the Organizational Readiness Survey could be explored with the Relational Coordination Survey. In the current literature, when organizational readiness for change is high, the organizational members are more likely to initiate change, exert greater effort, exhibit greater persistence, and display more cooperative behaviours; therefore, resulting in a more effective implementation (Weiner, 2009). To implement effective change will require commitment and a shared belief in their collective capability or change efficacy (Weiner, 2009).

To create successful change, it is important to design conditions and opportunities for building general and innovative-specific capacities, and motivation. As per Wanderman’s Centre (Wandersman & Scaccia, 2018), one critical component for successful implementation is the organization’s readiness for the innovation. Organizational readiness refers to the extent to which an organization is both willing and able to implement a particular innovation and is considered a necessary precursor to successful organizational change (Scaccia et al., 2015). As described by Benzer et al. (2016), “Motivation” is a central concept in individuals’ level for readiness for change because motivation (e.g., self-efficacy, confidence, intentions, commitment) is needed to leverage the specialized capabilities of individuals.

Common Constructs

In this research, “Methodological Triangulation” has been used to correlate the results from the survey, interviews, and member checking to understand the underlying constructs. The two common constructs identified are “inter-dependency” and “inter-organizational challenges”. For the “Tables” with higher Relational Coordination, “inter-dependency” has been

identified as an important construct. However, for the “Tables” with lower Relational Coordination, “inter-organizational challenges” have been identified as an important construct. Methodological Triangulation: Higher Relational Coordination and Inter-dependency is presented in Figure 7. Methodological Triangulation: Lower Relational Coordination and Inter-organizational Challenges is presented in Figure 8.

Figure 7: Methodological Triangulation: Higher Relational Coordination and Inter-dependency

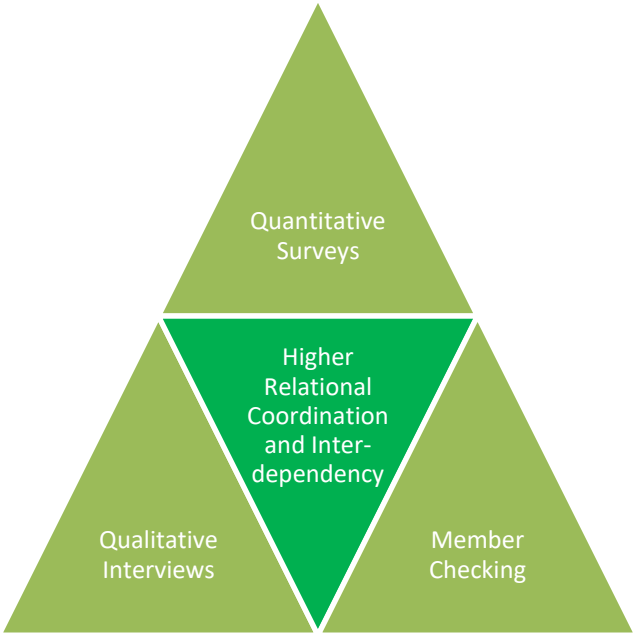
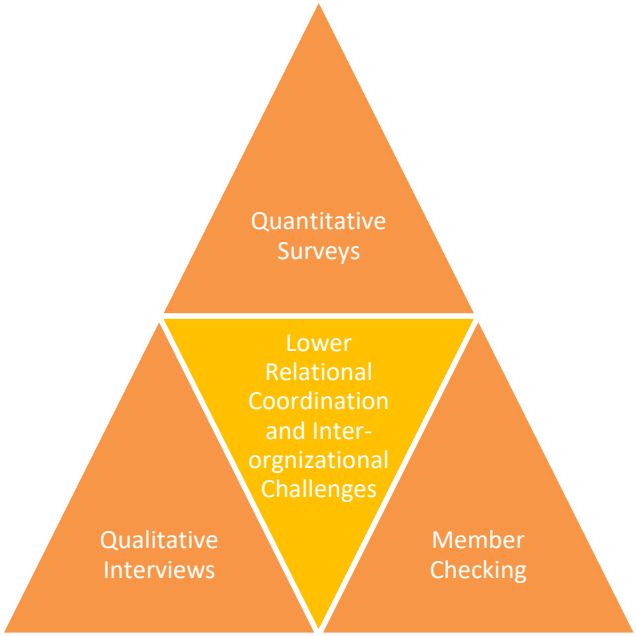


Figure 8: Methodological Triangulation: Lower Relational Coordination and Inter-organizational Challenges



Inter-dependency

As identified in this study, for the "Rural Tables" with higher Relational Coordination, "inter-dependency" has been identified as an important construct. In the interviews, as reported by the members of the "Rural Tables", the respondents reported openness to communication and shared knowledge, willingness to develop shared goals and mentioned the importance of mutual respect. For example, there were opportunities for dialogue and information sharing to better understand the needs of the community and learning more about each others' roles. As well, the "Rural Table" members had worked together closely before and are able to work effectively in developing common goals. As reported by a member in the "Rural Table", "There is a lot of respect, safety, and trust within the group" (KI 11).

In the member checking, it has been reported members working in rural communities are accustomed to working collaboratively and networking due to necessity and limited resources. Some "Tables" started from "scratch" in the first meeting and then went through the five stages

of team development (Forming, Storming, Norming, Performing, and Adjourning); however, some “Tables” were already established through previous working groups. In some of the “Tables”, participants knew each other or had prior history and experience working together already which made it easier to collaborate. As identified in the current literature, in communities in which partners knew each other or had a positive history of working together, they “gelled” as a group and were able to focus on the task at hand right away (Danaher, 2011).

Inter-organizational Challenges

As identified in this study, for the “Suburban 1 and 2 Tables” with lower Relational Coordination strength, “inter-organizational challenges” have been identified as an important construct. In the interviews, some respondents reported challenges due lack of communication, shared knowledge, shared goals and mutual respect. As reported by “Suburban Table” members, there was a lack of information sharing and anxiety about potential changes. As reported by some the interviewees, there was frustration due to issues in developing shared goals and self-interest in some groups in advancing their own agenda. Due to the fact there are no mandate, structural/policy changes, interventions/incentives or outcomes being implemented in this study may have resulted in inter-organizational challenges among the “Tables”.

In the member checking, it has been confirmed that the “Suburban Tables” and “Urban Tables” generally had “weaker” Relational Coordination due to “inter-organizational challenges”. As identified by member checking, it has been reported that the “Urban Tables” are challenging because there are distinct diverse populations served. Even though the “Suburban 1 Table” tried to work collaboratively to improve on communication, knowledge sharing and goal setting, the Relational Coordination results are mixed. As per member checking, there are “Tables” where members did not participate in the meetings regularly or only attended meetings as needed. As a result, it has been more difficult to plan and build collaborations at these “Tables”.

Why is a Policy Framework is Needed?

Through this research study, key primers for success identified are “System Transformation & Change (Mindset)”, “Inter-dependency”, “Inter-organizational Relationships”, and “Self-organizing Capacity”, which are in alignment with the Complex Adaptive Systems theoretical perspectives. The enablers identified are “Need to include collaboration in policies” and “Need for further integration”. The results in this study are in alignment with the concepts in Complex Systems Theory. However, in the current literature, there are no policy frameworks on “how to” build cross-sectoral collaboration for health systems integration. In addition, there is a lack of evaluation of the implementation of collaboration on policy (Gray, 2002). Due to complex system challenges in multi-sectoral partnerships, Willis et al. (2017) recommended the adoption of “complexity” for policymaking.

Unfortunately, health care policies fail to recognize the importance of relationship-building, trust, and alignment across organizations and professional groups (Tsasis, 2012). As identified by Tsasis et al., (2012), policies and management practices should focus on system awareness and information-sharing. In order to design collaborative health systems and build capacity, leaders and policymakers must prime the conditions for success through system awareness, and create opportunities for intentional cross-sectoral collaboration (Tsasis et al., 2012). Future work should be anchored in a Complex Adaptive Systems lens and focus on relationship-building the system’s capacity to self-organize (Tsasis et al., 2012).

There are various rationales, both pragmatic and political, for collaboration (Wakerman & Mitchell, 2005). There are enablers and barriers, including relationships among partners, shared vision, leadership, resources, structures, and process (Danaher, 2011). It is challenging to achieve a common vision due to multiple partners and organizations with diverse needs and accountabilities (Danaher, 2011). Organizational experts suggested to align relational work with

organizational norms in measurable ways, to create measures and rewards for relational work and to include relational work in regulatory or reimbursement systems (Gittell, 2016). It is important to create the right conditions for success and to identify the enablers and challenges to strengthen cross-sectoral collaboration for health systems integration and transformation.

Unfortunately, the current health system is fragmented and unsustainable. In an article on health care reforms by Coeira (2011) titled *Why System Inertia Makes Health Reform So Difficult*, he argues that "system inertia" is a fundamental reason why reforms fail to meet expectations. Coeira (2011) defines "system inertia as the tendency for a system to continue to do the same thing irrespective of changes in circumstances" (p. 1). To implement effective inter-sectoral collaboration requires political will and innovative solutions to build communication across sectors to address local population health needs (WHO, 2017).

Further, as reported by Denis & Forest (2012), "Real health care system reforms may likewise require implementing ecologies of complex innovation at the clinical, organizational and policy levels" and "Policies play a determining role in shaping these new spaces for action so that day-to-day practices may change" (p. 633). It is recommended that future policy development work should allow flexibility and spaces for stakeholders to self-organize and build relational capacity. Perhaps, creative solutions may emerge through collaboration and new partnerships. However, further research is required to identify the specific situations in which partnership functioning can be strengthened (Leung et al., 2016). .

Policy Framework on "How to" Build Cross-Sectoral Collaboration for Health Systems Integration and Transformation

This research validates there is no 'one-size-fits-all' model for successful integration, which is similar to the findings identified by Suter et al. (2009); where there is no firm empirical foundation for specific integration strategies and processes. In the current literature, there is a lack of detailed information on "how to" enable successful integration (Suter et al., 2009) and

explanation on “how” the process of collaboration unfolded (Chircop et al., 2014). Since there is a lack of evidence on “how to” achieve cross-sectoral collaboration, a policy framework has been developed for health systems integration and transformation for leaders and policymakers. Although this policy framework has been proposed in the health systems integration context; however, this framework may be useful in other contexts where the work is highly inter-dependent and complex involving multiple stakeholders.

A Policy Framework on “How to” Build Cross-Sectoral Collaboration for Health Systems Integration and Transformation is illustrated using a “house”. As shown in Figure 9, the policy framework provides key considerations “how to” build cross-sectoral collaboration for health systems integration and transformation for leaders and policymakers.

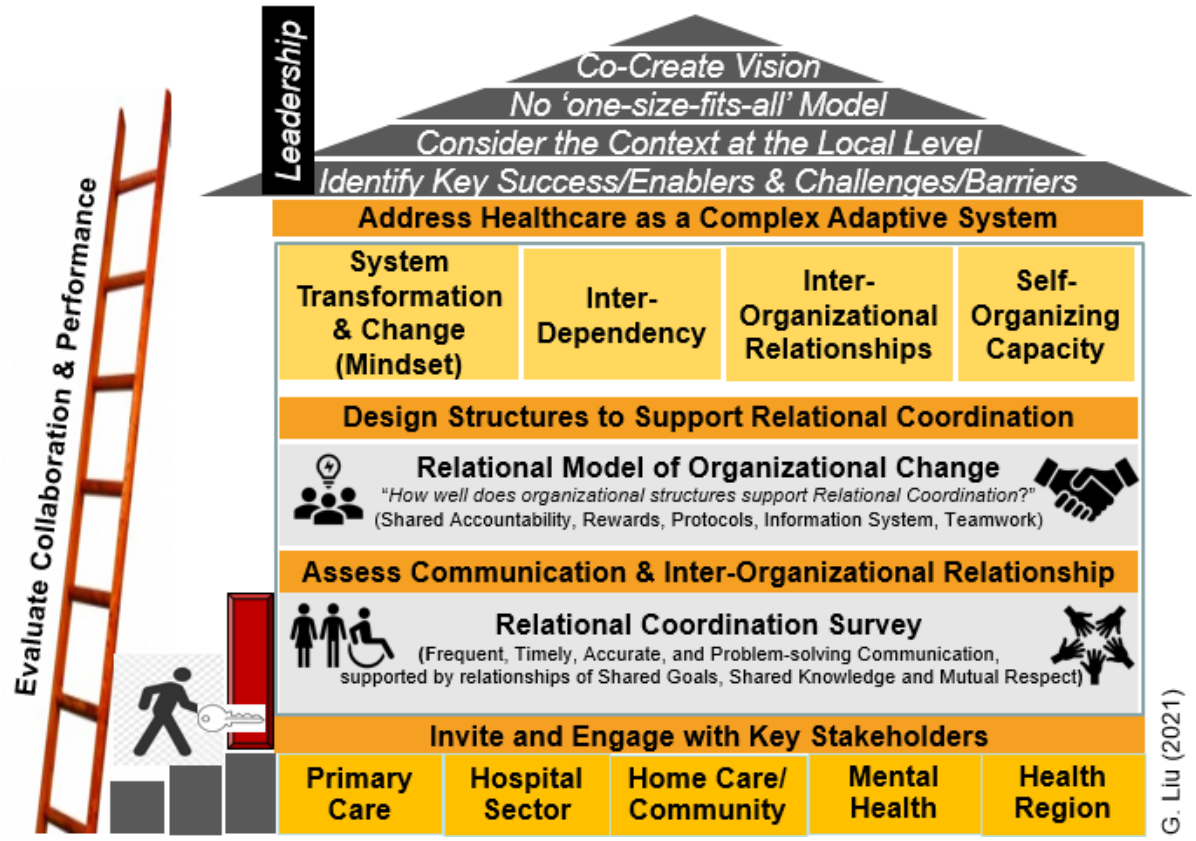
Starting at the bottom of the “house”, the policy framework focuses on:

1) Involve Patients in the Community,
2) Invite and Engage with Key Stakeholders,
3) Assess Communication & Inter-Organizational Relationships,
4) Design Structures to Support Relational Coordination, and
5) Address Health care as a Complex Adaptive System.

The “chimney”, “roof” and “ladder” supports the policy framework which focuses on:

1) Leadership,
2) Co-create the vision,
3) No ‘one-size-fits-all’ Model,
4) Consider the Context at the Local Level,
5) Identify Key Success/Enablers & Challenges/Barriers, and
6) Evaluate Collaboration and Performance.

Figure 9: Policy Framework "How to" Build Cross-Sectoral Collaboration for Health Systems Integration and Transformation



Starting at the bottom of the "house", the policy framework focuses on:

1) Involve Patients in the Community

In the interviews, it has been identified that there are no patient representatives on the "Tables". One respondent reported "There's a saying when a lot of people with experience say like 'not for us, without us'. You can't blame them for saying it because traditionally the patients voice is really not part of the discussion. I just feel like that's a big red flag we're actively involved with. (P6)" As per Kania et al. (2018), it is important to include the voice of the community into the discussion to create health and wellness than any other single intervention. In this policy framework, the "patient" is entering the "door", which represents access to services, ensuring patients receive timely services, with the right provider at the

right place. The “key” depicts patients' experience, which should be the premise for building cross-sectoral collaboration for health systems integration and transformation.

2) Invite and Engage with Key Stakeholders

In the interviews, there are reports of a lack of representation from Primary Care and no representatives from Specialty Communities and Municipality. In order to work collaboratively, it is important to invite and engage key stakeholders, and to identify ways of communicating and building collaborative relationships. However, there are factors which enables or hinders inter-organizational collaboration, including selecting partners with complementary skills and expertise, identifying common objectives, clarifying roles and guidelines for collaboration, monitoring activities, communicating frequently, building trust and personal bonds, retaining separate identities, and formalizing structures and processes (Tsasis et al., 2015). Starting at the bottom, the framework focuses on inviting and engaging with key stakeholders. In this policy framework, the stakeholders listed here are merely examples (i.e., Primary Care, Hospital, Community, Mental Health and Public Health).

3) Assess Communication & Inter-Organizational Relationships

By using the Relational Coordination, it identifies the strength (i.e., “weak” or “moderate”) of the communication and relational dimensions. The survey scores can be shared among the stakeholders and “Tables” to identify areas of strength and opportunities to improve Relational Coordination. The survey scores provide a visual mapping for participants and leaders as a guide to identify areas of strength, engage in discussion, and create opportunities to improve Relational Coordination through Relational interventions. Relational interventions are methods for fostering intentional change in ways people relate

to one another by engaging with them, as opposed to manipulating them (Gittell, 2016). As a result of the new relational patterns, this changes the power dynamics and distributes information and authority more evenly among the professionals (Gittell, 2016).

4) Design Structures to Support Relational Coordination

In this naturalistic research, there have been no formal structural changes implemented. As per Relational Model of Change (RMOC), shared accountability and rewards are important to connect across all the roles to support the development of shared goals, shared knowledge, and mutual respect across roles (Gittell, 2016). Since structures alone are not capable of creating high-quality patterns of communicating and relating (Gittell, 2016), the Relational Coordination Survey offers a tool to assess and inform the design of structures that support and impact on the new patterns of coordination (Gittell et al., 2013).

From the interviews, it has been identified that some of the stakeholders are new to the "Tables" (i.e., Public Health, Long-Term Care); however, there appears to be an interest to further collaborate with other stakeholders (i.e., Primary Care, Community, Hospital). The RMOC demonstrates how structures (i.e., shared accountability, rewards, protocols, information systems, teamwork) can help to support Relational Coordination and provide guidance on "how to" build and sustain changes. To further strengthen Relational Coordination, the Organizational Structures Assessment Tool (OSAT) (RCC, 2019) could also be used to determine "How well does organizational structures support Relational Coordination?". Although this study did not use the OSAT, the OSAT could be used in future studies.

5) Address Health Care as a Complex Adaptive System

In this research, the emergent themes identified for key success from the interviews are "systems transformation & change (mindset)", "inter-dependency", "inter-organizational relationships", and "self-organizing capacity" which are related to Complex Adaptive Systems conceptually. The findings in this research are in alignment with the literature on Complex Adaptive Systems. It is important to address Health Care as a Complex Adaptive System, as per Rouse (2008), as health care is described as Complex Adaptive System due to non-linearity and unpredictability. The health care system is constantly changing as per Complex Adaptive Systems Theory (Martin & Strurnberg, 2013).

System Transformation & Change (Mindset)

As discovered in this research, for the "Rural Tables" with higher Relational Coordination, "inter-dependency" has been identified as an important success factor in building cross-sectoral collaboration from the interviews and confirmed by the member checking. The "Suburban 1 and 2 Tables" with "weak" Relational Coordination have reported "inter-organizational challenges". There are no statistical differences among the "Tables"; however, this phenomenon should be further explored in future studies to further explore the differences between the networks among the "Rural Tables", "Suburban Tables" and "Urban Tables". Building collaborative networks with individuals, organizations and systems are challenging and takes time, requiring team learning and systems thinking (Senge, 1990). Policies and management practices should focus on system awareness and information-sharing to identify and understand the roles and activities of others (Tsasis et al., 2012).

Inter-dependency

From the interviews in this study, "inter-dependency" has been identified as an emergent theme in terms of being a key success factor for successful collaboration. Also, the "Rural

Tables" with higher Relational Coordination reported "inter-dependency" as an important construct. The concept of "inter-dependency" is in alignment with the Complex Adaptive Systems and Relational Coordination theoretical lens. Particularly in settings with high degrees of task inter-dependence, uncertainty, and time constraints, Relational Coordination offers a solution (Gittell, 2000). Through relational capacity and adaptive work, the stakeholders can perhaps better manage their inter-dependencies Gittell (2016).

Inter-Organizational Relationships

In this research, "inter-organizational relationships" have been identified as a key success factor. In the interviews, the respondents have revealed there are partnerships developing organically and even some new relationships are forming. Through networking at the "Tables", the interviewees have indicated they are able to meet people whom they would not otherwise contact; as a result, down the road, there may be more formalized partnership that can develop. The Relational Coordination Survey can be used to measure Relational Coordination at baseline and at follow-up to monitor any improvements. However, in this research, there have been no formal structural, process or relational interventions, which resulted in no changes in Relational Coordination from baseline to follow-up.

Self-Organizing Capacity

In this study, "self-organizing capacity" has been identified as a key success factor. From the interviews, some of the respondents have reported there is an interest in planning pilots, designing proof of concepts, and creating logic models. Also, some of the interviewees mentioned they are willing to start with trial and error, figure it out small bits at a time, learn from trials and make changes as needed. The results in this study are in alignment with the self-organizing concepts in Complex Systems Theory. In complex systems, order,

innovation, and progress can emerge naturally from the interactions within a complex system through inherent self-organization with simple locally applied rules (Plsek & Greenhalgh, 2001). Future work should be anchored in a Complex Adaptive Systems perspective, as changes can occur when conditions are favourable through self-organization (Tsasis et al., 2012).

The "chimney", "roof" and "ladder" supports the policy framework which focuses on:

1) Leadership

In this research, leadership has been identified as an enabler. As per complexity science theory, Uhl-Bien et al. (2007) have suggested a different paradigm for leadership, one that frames leadership as "Complexity Leadership". As per Gittell et al. (2017), Complexity Leadership posits that high-quality relationships are needed to manage inter-dependence among participants in complex conditions, where emergent and adaptive work are needed. As stated by Manville & Ober (2003) in *Harvard Business Review Magazine*, "Our managerial and governance systems are stuck in the Industrial Era. It's time for a whole new model. (Retrieved from https://hbr.org/2003/01/beyond-empowerment-building-a-company-of-citizens)" Further research is recommended to understand how leaders can create the right conditions to allow for adaptive capacity in complex adaptive organizations particularly for cross-sectoral collaborations.

2) Co-Create Vision

In this research, it is important that "Leaders provide a vision for integrated care" in the ranking survey. In the literature, it is important to co-create the vision by focusing on transforming relationships (i.e., build sense of mutuality, shared vision and trust), as per Senge (1990). Relationships can be further strengthened by a shared vision or sense of

purpose, as well as visionary leadership, relationships among partners, and appropriate structures, processes and resources (Danaher, 2011). The Complex Adaptive Systems lens is useful for governments and Ministries to identify competing challenges and conflicting needs to promote system awareness and for organizations to re-examine its role and vision (Tsasis et al., 2012). In addition, system awareness forces organizations to re-examine its own role and vision and re-evaluate its activities and resources (Tsasis et al., 2012).

It is important to map the current and future state for making changes or process improvement work. Gittell (2016) offered three-step model through 1) Assess the current state, 2) Envision the desired state, and 3) Experimentation to close the gap, and the "5Ps Tool". The "5Ps" stands for Patients, Purpose, Processes, Professionals, and Patterns, which are used to assess the current state of the microsystem. In assessing the patterns of interrelating through which these processes are carried out, this is the key to the adaptive capacity of the microsystem. The microsystem and the larger system in which it is embedded is seen as a complex adaptive system that evolves over time. It is important to go beyond the microsystem and understand the broader context, including the mesosystem (set of inter-dependent microsystems) and macrosystem (i.e., regulatory, cultural, social and political environment) within which the microsystems are in (Gittell, 2016).

3) No 'One-Size-Fits-All' Model

The findings in this research are in alignment with the literature, where "there is no 'one-size-fits-all' model or process for successful integration, nor is there a firm empirical foundation for integration strategies and processes (Suter et al., 2009, p. 16)". In the literature, it has been argued both approaches, including "bottom-up" and "top-down" are required (Dolan et al., 2000). As described by Dolan et al. (2000), both "development" and "control" values are needed; where "development values" create new opportunities for action

(i.e., self-learning, self-organization, and flexibility) and “control values” bring the various sub-systems together to guide activities (i.e., centralization, planning, and order). Order, innovation, and progress can emerge naturally from the interactions within a complex system through inherent self-organization with simple locally applied rules (Plsek & Greenhalgh, 2001).

Based on this conundrum on whether policy directives be “bottom-up”, “top-down”, or “both”, it is recommended that leaders view health care as a Complex Adaptive System. In Complexity Theory, changes should be recognized as an evolving learning process, rather than a series of programmatic steps (Tsasis et al., 2012). By taking one step at a time will give the opportunity to identify and make use of the emergent new patterns; Then be able to introduce small changes (Tsasis et al., 2012). More importantly, as per Danaher (2011), it cannot be forced and must develop in its own time. Leaders need to learn and adapt and change from a “command and control” to a “negotiate and steer” approach (Leung et al., 2016). Further research is required to identify specific situations in which partnership functioning can be strengthened for developing programs and policies (Leung et al., 2016).

4) Consider the Context at Local Level

In this study, there are contextual differences among the “Urban Tables”, “Suburban Tables”, and “Rural Tables”. This is in alignment with the literatures where there are contextual differences in policy, governance, funding, history and patient populations in each organization or sector (Tsasis et al., 2012). Context affects each part of the system, including the political, economic, culture, social and organizational climate, and thus context determines the mission, funding, and the relationships (Corbin et al., 2016). Context affects the system through various factors, including power relations, formality, and communication, which reinforces the complexity nature of partnership functioning (Corbin et al., 2016).

Further research work is required to understand the context of partnership and on "how to" structure initiatives or interventions to foster collaboration with its partners (Willis et al., 2017). In previous studies, the relationships between sectors and how these relationships contributed to outcomes were not clearly articulated in the interventions, for example, it was difficult to determine the effectiveness of inter-sectoral action as successes and failures may be due to policies and other contextual factors (NCCDH, 2012). Leung et al. (2016) proposed that regional studies can allow for policies to be developed in the "middle policy space", create innovative solutions through collaboration, and to realign responsibilities and roles. Regional studies can demonstrate the critical role that regulation and mandates play.

5) Identify Key Success/Enablers & Challenges/Barriers

In this study, key success/enablers and challenges/barriers have been identified. The current literature does not provide detailed documents regarding the factors that contribute to success or analysis of barriers for cross-sectoral collaboration (Wakerson & Mitchell, 2005). Chircop et al. (2014) identified that a majority of policy-focused publications described collaboration as a strategy to address inter-sectoral public policy issues; however, the articles failed to report how the process of collaboration unfolded. Since there is a lack of evidence on "how to" achieve cross-sectoral collaboration, a policy framework on "how to" build cross-sectoral collaboration for health systems integration is needed. Health system reform should be modified to create the right context and conditions that supports self-organization to enable successful cross-sectoral collaboration (Tsasis et al., 2012).

Due to complex system challenges in multi-sectoral partnerships, Willis et al. (2017) recommended the adoption of "complexity" for policymaking. When working with diverse sectors in solving complex problems, Willis et al. (2017) suggested leaders should adapt

accordingly to focus on facilitation, empowerment and a shared vision, rather than to rely on the traditional “command and control” approach. Policies and management practices should also focus on system awareness and information-sharing to better understand the roles and activities of others (Tsasis et al., 2012). The Relational Model of Organizational Change (RMOC) identified that relational interventions are primers to support any new structures or relationships due to the deep-seated nature of interacting (Gittell et al., 2011).

6) Evaluate Collaboration & Performance

In this research, there are a mix of “weak” or “moderate” strength in Relational Coordination that have been identified by the stakeholders and “Tables”. As per interviews, there have been a lack of communication, shared knowledge, shared goals and mutual respect reported by some of the stakeholders and “Tables”. More efforts are needed to improve on cross-sectoral collaboration with these stakeholder groups and “Tables” for health systems integration and transformation. Particularly in settings with high degrees of task inter-dependence, uncertainty, and time constraints, Relational Coordination offers a solution to assess and identify areas for improvement to achieve high performance (Gittell, 2000).

In previous studies, Relational Coordination has been shown to improve high-performance work practices, where Gittell et al. (2010) explored a causal mechanism through which high-performance work systems contribute to performance outcomes (i.e., quality of care, length of stay, efficiency). Suchman (2013) concluded that “managing inter-dependence, learning to have regular constructive conversations about how we are impacting each other's work is the secret ingredient for peak team performance” (p. 2). Through relational capacity and adaptive work, the stakeholders can better manage their inter-dependencies and improve their outcomes (Gittell, 2016). Organizational experts have suggested ways to align relational work with organizational norms in measurable ways, such as creating measures

and rewards for relational work and including relational work in regulatory or reimbursement systems (Gittell, 2016).

At the time of the study, the LHINs had not imposed standard outcome measurements; however, there have been discussions within some of the “Tables” to implement an evaluation plan. All stakeholders need to be accountable on agreed upon outcomes, which may include monitoring performance indicators (i.e., quality and safety, access and equity, effectiveness and efficiency, health care utilization) and measuring outcomes (i.e., patient reported, clinical, function, population health) (Liu & Tsasis, 2017). Future research should include process-focused and outcome-focused measures to evaluate partnership functioning (Corbin et al., 2016). The “ladder” represents the importance to evaluate collaboration and performance to demonstrate improvements in targeted outcomes.

Considerations for Future Research

As identified in this research, interviewees have reported concerns regarding the need for policy development and framework to help initiate health systems integration and transformation. The translation of evidence into practice and policy is not simply a matter of synthesizing research findings but rather an emergent social process subject to the unpredictable influence of local political and contextual factors (Glouberman & Zimmerman, 2002). It has been advised by Suchman (2011) to “abandon the expectation that research will provide generalizable context-independent solutions for changing organizations. It's purpose is not to provide the answer but to provide insights and innovations to help to local actors who must find their own local answers” (p. S47).

As suggested by Suchman (2011), further research is needed to document “rich accounts of how the patterns that constitute organizational knowledge and culture form and spread, and

explorations of the nature, impact and mutability of the many various constraints in that process" (p. S47). As per Suchman (2011), there is a need to support projects based on emergent design, where "a method cannot be pre-specified" and "such a process might focus instead on establishing the need for the project and opportunities it presents, the receptivity of the setting, and the capacity of the team to undertake emergent work" (p. S47). With new insights, implications from future studies can be useful for leaders and policymakers in developing strategies and policies for promoting cross-sectoral collaborative work.

Leung et al. (2016) proposed that regional studies can allow for policies to be developed in the "middle policy space", create innovative solutions through collaboration, and to realign responsibilities and roles. Regional studies can demonstrate the critical role that regulation and mandates play. Further research is required to identify specific situations in which partnership functioning can be strengthened for developing programs and policies (Leung et al., 2016). The policy framework on "how to" build cross-collaboration is meant to provide guidance to leaders and policymakers who are involved in health integration and transformation.

As identified by the Relational Coordination Collaborative (RCC, 2020), there is a substantial body of empirical evidence showing that Relational Coordination, by coordinating work through relationships of shared goals, shared knowledge and mutual respect, can improve outcomes for organizations and their stakeholders. Relational Coordination can support much-needed transformational changes by cultivating at three levels (RCC, 2020).

1) Micro – Human Empathy Among Individuals (Listening, needs assessment, shared decision making, and self-determination tools)
2) Meso – Coordinated Collective Action (Relational Coordination Theory and measures)
3) Macro – Institution Supports (Social Policy design for healthier and more equitable communities, stakeholder alignment, public policy framework)

In future research, further details about the process, context, successes, and challenges at all three levels (micro, meso, and macro) are recommended. Further research is needed to determine if the observed outcomes are related due to policies or other contextual factors.

Summary of Discussion

In this research, the Complex Adaptive Systems and Relational Coordination Theories have been used in combination to understand the patterns of connectivity for health systems integration and transformation. In addition, the concepts from the Ten Key Principles for Successful Integration have been used. The findings in this study characterized the process of developing and managing relationships with six newly established "Tables" using Relational Coordination Survey and qualitative interviews. From the interviews, the emergent themes for key success factors identified are Systems Transformation & Change (Mindset), Inter-dependency, Positive Inter-organizational Relationships, and Self-organizing Capacity. This evidence supports the application of Complex Adaptive Systems and Relational Coordination Theories for future research studies.

Although there are no significant differences in Relational Coordination among the stakeholders or "Tables", or from the baseline and the follow-up survey results, there are variability observed. The interview results provide insight from the perspective of the different stakeholders and "Tables". This research utilized methodological triangulation to cross-validate the quantitative survey and qualitative interviews results with member checking. Through methodological triangulation, the "Rural 1 and 2 Tables" with "moderate" Relational Coordination reported "inter-dependency"; and the "Suburban 1 and 2 Tables" with "weak" Relational Coordination reported "inter-organizational challenges".

By analyzing the six newly established "Tables" in this study, there does not appear to be a 'one-size-fits-all' model or process for successful integration. In addition, there is no consensus regarding whether the approach should be "bottom-up", "top-down" or "both". However, there are reports to suggests that leaders need to learn, adapt and change from a "command and control" to a "negotiate and steer" approach. This research identified key

success/enablers and challengers/barriers and provided insights on “how to” build cross-sectoral collaboration. The key success/enablers and challengers/barriers may help future leaders and policymakers in the process of improving intentional cross-sectoral collaboration to achieve health systems integration and transformation. Since a policy framework is lacking, a policy framework has been developed to provide guidance for leaders and policymakers.

In summary, quantitative and qualitative data have been collected, which were validated by member checking. However, since this is a naturalistic study, there have been no structural changes, interventions, performance measurement, incentives or outcomes introduced in this study. Policymakers should consider including collaboration in policy development and evaluation. Even though these proposed strategies are novel, further research is needed to drive health systems change. Further research is required to identify specific situations in which can improve performance outcomes. Future research should use a mixed methods research design to better understand the contextual factors and the conditions required to cultivate intentional positive change for health systems integration and transformation.

Chapter Seven: Conclusion

Research Summary

The findings in this study characterized the process of developing and managing relationships with six newly established "Tables"; however, there is no 'one-size-fits-all' strategy for health systems integration. This study used Relational Coordination and Complex Adaptive System Theories to advance the knowledge base on "how to" build cross-sectoral collaboration for health systems integration and transformation. However, it is not easy to determine a "best" strategy for systems integration, due to the complex nature of cross-collaborative work in different contexts and settings with various structures and governance. A policy framework has been developed to provide guidance to leaders and policymakers.

Policy Framework on "How to" Build Cross-Sectoral Collaboration for Health Systems Integration and Transformation

There is significant literature on various strategies for implementing integrated services; however, the literature "does not contain a 'one-size-fits-all' model or process for successful integration, nor is there a firm empirical foundation for integration strategies and processes" (Suter et al., 2009, p. 16). The current literature does not provide detailed documents regarding the factors that contribute to success or analysis of barriers for cross-sectoral collaboration (Wakerson & Mitchell, 2005). Chircop et al. (2014) identified that a majority of policy-focused publications described collaboration as a strategy to address inter-sectoral public policy issues; however, the articles failed to report how the process of collaboration unfolded.

There are no specific methods or tools on "how to" build systems integration, other than the need for cultural change, open communication, and distributed leadership (Ling et al., 2012). Since there are few tools to inform on "how to" build integrated care and a lack of evidence on "how to" achieve cross-sectoral collaboration, a policy framework on "how to" build cross-

sectoral collaboration for health systems integration and transformation has been developed to fill this gap. Health systems reform should be modified to create the right context and conditions that supports self-organization for enabling successful cross-sectoral collaboration (Tsasis et al., 2012). This research adds knowledge on cross-sectoral collaboration, including practical and policy implications and future directions for leaders and policymakers, where the policy framework is depicted by a "house", and the "chimney", "roof" and "ladder" which supports the policy framework.

Starting at the bottom of the "house", the policy framework focuses on:

1) Involve Patients in the Community,
2) Invite and Engage with Key Stakeholders,
3) Assess Communication & Inter-Organizational Relationships,
4) Design Structures to Support Relational Coordination, and
5) Address Health Care as a Complex Adaptive System.

The "chimney", "roof" and "ladder" supports the policy framework which focuses on:

1) Leadership
2) Co-create the vision,
3) No 'one-size-fits-all' Model,
4) Consider the Context at the Local Level,
5) Identify Key Success/Enablers & Challenges/Barriers, and
6) Evaluate Collaboration and Performance.

Knowledge Contributions

Since cross-sectoral collaboration is a complex relational process, "Complex Adaptive Systems" lens has been used with Gittell's "Relational Coordination" Theory in combination. Since only a few studies have directly applied the Complex Adaptive Systems and Relational Coordination theories together to understand the impact of cross-sectoral collaboration, this study contributes to the knowledge base on cross-sectoral collaboration for health systems integration and transformation. As per Logan et al. (2016), "Together the two theories complement one another - Relational Coordination Theory puts flesh on the bones of complexity theory by adding insights regarding the nature and quality of human interactions that are

conducive to high functioning self-organizing systems" (p.9). Complexity science suggests the structures identified by Relational Coordination Theory can be designed and implemented by actors to reinforce and support quality human interactions (Logan et al., 2016).

This study is unique as it is a naturalistic inquiry study with no formal structural or policy changes, interventions, or performance outcomes. The members representing various stakeholder groups have participated voluntarily on the "Tables" and are self-managed. In addition, this research studied inter-organizational collaboration, as opposed to intra-organization collaboration involving a single organization. Since there is insufficient knowledge of the complex area of collaboration (Willumsen et al., 2012), insights can be used as guidelines for leaders who are leading organizational change efforts within a complex adaptive system (Logan et al., 2016). The information gathered from this study helps to better understand the patterns of communication and collaboration, enablers and barriers that impact intentional cross-sectoral collaborative work for health systems integration and transformation.

Implications for Practice and Policy, and for Future Research

This research contributes much needed knowledge on cross-sectoral collaboration and provides future directions for research on health systems integration and transformation. Implications for Practice and Policy, and for Future Research are described.

Implications for Practice and Policy

1. To achieve cross-sectoral collaboration will take time to learn and adapt, and to develop shared goals, knowledge and mutual respect through open communication and trust.
2. The Relational Coordination Survey can be used as an assessment tool to detect variation in the patterns of communication and relationships among stakeholders and/or "Tables". The survey can be used to identify areas of strength and areas for improvement. There is

an opportunity to develop strategies (i.e., Policy, Structural, and/or Relational Interventions) to improve the Relational Coordination Dimensions which are “weak” or “moderate”.

3. Although the use of Organizational Structures Assessment Tool has not been used in this study, the structural concepts of Shared Accountability, Rewards, Protocols, Information Systems and Teamwork can be used to determine strategies to support Relational Coordination.
4. All relevant stakeholders should be included at the “Tables” including patients/families. The process for membership selection should be evaluated to include relevant stakeholders (i.e., Primary Care, Indigenous Communities, Municipality from the Emergency Health Services).
5. It is important to adopt a Complex Adaptive Systems lens for health systems transformation initiatives. The emergent themes are “system transformation & change (mindset)”. “inter-dependency”, “inter-organizational relationships”, and “self-organizing capacity”.
6. It is important to recognize the cross-cutting themes, which are Trust, Psychological Safety and Teaming, and Organizational Readiness and Building Capacity.
7. Leaders and policymakers must allow flexibility and follow directives from top-down and adjust using different approaches from bottom-up, depending on the needs of the local jurisdictions. Leaders need to learn, adapt and change to a “negotiate and steer” approach.
8. In policymaking, it is important to consider bureaucratic structures and governance, including resources and incentives, and establish clear goals and joint accountabilities. Policymakers should consider including collaboration in policy development and evaluation.

Implications for Future Research

1. This study has used Complex Adaptive Systems in combination with Relational Coordination Theory, which complements one another. Relational Coordination provides insights regarding the stakeholder interactions to determine the capacity to self-organize.

2. Complexity Leadership should be considered and further explored to advance the evidence-base for cross-sectoral collaboration in future studies.
3. Other important cross-cutting themes for future studies should be anchored in Trust, Psychological Safety and Teaming, and Organizational Readiness and Building Capacity.
4. There are opportunities to use an interventions design, for example, use the Relational Coordination Survey and select standardized outcome measures to assess the baseline, create relational interventions, and reassess measures.
5. In future studies, the researcher could assess the participation of the members (i.e., frequency of attendance in formal/informal meetings) or to observe the interactions during regular meetings to provide insight on "how" the team members interact.
6. Mixed methods studies are recommended with other jurisdictions to document and compare "how" cross-sectoral collaboration can be effective in achieving health systems integration.
7. In this study, there are observed differences among the "Tables". Future analysis could include comparing "Rural Tables", "Suburban Tables", and "Urban Tables".
8. With the formation of "Ontario Health Teams", this presents as an opportunity to conduct research on how these new teams are collaborating.

Validation & Reliability

- This mixed methods research study includes quantitative surveys and qualitative interviews, where the results have been validated with member checking (Methodological triangulation).
- Since cross-sectoral collaboration is a complex relational process, the Complex Adaptive Systems and Relational Coordination Theories have been used to understand the process of cross-sectoral collaboration for health systems integration and transformation.
- The Relational Coordination Survey has been validated. For Relational Coordination Dimensions, the overall reliability has been measured using Cronbach's Alpha. The seven

items of the Relational Coordination exhibited strong reliability with Cronbach's Alpha value of .92.

- For the statistical analysis, Kruskal Wallis Test and t-test have been employed, where 0.05 level has been used to determine statistical significance.
- In comparing the members who have completed telephone interviews to those who did not complete the telephone interviews, there are not significant differences found in Relational Coordination. This suggest the Interviewees and Non-Interviewees are similar.
- Member Checking has been used to validate the findings specifically on 1) Variability in context among the "Tables", 2) Membership "Reasons for Participation" and 3) "Lessons Learned" for Future Tables and Research.

Response Rate of the Follow-up Survey

In this study, the response rate for the Baseline Survey is fair with 62%. However, the response rate for the Follow-up Survey is lower than expected at 25% due to several issues. Firstly, prior to implementing the Follow-up Survey, there have been staff changes at the LHIN where the researcher had to engage with the new staff and explain the study purpose and survey. Secondly, during the Follow-up Survey study period in early 2019, there have been announcements of a potential provincial election. Given the uncertainty of the political landscape with unforeseen changes for the LHINs, this impacted the response rate of the Follow-Up Survey. This concern was discussed with the Dissertation Supervisor and the LHIN. It was then decided to extend the survey period and to encourage members to complete the Follow-up Survey. However, despite the LHIN sending several email reminders and asking members to complete the Follow-up Survey, the response rate remained low. It was discovered during the member checking that many of the members also discontinued their participation on

the "Tables" during this time. These factors influenced the response rate of the Follow-up Survey.

Strengths and Limitations

The strengths and limitations in this research study are discussed, including strengths in research study and limitations and challenges.

Strengths in Research Study

One strength in this study is that the LHIN chosen for this study is the largest in Ontario. Also, this LHIN was chosen as the stakeholder representation of the “Tables” are mixed, including administrators and clinical leaders from various sectors and organizations. This study is unique as the members volunteered to participate on the “Tables” which were self-organizing.

Another strength in this research study is the use of Relational Coordination Survey, as it is a validated measure. In addition, the results have showed overall high reliability (Cronbach's Alpha=.92). The study also has used the Relational Coordination Survey to determine if there are any differences between the Interviewees respondents and Non-Interviewees. Because there are no significant differences between the Interviewees respondents and Non-Interviewees at Baseline Survey and Follow-up Survey, this may indicate that the interview perspectives of Interviewees and Non-Interviewees may be similar.

Another strength in this research involves the use of “Methodological Triangulation”, which is a method of conceptualizing mixed methods research based on critical interpretive methodologies (Denzin, 2012). "Methodological Triangulation" is useful to cross-validate the quantitative and qualitative data collected. With a variety of quantitative and qualitative data, the results can be compared to better understand the research phenomenon. In this mixed

method research, the results have been integrated or triangulated with the quantitative survey, qualitative interviews and member checking to better understand and validate the findings.

The quantitative data includes Relational Coordination and Ranking Surveys. The qualitative data includes qualitative interviews, which provides a better understanding of the contextual factors and the issues from the perspective of the members. The advantage of using key informant telephone interviews is that the interviews provide details and rich data, which is collected in a relatively easy and inexpensive way. This study has employed qualitative telephone interviews to uncover the perspectives to understand the views of various stakeholders in cross-collaborative work in a non-judgmental way. Member checking has been done to validate the survey responses and interview results. During the member checking, the participants agreed with the findings presented, which strengthens the credibility of the study.

Since this study took place before the COVID-19 announcements, there is no impact of the COVID-19 pandemic on this study. All the data collection, including Surveys (Baseline and Follow-up), Interviews, and Member Checking have been completed by December 11, 2019. WHO began to investigate the cases of 'viral pneumonia' on December 31, 2019 (WHO, 2021). Retrieved from https://www.who.int/emergencies/diseases/novel-coronavirus-2019/interactive-timeline?gclid=CjwKCAiA7dKMBhBCEiwAO_crFIh6OZ8fbBxzpjHFoGQ8U_0jLiiWEK__BeV196Ku1yKSrTkfqk0yjhoCocwQAvD_BwE#!

Limitations and Challenges

At the beginning of the study, there was a high level of engagement with the LHIN staff and interest in the research. However, during the study period, there were changes in staff at the LHIN (i.e., maternity/sick leave, and attrition). This resulted in delays in the implementation of the research project. There were also challenges in reaching and scheduling interviews with some members. Since interviews were done only for members who volunteered to participate based on convenience sampling, there may be "bias" as it is difficult to generalize the results

due to a relatively small sample size. The results may not be representative to include all the stakeholders' or "Tables'" viewpoints.

Although participants reflected a diverse range of professional roles and organizations, some stakeholder groups were not included. The study was limited as not all stakeholder groups completed the surveys or participated in the interviews, resulting in low representation of certain groups. For example, there were no interviewees from Specialty Communities, Long-Term Care, Public Health or from "Urban 1 Table". In this study, participation was not mandatory. As participation was voluntary and since not all the stakeholder and "Tables" participated in the study, the results should be used cautiously. Another limitation was that patients or families were not represented as a stakeholder in this study.

During the research study period from 2017 to 2019, there was an election resulting in a change in the Government from the Ontario Liberal Party to the Progressive Conservative Party who was sworn in on June 29, 2018. Since Phase 1 (Baseline Survey) and Phase 2 (Interviews) of the study took place in early 2018, there was no impact on the study. Due to the change in government and rumors of health systems transformation impacted the results of the Follow-up Survey resulting in a lower response rate than expected in 2019. Unfortunately, due to uncertainty of the political environment during this time impacted the response rate for the Follow-up Survey which was unforeseen and unexpected.

This was a naturalistic inquiry study with no formal structural or policy changes, no resources or interventions, and no accountabilities or performance indicators. It would have been beneficial to link the level of collaboration with standardized outcome measures (i.e., population health outcomes); however, as discussed with the LHIN, there were no formalized outcome measures used. Each "Table" focused on different population and targets based on the local health needs. In this study, there were no policy directives, no clear mandate and no additional funding or incentives for achieving joint goals or accountabilities.

Lessons Learned

This study used various methodologies and theories, including Complex Adaptive System and Relational Coordination. As identified by Corbin et al., (2016), it is methodologically challenging and complex to study the dynamic nature of partnership processes due to different types of partnership; thus, the impact of partnership processes remains unclear. It is unclear how the different types of intersectoral partnerships may give rise to different forms of partnership structure, which will result in different types of leadership. Since the Complexity Leadership is new and developing, more research is needed to understand how, and which type of leadership style can better support cross-sectoral collaboration among partners.

There is a need for research via empirical studies to provide further insight on how the various partnership processes develop, interact, and influence each other. Future research should focus on what specific processes most impact inter-sectoral collaboration functioning leading to positive outcomes (Corbin et al., 2016). In future studies, it would be interesting to focus on "how to build trust" at the interpersonal level, organizational level, and at the systems levels, as trust is a pre-requisite to achieve health systems integration and transformation.

During the design phase of the research, the LHIN wanted to maintain that the surveys be 15-20 minutes to complete and the interviews to be limited 20-30 minutes. Initially, the Organizational Readiness Survey was deemed to be "too long", and the researcher worked with the LHIN and Wandersman's Group to revise the Organizational Readiness Survey questions. Feedback was given to Wanderman's Group to inform them about the questions which were more applicable for the LHINs. Due to limited response rate for the Follow-up Survey, the Organizational Readiness Survey was not used in this study. In future studies, it may be useful to streamline the Relational Coordination Survey and Organizational Readiness Survey, given similar constructs (i.e., communication, goals, knowledge, respect).

The composition of members of each Sub-Region Collaborative Tables varied (i.e., include health and non-health sectors); however, this study did not evaluate the membership and selection process. For example, when creating new programs, there may be benefits to 'customize' versus 'generalize' depending on the context and composition of stakeholders. It would be valuable to observe and document the meetings to better understand the participation (i.e., attendance), communication patterns (i.e., formal and informal) and method of engagement (i.e., mutual respect, psychological safety) to determine the pattern of collaboration and compare if there are differences in the functioning of the "Tables".

The process of cross-sectoral collaborative work is complex; future studies should use qualitative interviews to understand the perspectives of multiple sectors (Shankardass et al., 2012). It is recommended that a larger study be conducted to further support the primers for success to overcome the challenges of cross-sectoral collaboration for health systems integration and transformation. This study further supports policymakers and researchers in understanding the complex nature of developing cross-sectoral collaboration, including identification of the primers for successes, and providing a policy framework on how to build cross-sectoral collaboration for health systems integration and transformation.

In this research, there were no clear mandates, structural changes or policy directives given to the "Tables". As such, there was a lack of evaluation of the implementation of collaboration on policy. As per Gray (2002), the commitment by government is a success factor, as well as the time required to develop new ways of working and building collaborative relationships. The task for policymakers is to remove the barriers and create incentives that will strengthen the capacity for cross-sectoral collaboration (PHAC, 2007). To sustain changes in relational coordination, organizations need to adopt structures of shared accountability, where policy changes are needed in the broader legal and policy environment (Gittell, 2009).

Next Steps

On February 26, 2019, there was an official announcement made by the MOH regarding changes in the Ontario health system. On April 18, 2019, "The People's Health Care Act" (Bill 74), was passed to manage the health system more effectively by coordinating the work of existing provincial health agencies and programs. On June 6, 2019 "The Connecting Care Act" outlined the foundation for the continued implementation of Ontario's phased strategy to transform and strengthen the public health care system. With this legislation, it was proposed the 14 LHINs be replaced by 50 Ontario Health Teams (OHTs) in the Fall 2019.

Although the "Tables" have been discontinued from this study, the lessons learned from this research can be applied for future cross-collaborative work for health systems integration and transformation. For example, the membership selection should be reassessed depending on the specific goal of the "Table" to ensure the appropriate key stakeholders with expertise are involved and engaged, including "patients and families". Currently, with the new Ontario Health Team Model, stakeholders would be invited voluntarily to participate and then as a team, they develop proposals and integrated plans with defined goals, joint processes, and shared accountability based on performance measurements designed by the stakeholders.

Summary of Conclusion

In the current literature, there is no 'one-size-fits-all' approach to successful integration and a lack of research on "how to" create the conditions for cross-sectoral collaboration. In this research, the findings characterized the process of intentional cross-sectoral collaboration using Complex Adaptive Systems and Relational Coordination theories in newly formed "Tables". This research contributed to the knowledge on cross-sectoral collaboration with the use of Relational Coordination and Complex Adaptive Systems in combination. As Complexity Leadership is new and developing, further exploration is needed in future studies.

From the Relational Coordination survey results in this study, there are no significant differences among the stakeholders or "Tables" or from baseline to follow-up. However, it was discovered the "Rural Tables" with "moderate" Relational Coordination have reported "inter-dependency". The "Suburban Tables" with "weak" Relational Coordination have reported "inter-organizational challenges". The emergent themes identified in this research are "Systems Transformation & Change (Mindset)", "Inter-dependency", "Inter-organizational Relationships", and "Self-organizing Capacity", and the cross-cutting themes are "Trust", "Psychological Safety & Teaming", and "Organizational Readiness & Building Capacity".

Although there were no formal structural or policy changes, interventions, performance measures or accountabilities in this study, this research identified the key success factors, enablers, challenges and barriers for cross-sectoral collaboration. A policy framework on "how to" build cross-sectoral collaboration for health systems integration and transformation has been developed for leaders and policymakers. It is hoped that this policy framework will be useful for leaders and policymakers to focus on communication and relational capacity, which are important for cross-sectoral collaboration. The task for policymakers is to remove the barriers and create incentives that will strengthen the capacity of these collaborations (PHAC, 2007). Successful community collaborations at the local levels and broad policy changes are needed at a systems level to enable collaborations across sectors through policy work (Danaher, 2011).

Future research is needed to document the patterns of communication and relational capacity to identify the primers for success and to determine if the observed outcomes are related due to policies or other contextual factors. The use of the Relational Coordination and Complex Adaptive Systems lens should be further explored to understand how relational capacity can improve cross-sectoral collaboration and performance outcomes. Complexity Leadership may inform how leaders can best support collaboration. Further research is needed to validate the usefulness of the policy framework on "how to" build cross-collaboration to guide leaders and policymakers involved in systems transformation in complex environments.

References

Ahgren, B. (2007). Creating integrated care: Evaluation and management of local care in Sweden. *Journal of Integrated Care.* 15(6):14-21. DOI: https://doi.org/10.1108/14769018200700043

Ahgren, B., & Axelsson, S. (2005). Evaluating integrated health care: A model for measurement. *International Journal of Integrated Care.* 5:31. DOI: http://doi.org/10.5334/ijic.134

Axelsson, R., & Axelsson, S. (2006). Integration and collaboration in public health – a conceptual framework. *International Journal of Health Planning and Management.* 21(1):75-88. DOI: 10.1002/hpm.826. PMID: 16604850.

Balouchi, S., Keshavjee, K., Zbib, A., Vassanji, K., & Toor, J. (2014). Creating a supportive environment for self-management in healthcare via patient electronic tools. In: Househ M, Boryiki E, Kushniruk A, editors. Social Media and Mobile Technologies for Healthcare. Pennsylvania: IGI Global. 109-125. DOI: 10.4018/978-1-4666-6150-9.ch008

Begun, J., Zimmerman, B., & Dooley, K. (2003). Health care organizations as complex adaptive systems. In: Mick SM, Wyttenbach M, editors. Advances in Health Care Organization Theory. San Francisco: Jossey-Bass. 253–288. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.129.2366&rep=rep1&type=pdf

Benzer, J., Charns, M., Hamdan, S., & Afable, M. (2016). The role of organizational structure in readiness for change: A conceptual integration. *Health Services Management Research*. 30(1):34-46. DOI: 10.1177/0951484816682396. PMID: 28166670.

Bevan, G., & Janus, K. (2011). Why Hasn't Integrated Health Care Developed Widely in the United States and Not at All in England? *Journal of Health Politics Policy and Law.* 36(1):141-64. DOI: 10.1215/03616878-1191135. PMID: 21498798.

Birt, L., Scott, S., Cavers, D., Campbell, C., & Walter, F. (2016). Member Checking: A Tool to Enhance Trustworthiness or Merely a Nod to Validation? *Qualitative Health Research.* 26(13):1802-1811. Retrieved from https://journals.sagepub.com/doi/abs/10.1177/1049732316654870

Bolton, R., Logan, C., & Gittell, J. (2021). Revisiting Relational Coordination: A Systematic Review. *The Journal of Applied Behavioural Science*. 57(3):290-322. DOI: https://doi.org/10.1177/0021886321991597

Browne, G., Kingston, D., Grdisa, V., & Markle-Reid, M. (2007). Conceptualization and measurement of integrated human service networks for evaluation. *International Journal of Integrated Care*. 7:e51. DOI: 10.5334/ijic.214. PMID: 19503735.

Burns, L., & Pauly, M. (2002). Integrated delivery networks: a detour on the road to integrated health care? *Health Affairs*. 21(4):128–143. DOI: https://doi.org/10.1377/hlthaff.21.4.128

Canadian Interprofessional Health Collaborative (2012). An Inventory of Quantitative Tools Measuring Interprofessional Education and Collaborative Practice Outcomes. Retrieved from https://ipe.utoronto.ca/sites/default/files/CIHC_tools_report_Aug26%202012%20%281%29.pdf

Canadian Public Health Association (2008). A tool for strengthening chronic disease prevention and management. Retrieved from http://www.cpha.ca/uploads/portals/cd/intro_e.pdf

Canadian Public Health Association (2020). An integrated public health, health care, and social system approach to chronic disease prevention. Retrieved from https://www.cpha.ca/integrated-public-health-health-care-and-social-system-approach-chronic-disease-prevention

Capra, F. (1996). The web of life. London: HarperCollins. ISBN: 9780385476768.

Capra, F. (1982). The turning point: science, society, and the rising culture. New York: Simon and Schuster. ISBN 0-553-34572-9.

Canadian Nurses Association, Canadian Medical Association, Health Action Lobby. (2013). Integration: A new direction for Canadian Health Care. Retrieved from https://www.cna-aiic.ca/~/media/cna/files/en/cna_cma_heal_provider_summit_transformation_to_integrated_care_e.pdf

Carmeli, A., & Gittell, J.H. (2009). High-quality relationships, psychological safety and learning from failures in work organizations. *Journal of Organizational Behaviour*, 30:709-729. DOI: https://www.jstor.org/stable/41683863

Chappell, N., & Hollander, M. (2011). An evidence-based policy prescription for an aging population. *Health Care Papers*. 11(1):8-18. DOI:10.12927/hcpap.2011.22246.

Chircop, A., Bassett, R. & Taylor, E. (2014). Evidence on how to practice intersectoral collaboration for health equity*. Journal of Critical Public Health.* 25(1). DOI: https://doi.org/10.1080/09581596.2014.887831

Coeira, E. (2011). Why System Inertia Makes Health Reform So Difficult. *BMJ.* 342:d3693. DOI: https://doi.org/10.1136/bmj.d3693

Corbin, J. Jones J., & Barry M. (2016). What makes intersectoral partnerships for health promotion work? A Review of the International Literature. *Health Promotion International*. 1-23. DOI: 10.1093/heapro/daw061. PMID: 27506627.

Craig, P., Dieppe, P., Macintyre, S., Michie, S., Nazareth, I., & Petticrew, M., (2008). Medical Research Council Guidance. Developing and evaluating complex interventions: the new Medical Research Council guidance. *British Medical Journal.* 37(a1655):1-6. DOI: 10.1136/bmj.a1655.

Cripps, D. (2011). Effective treatment of chronic disease – Key to future of our health system. *Healthcare Papers*, 11(1):59-61. DOI: 10.12927/hcpap.2011.22254. PMID: 21464630.

Danaher, A. (2011). Reducing health inequities: enablers and barriers to inter-sectoral collaboration. Toronto: Wellesley Institute. Retrieved from https://www.wellesleyinstitute.com/wp-content/uploads/2012/09/Reducing-Health-Inequities-Enablers-and-Barriers-to-Intersectoral-Collaboration.pdf

Denis, J., & Forest, P. (2012). Real reform begins within: An organizational approach to health care reform. *Journal of Health Politics, Policy and Law.* 37(4):633–645. DOI: https://doi.org/10.1215/03616878-1597457

Denzin, N. (2009). The Research Act: A Theoretical Introduction To Sociological Methods. First edition. New York: Routledge. DOI: https://doi.org/10.4324/9781315134543

Denzin, N. (2012). Triangulation 2.0. *Journal of Mixed Methods Research.* 6(2):80-88. DOI: https://doi.org/10.1177/1558689812437186

Dietz, G., & Gillespie, N. (2011). Building and Restoring Organisational Trust. London: Institute of Business Ethics. ISBN: 0956218385.

Dolan, S., Garcia, S., Diegoli, S. & Auerbach, A. (2000). Organisational Values as “Attractors of Chaos”; An emerging cultural change to manage organizational complexity. *Journal of Economics.* UPF Economics Working Paper No. 485. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=237630

Dooley, K. (1997). A Complex Adaptive Systems Model of Organization Change. *Nonlinear Dynamics, Psychology, and Life Sciences*. 1:69–97. Retrieved from https://link.springer.com/article/10.1023/A:1022375910940

Edgren, L. (2008). The meaning of integrated care: a systems approach. *International Journal of Integrated* Care. 8(4). DOI: http://doi.org/10.5334/ijic.256

Edgren, L., & Barnard, K. (2012). Complex adaptive systems for management of integrated care. *Leadership in Health Services*. 25(1):39-51. DOI: https://doi.org/10.1108/17511871211198061

Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly.* 44:350-383. DOI: https://doi.org/10.2307/2666999

Edmondson, A. (2002). Managing the risk of learning: Psychological safety in work teams. Retrieved from https://www.hbs.edu/ris/Publication%20Files/02-062_0b5726a8-443d-4629-9e75-736679b870fc.pdf

Edmondson, A. (2014). Teaming: How Organizations Learn, Innovate, and Compete in the Knowledge Economy. Jossey-Bass Pfeiffer. ISBN: 978-0-787-97093-2.

Evans, J., & Baker, G. (2012). Shared Mental Models of Integrated Care: Aligning multiple stakeholder perspectives*. Journal of Health Organization and Management. 2*6(6):713-36. DOI: 10.1108/14777261211276989. PMID: 23252323.

Evans, J., Grudniewicz, A., Baker, G., & Wodchis, W. (2016). Organizational Context and Capabilities for Integrating Care: A Framework for Improvement*. International Journal of Integrated Care*. 16(3):15. DOI: http://doi.org/10.5334/ijic.2416

Fletcher, J. K., Bailyn, L., & Blake-Beard, S. (2009). Practical pushing: Creating discursive space in organizational narratives. In J. W. Cox, T. G. LeTrent-Jones, M. Voronov, & D. Weir (Eds.), Critical management studies at work: Negotiating tensions between theory and practice: 82- 93. Northampton, MA: Edward Elgar Publishing. ISBN: 9781847204004.

Follett, M. P. (1949). Freedom and coordination: Lectures in business organisation. London: Management Publications Trust. ISBN: 9781138993112.

Gell-Mann, M. (1995). What is complexity? Wiley Online Library. Retrieved from https://onlinelibrary.wiley.com/doi/abs/10.1002/cplx.6130010105

Gittell, J. H. (2000). Organizing work to support relational coordination. *International Journal of Human Resource Management.* 11(3):517-539. DOI: https://doi.org/10.1080/095851900339747

Gittell, J. H. (2002). Coordinating mechanisms in care provider groups: Relational coordination as a mediator and input uncertainty as a moderator of performance effects. *Management Science.* 48(11):1408-1426. DOI: https://doi.org/10.1287/mnsc.48.11.1408.268

Gittell, J. H. (2006). Relational coordination: Coordinating work through relationships of shared goals, shared knowledge and mutual respect. Relational Perspectives in Organizational Studies: A Research Companion. 74-94. Retrieved from https://www.researchgate.net/publication/286629377_Relational_coordination_Coordinating_work_through_relationships_of_shared_goals_shared_knowledge_and_mutual_respect/link/586e5ca108aebf17d3a73d3d/download

Gittell, J. H. (2009). High performance healthcare: Using the power of relationships to achieve quality, efficiency, and resilience. McGraw-Hill: New York. ISBN10: 0071621768.

Gittell, J. H. (2011). Relational Coordination: Guidelines for theory, measurement and analysis. Waltham, MA: Brandeis University. Retrieved from https://www.researchgate.net/profile/Carmen_De_Pablos-Heredero/publication/269772701_Relational_coordination_and_healthcare_management_in_lung_cancer/links/55f87ec708aec948c47f41a3/Relational-coordination-and-healthcare-management-in-lung-cancer.pdf

Gittell, J.H. (2012). Relational coordination: New direction for relational coordination theory. In: Cameron KS, Spreitzer GM (eds). The Oxford Handbook of Positive Organizational Scholarship. New York: Oxford University Press. DOI: 10.1093/oxfordhb/9780199734610.013.0030.

Gittell, J. H. (2015). Relational Coordination. Wiley Online Library. Retrieved from https://doi.org/10.1002/9781118785317.weom110025

Gittell, J. H. (2016). Transforming Relationships for High Performance: The Power of Relational Coordination. California: Stanford University Press. ISBN: 9780804797047.

Gittell, J. H., Seidner, R. B., & Wimbush, J. (2010). A relational model of how high-performance work systems work. *Organizational Science.* 21(2):490-506. DOI: https://doi.org/10.1287/orsc.1090.0446

Gittell, J., Uhl-Bien, M., Arena, M., Douglass, A., Gauthier, V., Hornstrup, C., Lichtenstein, B., & Stephens, J. (2017). Relational Coordination and Complexity Leadership: Enabling the Dynamics of Adaptive Systems. *Academy of Management* Published Online. DOI: https://doi.org/10.5465/ambpp.2016.14148symposium

Glouberman, S., & Millar, J. (2003). Evolution of the Determinants of Health, Health Policy, and Health Information System in Canada. *American Journal of Public Health.* 93(3):388-392. DOI: 10.2105/ajph.93.3.388. PMID: 12604478.

Glouberman, S., & Mintzberg, H. (2001a). Managing the care of health and the cure of disease – Part 1: Differentiation. *Health Care Manage Review*. 26(1):56–69. DOI: 10.1097/00004010-200101000-00006. PMID: 11233354.

Glouberman, S., & Mintzberg, H. (2001b). Managing the care of health and the cure of disease – Part 2: Integration. *Health Care Manage Review*. 26(1):70–84. DOI: 10.1097/00004010-200101000-00007. PMID: 11233356.

Glouberman, S., & Zimmerman, B. (2002). Complicated and complex systems: what would successful reform of Medicare look like? Commission on the Future of Health Care in Canada. Discussion Paper No. 8. Retrieved from https://www.alnap.org/system/files/content/resource/files/main/complicatedandcomplexsystems-zimmermanreport-medicare-reform.pdf

Goodwin, N. (2010). It's good to talk: social network analysis as a method for judging the strength of integrated care. *International Journal of Integrated Care.* 10:e120. DOI: 10.5334/ijic.647.

Goodwin, N., Dixon, A., Anderson, G., & Wodchis, W. (2014). Providing integrated care for older people with complex needs. Lessons from seven international case studies. Retrieved from http://cdn.basw.co.uk/upload/basw_102418-7.pdf

Government of Canada (2012). What is the Population Health Approach. Retrieved from https://www.canada.ca/en/public-health/services/health-promotion/population-health/population-health-approach.html

Graetz, I., Huang, J., Brand, R., Shortell, S., Rundall, T., Bellows, J., Hsu, J., Jaffe, M., & Reed, M. (2015). The impact of electronic health records and teamwork on diabetes care quality. *Am J Manag*

Care. 21(12):878-884. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5130313/pdf/nihms828065.pdf

Gray, A. (2002). Integrated Service Delivery and Regional Coordination: A Literature Review. Gray Matter research Ltd, New Zealand. Retrieved from https://www.msd.govt.nz/documents/about-msd-and-our-work/publications-resources/archive/2003-integrated-service-delivery-regional-coordination-literature-review.pdf

Haggis, C., Sims-Gould, J., Winters, M., Gutteridge, K., McKay, A. (2013). Sustained impact of community-based physical activity interventions: Key elements for success. *BMC Public Health*. 13(1):892-899. DOI: 10.1186/1471-2458-13-892 PMID: 24069938.

Hajjar, L., Cook, B., Domlyn, A., Ray, K., Laird, D. & Wandersman, A. (2020). Readiness and relationships are crucial for coalitions and collaboratives: Concepts and evaluation tools. *New Directions for Evaluation*. 165:103-122. Retrieved from https://doi.org/10.1002/ev.20399

Ham, C. (2009). Chronic Care in the English National Health Services: Progress and Challenges. *Health Affairs*, 28(1):190–201. Retrieved from https://www.healthaffairs.org/doi/pdf/10.1377/hlthaff.28.1.190

Health Canada. (1999). Report of the Federal/Provincial/Territorial Advisory Committee on Population Health. Intersectoral Action Towards Population Health. Retrieved from http://www.hc-sc.gc.ca/hppb/phdd/resource.htm

Health Canada. (2003). *First Ministers' accord on health care renewal*. Ottawa, ON: Health Canada. Retrieved from https://www.canada.ca/en/health-canada/services/health-care-system/health-care-system-delivery/federal-provincial-territorial-collaboration/first-ministers-meeting-year-plan-2004/2003-accord-health-care-renewal-progress.html

Health Canada. (2004). *First Ministers' meeting on the future of health care: A 10-year plan to strengthen health care.* Ottawa, ON: Health Canada. Retrieved from https://www.canada.ca/en/health-canada/services/quality-care/wait-times/first-minister-meeting-future-health-care-2004.html

Health Council of Canada. (2005). *Modernizing the Management of Health Human Resources in Canada.* Ottawa, ON: Health Canada. Retrieved from http://healthcouncilcanada.ca/tree/2.12.1HCC_HHRsummit_2005_ESUM_eng.pdf

Hollander, M., & Prince, M. (2008). Organizing health care delivery systems for person with ongoing care needs and their families: a best practices framework. *Health care Quarterly*. 11:44-54. doi:10.12927/hcq.2013.19497.

Hofmarcher, M., Oxley, H., & Rusticelli, E. (2007). Improved health system performance through better care coordination. Health Working Paper No. 30. Paris: Organisation for Economic Co-operation and Development. Retrieved from https://www.oecd-ilibrary.org/social-issues-migration-health/improved-health-system-performance-through-better-care-coordination_246446201766

Holland, J.H. (1992). Adaptation in natural and artificial systems: An introductory analysis with applications to biology, control, and artificial intelligence. Cambridge, Mass: MIT Press. ISBN: 9780262581110.

Hornstrup, C., Loehr-Petersen, & Madsen (2012). Developing Relational Leadership: Resources for Developing Reflexive Organizational Practices. Taos Institute Publications. ISBN-13: 978-0981907697.

Human Systems Dynamic Institute. (2019). Complex adaptive system. Retrieved from https://www.hsdinstitute.org/resources/complex-adaptive-system.html

Institute of Medicine (2003). Health Professions Education: A Bridge to Quality. National Academies Press, US. Retreived from https://www.ncbi.nlm.nih.gov/books/NBK221528/

Institute of Public Administration Australia (2002). Working Together – Integrated Governance.
ITAC Health. (2018). Accelerating the adoption of digital health technologies in Canada. White Paper. Retrieved from https://itac.ca/wp-content/uploads/2018/10/Whitepaper-2018.pdf

Jamali, M. & Abolhassani, H. (2006). Different Aspects of Social Network Analysis. Retrieved from https://www.cs.sfu.ca/~oschulte/teaching/socialnetwork/papers/SNA-intro-mohsen.pdf

Kania, J., Kramer, M., & Senge, P. (2018). The water of systems change. Retrieved from https://www.fsg.org/publications/water_of_systems_change

Kodner, D. (2009). All together now: a conceptual exploration of integrated care. *Healthcare Quarterly*. 13(sp):6-15. DOI: 10.12927/hcq.2009.21091.

Kodner, D., & Spreeuwenberg, C. (2002). Integrated care: meaning, logic, applications, and implications – a discussion paper. *International Journal of Integrated Care.* 2(4). DOI: http://doi.org/10.5334/ijic.67.

Korenstein, D., Duan, K., Diaz, M., Ahn, R., & Keyhani, S. (2016). Do health care delivery system reforms improve value? The jury is still out. *Medical Care*. 54(1):55-66. DOI: 10.1097/MLR.0000000000000445. PMID: 26492216.

Komenda, P., Lavallee, B., Ferguson, T., Tangri, N., Chartrand, C., McLeod, L., Gordon, A., Dart, A., & Rigatto, C. (2016). The Prevalence of CKD in Rural Canadian Indigenous Peoples: Results From the First Nations Community Based Screening to Improve Kidney Health and Prevent Dialysis (FINISHED) Screen, Triage, and Treat Program. American Journal of Kidney Diseases. 68(4):582-590. DOI: 10.1053/j.ajkd.2016.04.014.

Kulkarni, P. (2013). What is triangulation of data in qualitative research? Is it a method of validating the information collected through various methods? ResearchGate. Retrieved from https://www.researchgate.net/post/What-is-triangulation-of-data-in-qualitative-research-Is-it-a-method-of-validating-the-information-collected-through-various-methods

Leatt, P., Pink, G., & Guerriere, M. (2000). Towards a Canadian Model of integrated healthcare. *Healthcare Papers*, 1(2):13-35. DOI: 10.12927/hcpap.17216.

Lega, F. (2007). Organisational design for health integrated delivery systems: theory and practice. *Health Policy*. 81(2–3):258–279. DOI: 10.1016/j.healthpol.2006.06.006. PMID: 16846661

Leung, Z., Morrison, K., & Midleton, D. (2016). Partnerships and governance at the environment–health nexus in Ontario: lessons from five case examples. *Journal of Environmental Planning and Management*. 59(5):769-788. DOI: https://doi.org/10.1080/09640568.2015.1040488

Lewin, K. (1951). Field theory in social science; Selected theoretical papers. D. Cartwright (ed.). New York: Harper & ROW (p. 161). DOI: https://doi.org/10.1177/000271625127600135

Liddy, C., Johnston, S., Guilcher, S., Irving, H., Hogel, M., & Jaglal, S. (2015). Impact of a chronic disease self-management program on health care utilization in eastern Ontario, Canada. *Preventative Medicine Reports*. 2:586-590. DOI: https://doi.org/10.1016/j.pmedr.2015.07.001.

Lincoln,Y., & Guba, E. (1985). Naturalistic Inquiry. Sage, London. ISBN: 9780803924314.

Lindberg, C., & Schneider, M. (2013). Combating Infections at Main Medical Centre: Insights Into Complexity Informed Leadership from Positive Deviance. *Leadership*. 9(2):229-253. DOI: https://doi.org/10.1177/1742715012468784

Ling, T., Brereton, L., Conklin, A., Newbould, J., & Roland, M. (2012). Barriers and facilitators to integrating care: experiences from the English Integrated Care Pilots. *International Journal of Integrated Care*. 12(5). DOI: http://doi.org/10.5334/ijic.982

Liu, G., & Tsasis, P. (2017). Scoping review of inter-professional teamwork theories in health care: Implications for policy, practice and research. *Management in Healthcare.* 2(1):53–71.

Liu, G., Tsasis, P., & El Morr, C. (2021). Impact of chronic disease integration strategies on healthcare outcomes and costs in Canada: A Scoping Review. *Management in Healthcare.* 5(4):1–27.

Local Health Integration Network (2021). What is a LHIN sub-region? Retrieved from http://www.northwestlhin.on.ca/AboutOurLHIN/LHIN%20Sub-regions.aspx

Logan, C., Gittell, J., & Lindbert, C. (2016). Leadership and Organizational Change in Complex Systems: Insights from Complexity Science and Relational Coordination Theory. Retrieved from https://coleadnet2016.files.wordpress.com/2016/07/logan-c-hoffer-gittell-j-_-lindberg-c-leadership-and-organizational-change-in-complex-systems_-insights-from-complexity-science-and-relational-coordination-theory.pdf

Manca, D., Fernandes, C., Grunfeld, E., Aubrey-Bassler, K., Shea-Budgell, M., Lofters, A., Campbell-Scherer, D., Sopcak, N., O`Brien, M., Meaney, C., Moineddin, R., McBrien, K., Salvallaggio, G., & Kruger, P. (2018). The BETTER WISE protocol: building on existing tools to improve cancer and chronic disease prevention and screening in primary care for wellness of cancer survivors and patients – a cluster randomized controlled trial embedded in a mixed methods design. *BMC Cancer.* 18(927):1-16. DOI: https://doi.org/10.1186/s12885-018-4839-y

Manville, B., & Ober, J. (2003). Beyond empowerment: Building a company of citizens. *Harvard Business Review*. 48-53. Retrieved from https://hbr.org/2003/01/beyond-empowerment-building-a-company-of-citizens

Martin, C., & Kaufman, T. (2007). A Position Paper. Addressing unfinished business in primary health care (PHC): A shared framework across Canada is needed to implement PAHO/WHO 'new orientations' for adaptive PHC-based health systems. Retrieved from https://www.academia.edu/22068302/Addressing_Unfinished_Business_in_Primary_Health_Care_PHC_A_Shared_Framework_across_Canada_is_needed_to_implement_PAHO_WHO_new_orientations_for_adaptive_PHC_based_health_systems

Martin, C., & Strumberg, J. (2013). Making sense – From complex systems theories, models and analytics to adapting actions and practices in health and health care. In Strumberg, J. & Martin, C. (Eds.), Handbook of Systems and Complexity in Health. New York: Springer Sciences and Business Media. ISBN 978-1-4614-4998-0.

Martin-Misener ,R., Valaitis, R., Wong, S., MacDonald, M., Meagher-Stewart, D., Kaczorowski, J., O-Mara, L., Savage, R., & Austin, P. (2012). Strengthening Primary Health Care through Public Health and Primary Care Collaborations Team. A scoping literature review of collaboration between primary and public health. *Primary Health Care Research & Development*. 2012;13:327-346. DOI: 10.1017/S1463423617000895.

Masuda, J., Robinson, K., Elliott, S., & Eyles, J. (2012). Chronic disease prevention and the politics of scale: Lessons from Canadian Health Reform. *Social Work in Public Health*. 27(7):639-657. DOI: https://doi.org/10.1080/19371910903182880

McLeod, S. (2019). What a *p*-value tells you about statistical significance. *Simply psychology*. Retrieved from https://www.simplypsychology.org/p-value.html

Merriam, S., & Tisdell, J. (2015). Qualitative Research: A guide to design and implementation 4th Ed. California: Jossey-Bass Publishers. ISBN: 978-1-119-00361-8.

Ministry of Health and Long-Term Care. (2016). Patients First Act: Action Plan for Health Care. Retrieved from http://www.health.gov.on.ca/en/ms/ecfa/healthy_change/

Ministry of Health and Long-Term Care. (2019). Building a Connected Public Health Care System for the Patient. Retrieved from https://news.ontario.ca/mohltc/en/2019/02/building-a-connected-public-health-care-system-for-the-patient.html

Ministry of Health. (2019) Become an Ontario Health Team. Retrieved from http://health.gov.on.ca/en/pro/programs/connectedcare/oht/default.aspx

Mitchell, S., & Shortell, S. (2000). The governance and management of effective community health partnership: A typology for research, policy and practice. *The Millbank Quarterly*, 78, 241-289. DOI: 10.1111/1468-0009.00170. PMID: 10934994.

Mondor, L., Cohen, D., Irfan Khan, A., & Wodchis, W. (2018). Income inequalities in multimorbidity prevalence in Ontario, Canada: a decomposition analysis of linked survey and health administrative data. *International Journal for Equity in Health.* 17(90):1-13. Retrieved from https://equityhealthj.biomedcentral.com/articles/10.1186/s12939-018-0800-6

Morgan, M., Zamora, N., & Hindmarsh, M. (2007). An inconvenient truth: a sustainable healthcare system requires chronic disease prevention and management transformation. *Healthcare Papers*, 7(4),6-23. DOI: 10.12927/hcpap.2007.18992. PMID: 17595546.

Morrin, L., Britten, J., Davachi, S., & Knight, H. (2013). Alberta Healthy Living Program – A Model for successful integration of chronic disease management services. *Canadian Journal of Diabetes*. 37:254-259. DOI: 10.1016/j.jcjd.2013.04.001. PMID: 24070890.

National Collaborating Centre for Determinants of Health. (2012). Assessing the Impact and Effectiveness of Intersectoral Action on the Social Determinants of Health and Health Equity: An Expedited Systematic Review. Retrieved from http://nccdh.ca/resources/entry/assessing-the-impact-and-effectiveness-of-intersectoral-action-on-the-SDOH

Ndumbe-Eyho, S. & Moffat, H. (2013). Intersectoral action for health equity: A rapid systematic review. *BMC Public Health.* 13(1056). Retrieved from http://www.biomedcentral.com/1471-2458/13/1056

Neudorf, C. (2012). Integrating a population health approach into healthcare service delivery and decision making. *Healthcare Management Forum*. 25:155-159. DOI: 10.1016/j.hcmf.2012.07.008. PMID: 23252332.

Noel, P., Lanham, H., Palmer, R., Leykum, L., & Parchman, M. (2013). The importance of relational coordination and reciprocal learning for chronic illness care within primary care teams. *Health Care Management Review, 38*(1), 20-28. DOI: 10.1097/HMR.0b013e3182497262. PMID: 22310483.

Nuno, R., Coleman, K., Bengoa, R., & Sauto, R. (2012). Integrated care for chronic conditions: The contribution of the ICCC Framework. *Health Policy*. 105:55-64. DOI: 10.1016/j.healthpol.2011.10.006. PMID: 22071454.

Oandasan, I. & Reeves, S. (2005a). Key elements for interprofessional education. Part 1: The learner, the educator and the learning context. *Journal of Interprofessional Care*, 19(Supplement 1):21-38. DOI: 10.1080/13561820500083550.

Oandasan, I. & Reeves, S. (2005b). Key elements for interprofessional education. Part 2: Factors, processes and outcomes. *Journal of Interprofessional Care*, 19(Supplement 1):39-48. DOI: 10.1080/13561820500081703.

Oelke, N., Suter, E., Dias da Silva Lima, M., & Vliet-Brown, C. (2015). Indicators and measurement tools for health system integration: a knowledge synthesis protocol. *Systematic Reviews*. 4(99):1-8. DOI 10.1186/s13643-015-0090-7. PMID: 26220097.

Patton, M. (2002). Qualitative Research & Evaluation Methods. Third Edition. California, USA: Sage Publications. ISBN: 9781412972123.

Plsek, P. & Greenhalgh, T. (2001). The challenge of complexity in health care. *British Medical Journal.* 323:625-628. DOI: https://doi.org/10.1136/bmj.323.7313.625

Public Health Agency of Canada. (2007). Crossing Sectors – Experiences in Intersectoral Action, Public Policy and Health. Ottawa, Canada: Public Agency of Canada. Retrieved from https://www.canada.ca/content/dam/phac-aspc/migration/phac-aspc/publicat/2007/cro-sec/pdf/cro-sec_e.pdf

Public Health Agency of Canada. (2016). Collaborate across sectors and levels. Ottawa: PHAC Canadian Best Practices Portal. Retrieved from https://cbpp-pcpe.phac-aspc.gc.ca/population-health-approach-organizing-framework/key-element-6-collaborate-sectors-levels/

Ramsden, V., McKay, S. & Crowe, J. (2010). The pursuit of excellence: engaging the community in participatory health research. *Global Health Promotion*. 17(4):32-42. DOI: https://doi.org/10.1177/1757975910383929 PMID: 21510097.

Reeves, S. & Hean, S. (2013). Why we need theory to help us better understand the nature of interprofessional education, practice and care. *Journal of Interprofessional Care*, 27:1-3. DOI: 10.3109/13561820.2013.751293.

Reeves, S., Suter, E., Goldman, J., Martimianakis, T., Chatalalsing, C. & DeMatteo, D. (2007). A scoping review to identify organizational and education theories relevant for interprofessional practice and education. Health Canada: Canadian Interprofessional Health Collective. Retrieved from https://www.researchgate.net/profile/Scott_Reeves/publication/237784416_A_scoping_review_to_identify_organizational_and_education_theories_relevant_for_interprofessional_practice_and_education/links/0c9605396f373e1dac000000.pdf

Relational Coordination Collaborative. (2019). What is RC? Why use relational coordination? Retrieved from https://heller.brandeis.edu/relational-coordination/about-rc/why-rc.html

Rickles, D., Hawe, P., & Sheill, A. (2007). A simple guide to chaos and complexity. *Journal of Epidemiology and Community Health.* 61:933-937. DOI: 10.1136/jech.2006.054254. PMID: 17933949.

Rouse, W.B. (2008). Healthcare as a complex adaptive system: implications for design and management. *The Bridge*. 38(1):17-25. Retrieved from https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.404.5971&rep=rep1&type=pdf

Scaccia, J., Cook, B., Lamont, A., Wandersman, A., Castellow, J., Katz, J., & Beidas, R. (2015). A practical implementation science heuristic for organizational readiness: $R=MC^2$. *Journal of Community Psychology.* 43(4):484-501. DOI: 10.1002/jcop.21698. PMID: 26668443.

Schein, E.H. (2010). Organizational culture and leadership. Fourth Edition. San Francisco, USA: John Wiley and Sons, Inc. ISBN: 978-0-470-18586-5.

Senge, P. (1990). The fifth discipline. The art and practice of learning organization. New York, USA: Doubleday Dell Publishing Group, Inc. ISBN: 0-385-26095-4.

Senge, P. (2013). Real collaboration takes more than meetings and powerpoints. Network for Business Sustainability. Retrieved from https://www.nbs.net/articles/real-collaboration-takes-more-than-meetings-and-powerpoints

Shankardass, K., Solar, O., Murphy, K., Greaves, L., & O'Campo, P. (2012). A scoping review of intersectoral action for health equity involving governments. *International Journal of Public Health*. 57(1):25-33. DOI: 10.1007/s00038-011-0302-4. PMID: 21931976.

Siddiqua, A. & Bhandari, M. (2021). Power and Influence in Organizations: Social Network Analysis. OE Insights (Article No. 45). Retrieved from https://myoe.blob.core.windows.net/docs/Insight_45(3).pdf

Singer, S., Burgers, J., Friedberg, M., Rosenthal, M., Leape, L., & Schneider, E. (2011). Defining and measuring integrated patient care: promoting the next frontier in health care delivery. *Medical Care Research and Review*. 68(1);112-27. DOI: https://doi.org/10.1177/1077558710371485

Shortell, S., Gillies, R., Anderson, D., Mitchell, J., & Morgan, K. (1993). Creating organized delivery systems: the barriers and facilitators. *Hospital & Health Service Administration.* 38(4):447-66. PMID: 10130607.

Shortell, S., Gillies, R., & Anderson, D. (1994). The new world of managed care: creating organized delivery systems. *Health Affairs (Millwood).* 13(5):46-64. DOI: 10.1377/hlthaff.13.5.46. PMID: 7868039.

Shortell, S., Zukoski, A., Alexander, J., Bazzoli, G., Conrad, D., Hasnain-Wynia, R., & Margolin, F.S. (2002). Evaluating partnerships for community health improvement. *Journal of Health Politics, Policy and Law*. 27(1):49-91. DOI: 10.1215/03616878-27-1-49. PMID: 11942419.

Stockman, F. (2001). Networks: Social. In International Encyclopedia of the Social & Behavioral Sciences. United States: Elsevier. ISBN: 9780080970875.

Suchman, A., Sluyter, D., & Williamson, P. (2011). Leading change in healthcare: Transforming organizations using complexity, positive psychology and relationship-centred care. London, UK: Radcliffe Publishing Ltd. ISBN: 13:978/184619/448/1.

Suchman, A. (2011). Organizations as machines, organizations as conversations: Two core metaphors and their consequences. *Medical Care*. 49(12):S43-S48. DOI: https://www.jstor.org/stable/23053720

Suchman, A. (2013). When teammates don`t connect: Learning to manage interdependence. Blog posted by Tony Suchman Jan 30, 2013. Retrieved from https://www.rchcweb.com/Portals/0/Documents/Learning%20to%20Manage%20Interdependence.pdf?ver=2015-10-27-164728-133

Suter, E., Goldman, J., Martimianakis, T., Chatalalsingh, C., DeMatteo, D.J. & Reeves, S. (2013). The use of systems and organizational theories in the interprofessional field: Findings from a scoping review. *Journal of Interprofessional Care*, 27:57-64. DOI: 10.3109/13561820.2012.739670

Suter, E., Oelke, N., Adair, C., & Armitage, G. (2009). Ten Key Principles for Successful Health Systems Integration. *Healthcare Quarterly*. 13(Sp):16–23. DOI: 10.12927/hcq.2009.2109.

The Chronic Disease Prevention Alliances of Canada. (2004). The cost of chronic disease in Canada. Retrieved from http://www.gpiatlantic.org/pdf/health/chroniccanada.pdf.

The Health Foundation. (2010). Complex Adaptive Systems. Retrieved from https://www.health.org.uk/sites/default/files/ComplexAdaptiveSystems.pdf

Tsasis, P. (2009). Chronic disease management and the home-care alternative in Ontario, Canada. *Health Services Management Research,* 22(3):136-139. DOI: https://doi.org/10.1258/hsmr.2009.009002

Tsasis, P. & Bruce-Barrett. (2008). Organizational change through Lean Thinking. *Health Services Management Research*. 21:192-198. DOI: 10.1258/hsmr.2007.007023.

Tsasis, P., Evans, J.M., & Owen, S. (2012). Reframing the challenges to integrated care: a complex-adaptive systems perspective. *International Journal of Integrated Care*. 12(5). DOI: http://doi.org/10.5334/ijic.843

Tsasis, P., Evans, J.M., Forrest, D., & Jones, R.K. (2013). Outcomes mapping for health system integration. *Journal of Multidisciplinary Healthcare.* 6:99-107. DOI: https://doi.org/10.2147/JMDH.S41575

Tsasis, P., Cooke-Lauder, J., & Evans, J.M. (2015). Working together in a complex environment: Collaborative behaviours and social capital. *International Journal of Public Administration*. 38(8):544-552. DOI: https://doi.org/10.1080/01900692.2014.949749

Tuckman, B. (1965). Developmental Sequence in Small Groups. *Psychological Bulletin*. 63(6):*384–*399. DOI: https://doi.org/10.1037/h0022100

Uhl-Bien, M., Marion, R., & McKelvey, B. (2007). Complexity Leadership Theory: Shifting leadership from the industrial age to the knowledge era. *The Leadership Quarterly*. 18:298-318. Retrieved from https://www.sciencedirect.com/science/article/pii/S1048984307000689

Valentine, M, Nembhard, I., & Edmondson, A. (2015). Measuring teamwork in health care settings: a review of survey instruments. *Medical Care*. 53(4):e16-30. DOI: 10.1097/MLR.0b013e31827feef6. PMID: 24189550.

Wagner, E., Davis, C., Schaefer, J., Von Korff, M., & Austin, B. (1999). A survey of leading Chronic disease management programs: are they consistent with the literature? *Managed Care Quarterly*. 7(3):56-66. PMID: 10620960.

Wakerman, J., & Mitchell, J. (2005). Intersectoral Collaboration: What are the factors to contribute to success. Report 1. Centre for Remote Health: A joint centre of Flinders University and Charles Darwin University. Retrieved from http://www.nintione.com.au/resource/DKCRC-Report-01-Intersectoral-Collaboration.pdf

Wandersman, A., Duffy, J., Flaspohler, P., Noonan, R., Lubell, K., Stillman, L. & Saul, J. (2008). Bridging the Gap between Prevention Research and Practice: The Interactive Systems Framework for Dissemination and Implementation. *American Journal of Community Psychology*. 41:171–181. DOI: 10.1007/s10464-008-9174-z.

Wandersman, A. & J. Scaccia. (2017). Organizational Readiness: Measurement & Predictor of Progress. South Carolina, USA: University of South Carolina. DOI: 10.1002/jcop.21698

Wandersman, A., & J. Scaccia. (2018). Organizational Readiness: Annual Progress Report Final October 25, 2018. Retrieved from https://www.researchgate.net/publication/329000758_readiness_annual_progress_report_final_oct_25_2018

Williams, P., & Sullivan H. (2009). Faces of integration. *International Journal of Integrated Care*. 9(4):e100. DOI: http://doi.org/10.5334/ijic.509

Willis, C., Corrigan, C., Stockton, S., Greene, J., & Riley, B. (2017). Exploring the unanticipated effects of multi-sectoral partnerships in chronic disease prevention. *Health Policy.* 121:158-168. DOI: 10.1016/j.healthpol.2016.11.019. PMID: 27938850.

Willumsen, E. (2008). Interpersonal collaboration: A matter of differentiation and integration? Theoretical reflections based in the context of Norwegian childcare. *Journal of Interprofessional Care*. 22:352-363. DOI: https://doi.org/10.1080/13561820802136866

Willumsen, E., Ahgren, B., & Odegard, A. (2012). A conceptual framework for assessing interorganizational integration and interprofessional collaboration. *Journal of Interprofessional Care*. 26:198-204. DOI: 10.3109é13561820.2011.645088.

World Health Organization. (1997). Intersectoral Action for Health: A Cornerstone for Health-for-all in the Twenty-First Century. Report to the International Conference 20-23 April 1997. Halifax, Nova Scotia, Canada. Geneva, Switzerland: World Health Organization.

World Health Organization (2002). Innovative care for chronic conditions framework. Retrieved from http://www.who.int/chp/knowledge/publications/icccglobalreport.pdf?ua=1

World Health Organization. (2017). Better Governance for Health and Development – Health in All Policies, Training, Tools and Technical Assistance. Geneva, Switzerland: World Health Organization. Retrieved from http://www.who.int/social_determinants/healthinallpolicies-hiap/en/

World Health Organization Regional Office for Europe. (2014). Transforming health services delivery towards people-centred health systems. Retrieved from https://www.euro.who.int/__data/assets/pdf_file/0016/260710/Transforming-health-services-delivery-towards-people-centred-health-systems.pdf

World Health Organization Regional Office for Europe. (2016). Integrated care models: an overview. Working document. Retrieved from https://www.euro.who.int/__data/assets/pdf_file/0005/322475/Integrated-care-models-overview.pdf

Appendices

Appendix A: Cross-Cutting Themes

1) Trust

In the literature, there are many researchers who report the importance of trust. There is a group development theory by Tuckman (1965) for nurturing a team, which includes the four basic stages of "Forming, Storming, Norming & Performing". This model was to help leaders to understand how their team members were building relationships together; however, people approach tasks differently depending on the quality of their relationships with their co-workers. The most important task is to build and sustain trust, which is the most important factor in the norming stage (Axelsson & Axelsson, 2006). In successful collaborations, the focus is on pressing practical problems and on transforming relationships (i.e.,. build sense of mutuality, shared vision and trust) (Senge, 1990).

However, there are challenges in managing trust, especially in cross-sectoral collaboration. Unfortunately, health care policies fail to recognize the importance of relationship-building, trust, and alignment across organizations and professional groups (Tsasis, 2012). As per Dietz & Gillespie (2011), a key part of building trust starts from top leadership, who must be genuine and lead by example, to embrace values and behaviours of their organizations, to communicate openly and to engage with their stakeholders in a genuine and authentic way. In the literature, trust is an enabler for effective collaboration, innovation, leadership, team and organizational performance and sustained change (Dietz & Gillespie, 2011).

Given multiple partners and organizations with diverse needs and accountabilities, achieving a common vision may be challenging (Danaher, 2011). With a powerful shared

vision, this gains momentum when it is shared across sectors. Strong working relationships, shared vision and trust are essential at all levels to build healthy communities. There is an opportunity to build trust at the local neighbourhood level where people interact with each other, and the actions of the community sector "walking the talk" builds trust. In communities in which partners knew each other or had a positive history of working together, they "gelled" as a group and were able to focus on the task at hand right away (Danaher, 2011).

2) Psychological Safety and Teaming

According to Harvard Business School professor, Dr. Amy Edmondson (2002)defines Psychological Safety as a sense of confidence that the team will not embarrass, reject, or punish someone for speaking up. It describes a team climate characterized by interpersonal trust and mutual respect in which people are comfortable being themselves. As described by Edmondson (2002), Psychological Safety mitigates interpersonal risks and facilitates a structured collective learning process and goals in teams.

> "Psychological safety describes individuals' perceptions about the consequences of interpersonal risks in their work environment. It consists of taken-for-granted beliefs about how others will respond when one puts oneself on the line, such as by asking a question, seeking feedback, reporting a mistake, or proposing a new idea." (Edmondson, 2002, p.6)
>
> "Psychological safety means no one will be punished or humiliated for errors, questions, or requests for help, in reaching ambitious performance goals." (Edmondson, 2002, p.22)
>
> "When psychological safety is high, this relationship is likely to be strong; when it is low, the motivating effects of goals are inhibited, as despite the desire to learn, interpersonal risk may inhibit the necessary behavior." (Edmondson, 2002, p.18)
>
> "In psychologically safe environments, people believe that if they make a mistake, others will not penalize or think less of them for it. They also believe that others will not resent or penalize them for asking for help, information or feedback. This belief fosters the confidence to take the risks described above and thereby to gain from the associated benefits of learning." (Edmondson, 2002, p.5)

As per Edmondson (2002), the role of team leaders is to create a climate of Psychological Safety that allows people to feel safe in taking risks.

Edmondson (2014) described the importance of teaming, such that organizations thrive, or fail to thrive, based on how well the small groups functions. "Teams" are groups inter-depending to achieve a shared goal with stable structures. Because organizations are confronted by "volatility", "uncertainty", "complexity", and "ambiguity", "teaming" is more important than "teams". "Teaming" requires "flexibility" for learning and collaborating across boundaries without stable team structures. With "teaming", leaders can encourage reflection, promote sharing of ideas and create psychological safety among individuals in groups, across groups in organizations, and across organizations in ecosystems. The use of Psychological Safety was identified as a key success factor in the Chilean Mine Rescue in 2010, due to the complexity and urgency of the task, and the need to work collaboratively across sectors.

3) Organizational Readiness and Building Capacity

There are many challenges when introducing an innovation or implementing a change in program, process, or policy. As per Wandersman & Scaccia (2017), one critical component for successful implementation is the organization's readiness for the innovation. Organizational Readiness refers to the extent to which an organization is both willing and able to implement a particular innovation and is considered a necessary precursor to successful organizational change (Scaccia et al., 2015). Organizational Readiness is often discussed in the context of determining whether or not an organization is capable of putting a particular innovation into practice which is embedded within larger implementation framework (Scaccia et al., 2015).

Organizational Readiness is a construct that encompasses the conditions that are necessary to ensure quality implementation (Scaccia et al., 2015). For Organizational

Readiness, Wandersman's Center (Wandersman & Scaccia, 2017) developed a practical implementation science heuristic, abbreviated as "R= MC^{2}" to describe the key concepts:

1) the "M" is the motivation to implement an innovation,
2) the "C" is the general capacities of an organization, and
3) the "C" is the innovation-specific capacities to implement a particular innovation.

Motivation is how people perceive the incentives and disincentives that contribute to making an initiative worthwhile. It is important to address factors that influence motivation to create and foster conditions to build motivation. The list of factors that influence motivation is not meant to be exhaustive, rather to orient the stakeholder to major key variables in motivation (Scaccia et al., 2015). General capacities consist of the day-to-day organizational functions (i.e., culture, structures, staff and leadership) and connections with other organizations and the community (Wandersman et al., 2008). Innovative-specific capacities are the human, technical and fiscal conditions that are important for successfully implementing an innovation (Scaccia et al., 2015). The use of Organizational Readiness has been newly used in cross-sectoral work, for example in the "100 Million Healthier Lives Project" involving the community and police.

In the research by Hajjar et al. (2020), a case example of a new community coalition was presented on youth safety and improving police-community relationships in a high crime neighborhood. The authors concluded that collaboration was identified as an essential component for the successful implementation of a wide range of policies and programs. A major collaboration challenge in large community initiatives is the need for multiple organizations to develop strategic partnerships around a shared purpose. Due to the importance of collaboration in achieving desired outcomes, the readiness of organizations to collaborate, and the quality of relationships between organizations are key, particularly in the formation stage to build relationships based on trust and mutual respect (Hajjar et al., 2020).

Appendix B: Baseline Survey

Dear LHIN Sub-Region Collaborative Table Members,

As a member of the Sub-Region Collaborative Tables, you are invited to participate in this online survey. This survey aims to understand how the Sub-Region Collaborative Tables are evolving and the contextual factors that improve collaboration.

The research is conducted in partnership with the Local Health Integration Network and York University. The research has been approved by York University's Research Ethics Board. Participation in this online survey is voluntary. Your responses will be kept anonymous. By clicking the check box below, you are providing your consent to take part in this research study.

There are 20 questions and the time estimated to complete the survey is 20 minutes. Please complete the survey by February 28, 2018. To begin the survey, click this link https://www.surveymonkey.com

Thank you in advance for your valuable time. If you have any further questions, please do not hesitate to contact Grace Liu, Principal Investigator by email at gliuchan@yorku.ca.

1. **Select the Sub-Region Collaborative Table(s) you represent.**
   - Urban 1
   - Urban 2
   - Suburban 1
   - Suburban 2
   - Rural 1
   - Rural 2

2. **Select the title(s) that best describes your current position.**
   - Manager/Supervisor
   - Director/ED/VP/CEO
   - Administrator
   - LHIN Lead
   - Health Links Lead
   - Clinical Coordinator
   - Physician/Specialist
   - Nurse
   - Nurse Practitioner
   - Social/Community Worker
   - Officer
   - Other (please specify…)

3. **How long have you been working in your current position?**
   - <1 year
   - 1-3 years
   - 3-5 years
   - 5-10 years
   - >10 years

4. **Select the stakeholder perspective you are representing that best describes your role on the Sub-Region Collaborative Table.**

- Community Health Centre
- Community Support Services
- French Language Services
- Health Links
- Hospital
- Hospice (Palliative Care)
- Indigenous Community
- LHIN
- Long-term Care
- Mental Health & Addictions
- Municipality
- Primary Care – Team-Based Care
- Primary Care – Non-Team-Based Care
- Public Health
- Other (please specify…)

NOTE: For Question 5 to 14, the following organizations are listed for participants to answer.

- Community Health Centre
- Community Support Services
- French Language Services
- Health Links
- Hospital
- Hospice (Palliative Care)
- Indigenous Community
- LHIN
- Long-term Care
- Mental Health & Addictions
- Municipality
- Primary Care (Team-Based Care)
- Primary Care (Non-Team-Based Care)
- Public Health
- Other (please specify)

5. **Based on the stakeholder perspective you are representing on the Sub-Region Collaborative Table, what is the current level of relationship with each of the following organizations? Select the most appropriate response.**
   - No Relationship
   - Planning
   - Developing
   - Functional
   - Integrated
   - Not Required

6. **How often does your organization currently work with each of the following organizations? Select the most appropriate response.**
   - None
   - Rarely
   - Occasionally
   - Often
   - Very Often
   - Not Required

7. **How does your organization currently communicate with the following organizations?**
   Select all that apply.
   - Formal Meetings
   - Informal Meetings
   - Phone
   - Fax
   - Email
   - Video Conference
   - Information System
   - Not Required

8. How frequently do people in each of these stakeholder groups communicate with your organization about addressing population health needs and planning within your Sub-Region? Consider all forms of communication, including in-person meetings, phone calls, e-mails, etc.

SELECT (√) FOR EACH STAKEHOLDER GROUP	Not Nearly Enough	Not Enough	Just the Right Amount	Too Often	Much Too Often	Not Required
Community Health Centre						
Community Support Services						
French Language Services						
Health Links						
Hospital						
Hospice (Palliative Care)						
Indigenous Community						
LHIN						
Long-term Care						
Mental Health & Addictions						
Municipality						
Primary Care (Team-Based Care)						
Primary Care (Non-Team-Based)						
Public Health						

9. Do people in each of these stakeholder groups communicate with your organization in a timely way to address population health and planning needs within your Sub-Region? Consider all forms of communication, including in-person meetings, phone calls, e-mails, etc.

SELECT (√) FOR EACH STAKEHOLDER GROUP	**Never**	**Rarely**	**Occasionally**	**Often**	**Always**	**Not Required**
Community Health Centre						
Community Support Services						
French Language Services						
Health Links						
Hospital						
Hospice (Palliative Care)						
Indigenous Community						
LHIN						
Long-term Care						
Mental Health & Addictions						
Municipality						
Primary Care (Team-Based Care)						
Primary Care (Non-Team-Based)						
Public Health						

10. Do people in each of these stakeholder groups communicate with your organization accurately to address population health and planning needs within your Sub-Region? Consider all forms of communication, including in-person meetings, phone calls, e-mails, etc.

SELECT (√) FOR EACH STAKEHOLDER GROUP	**Never**	**Rarely**	**Occasionally**	**Often**	**Always**	**Not Required**
Community Health Centre						
Community Support Services						
French Language Services						
Health Links						
Hospital						
Hospice (Palliative Care)						
Indigenous Community						
LHIN						
Long-term Care						
Mental Health & Addictions						
Municipality						
Primary Care (Team-Based Care)						
Primary Care (Non-Team-Based)						
Public Health						

11. **When there is a problem related to addressing population health needs and planning within your Sub-Region, do people in these stakeholder groups point fingers or work with your organization to solve the problem?** Consider all forms of communication, including in-person meetings, phone calls, e-mails, etc.

SELECT (√) FOR EACH STAKEHOLDER GROUP	**Always Point Fingers**	**Mostly Point Fingers**	**Neither Point Fingers Nor Solve**	**Mostly Solve**	**Always Solve**	**Not Required**
Community Health Centre						
Community Support Services						
French Language Services						
Health Links						
Hospital						
Hospice (Palliative Care)						
Indigenous Community						
LHIN						
Long-term Care						
Mental Health & Addictions						
Municipality						
Primary Care (Team-Based Care)						
Primary Care (Non-Team-Based)						
Public Health						

12. Do people in these stakeholder groups share your organization's goals for addressing population health needs and planning within your Sub-Region?

SELECT (√) FOR EACH STAKEHOLDER GROUP	Not at All	A Little	Somewhat	A Lot	Completely	Not Required
Community Health Centre						
Community Support Services						
French Language Services						
Health Links						
Hospital						
Hospice (Palliative Care)						
Indigenous Community						
LHIN						
Long-term Care						
Mental Health & Addictions						
Municipality						
Primary Care (Team-Based Care)						
Primary Care (Non-Team-Based)						
Public Health						

13. Do people in these stakeholder groups know about the services your organization provides to address population health and planning needs within your Sub-Region?

SELECT (√) FOR EACH STAKEHOLDER GROUP	Nothing	A Little	Some	A Lot	Everything	Not Required
Community Health Centre						
Community Support Services						
French Language Services						
Health Links						
Hospital						
Hospice (Palliative Care)						
Indigenous Community						
LHIN						
Long-term Care						
Mental Health & Addictions						
Municipality						
Primary Care (Team-Based Care)						
Primary Care (Non-Team-Based)						
Public Health						

14. Do people in these stakeholder groups respect the services your organization provides with addressing population health needs and planning within your Sub-Region?

SELECT (√) FOR EACH STAKEHOLDER GROUP	Not at All	A Little	Somewhat	A Lot	Completely	Not Required
Community Health Centre						
Community Support Services						
French Language Services						
Health Links						
Hospital						
Hospice (Palliative Care)						
Indigenous Community						
LHIN						
Long-term Care						
Mental Health & Addictions						
Municipality						
Primary Care (Team-Based Care)						
Primary Care (Non-Team-Based)						
Public Health						

15. In order of importance, which of the following aspects of collaboration do you view as most important to advancing population health needs and planning within your Sub-Region Collaborative Table.
[1= Most important, 7 = Least important]

Relational Coordination	Rank
Frequent Communication	
Timely Communication	
Accurate Communication	
Problem-solving Communication	
Shared Goals	
Shared Knowledge	
Mutual Respect	

16. In order of importance, which of the basic structures do you view as most important to advancing population health and planning needs within your Sub-Region Collaborative Table.
[1= Most important, 5 = Least important]

Basic Structures	Rank
There is a governance structure to set priorities and policies	
There is an organizational design with defined roles and tasks	
There are available resources (i.e., financial and human) and incentives	
There is an information system for communication across all organizations	
There is a standard reporting framework to demonstrate accountabilities across the network	

17. In order of importance, which aspects of leadership and organizational culture do you view as most important to advancing population health and planning needs within your Sub-Region Collaborative Table. [1= Most important, 5 = Least important]

Leadership and Organizational Culture	Rank
It is important that leaders provide a vision for integrated care	
It is important to understand inter-organizational culture and values	
It is important that employees are empowered to support the new changes	
Clinician engagement with key leaders is necessary for implementing changes	
There is a commitment to knowledge transfer and exchange with the larger network	

18. In order of importance, which of the key processes do you view as most important to advancing population health and planning needs within your Sub-Region Collaborative Table.
[1= Most important, 5 = Least important]

Key Processes	Rank
There is a joint process for planning and delivering care to patients	
There is a commitment to patient-centred care and patient involvement	
There are formal agreements (i.e., policies, accountabilities) between organizations	
There is a shared performance measurement system for tracking indicators and outcomes	
There are continuous quality improvement strategies being considered and implemented	

19. In order of importance, which of the key integration strategies and enablers do you view as most important to advancing population health and planning needs within your Sub-Region Collaborative Table. [1= Most important, 5 = Least important]

Key Integration Strategies and Enablers	Rank
Need to address inter-organizational structure and processes	
Need to build strong leadership and inter-organizational relationships	
Need to develop system performance indicators and accountabilities	
Need to define a shared vision and shared goals	
Need to align policies with adequate resources	

20. Would you be interested in participating in a telephone interview (30 minutes) in Jan/Feb 2018)?

- o No, I do not wish to participate
- o Yes, I would like to participate. Please enter your email address below.

Appendix C: Follow-up Survey

Dear LHIN Sub-Region Collaborative Table Members,
In early 2018, we invited members of the Sub-Region Collaborative Tables to participate in an online survey. Currently, we are asking you for your participation in this follow-up survey. The study aims to understand how the Sub-Region Collaborative Tables are evolving and transforming. By understanding the factors for inter-sectoral collaboration, the results will identify strengths and improvement opportunities for Sub-region planning.

The research is conducted in partnership with the Local Health Integration Network and York University. The research has been approved by York University's Research Ethics Board. Participation in this survey is voluntary. Your responses will be kept anonymous and the data collected will remain confidential. There are 20 questions and the time estimated to complete the survey is 15-20 minutes. Please complete the survey via paper or online by Feb 28, 2019.

Optional: Link to online survey https://www.surveymonkey.com

Thank you for your valuable time in participating in this survey. If you have any further questions, please do not hesitate to contact Grace Liu, Principal Investigator by email at gliuchan@yorku.ca.

1. **Select the Sub-Region Collaborative Table you are most involved with. (SELECT ONE)**
   - Urban 1
   - Urban 2
   - Suburban 1
   - Suburban 2
   - Rural 1
   - Rural 2

2. **Select the title that best describes your current position. (SELECT ONE)**
   - Manager/Supervisor
   - Director/ED/VP/CEO
   - Administrator
   - Health Links Lead
   - Clinical Coordinator
   - Physician/Specialist
   - Nurse
   - Nurse Practitioner
   - Social/Community Worker
   - Officer

3. **Select the stakeholder perspective you are representing on the Sub-Region Collaborative Table. (SELECT ONE)**
   - Community Health Centre
   - Community Support Services
   - French Language Services
   - Health Links
   - Hospital
   - Hospice (Palliative Care)
   - Indigenous Community
   - LHIN
   - Long-term Care
   - Mental Health & Addictions
   - Municipality
   - Primary Care – Team-Based Care
   - Primary Care – Non-Team-Based Care
   - Public Health

4. **How frequently do people in each of these stakeholder groups communicate with your organization about addressing population health needs and planning within your Sub-Region?** Consider all forms of communication, including in-person meetings, phone calls, e-mails, etc.

SELECT (√) FOR EACH STAKEHOLDER GROUP	**Not Nearly Enough**	**Not Enough**	**Just the Right Amount**	**Too Often**	**Much Too Often**	**Not Required**
Community Health Centre						
Community Support Services						
French Language Services						
Health Links						
Hospital						
Hospice (Palliative Care)						
Indigenous Community						
LHIN						
Long-term Care						
Mental Health & Addictions						
Municipality						
Primary Care (Team-Based Care)						
Primary Care (Non-Team-Based)						
Public Health						

5. **Do people in each of these stakeholder groups communicate with your organization in a timely way to address population health and planning needs within your Sub-Region?** Consider all forms of communication, including in-person meetings, phone calls, e-mails, etc.

SELECT (√) FOR EACH STAKEHOLDER GROUP	**Never**	**Rarely**	**Occasionally**	**Often**	**Always**	**Not Required**
Community Health Centre						
Community Support Services						
French Language Services						
Health Links						
Hospital						
Hospice (Palliative Care)						
Indigenous Community						
LHIN						
Long-term Care						
Mental Health & Addictions						
Municipality						
Primary Care (Team-Based Care)						
Primary Care (Non-Team-Based)						
Public Health						

6. **Do people in each of these stakeholder groups communicate with your organization accurately to address population health and planning needs within your Sub-Region?** Consider all forms of communication, including in-person meetings, phone calls, e-mails, etc.

SELECT (√) FOR EACH STAKEHOLDER GROUP	**Never**	**Rarely**	**Occasionally**	**Often**	**Always**	**Not Required**
Community Health Centre						
Community Support Services						
French Language Services						
Health Links						
Hospital						
Hospice (Palliative Care)						
Indigenous Community						
LHIN						
Long-term Care						
Mental Health & Addictions						
Municipality						
Primary Care (Team-Based Care)						
Primary Care (Non-Team-Based)						
Public Health						

7. **When there is a problem related to addressing population health needs and planning within your Sub-Region, do people in these stakeholder groups point fingers or work with your organization to solve the problem?** Consider all forms of communication, including in-person meetings, phone calls, e-mails, etc.

SELECT (√) FOR EACH STAKEHOLDER GROUP	**Always Point Fingers**	**Mostly Point Fingers**	**Neither Point Fingers Nor Solve**	**Mostly Solve**	**Always Solve**	**Not Required**
Community Health Centre						
Community Support Services						
French Language Services						
Health Links						
Hospital						
Hospice (Palliative Care)						
Indigenous Community						
LHIN						
Long-term Care						
Mental Health & Addictions						
Municipality						
Primary Care (Team-Based Care)						
Primary Care (Non-Team-Based)						
Public Health						

8. Do people in these stakeholder groups share your organization's goals for addressing population health needs and planning within your Sub-Region?

SELECT (√) FOR EACH STAKEHOLDER GROUP	Not at All	A Little	Somewhat	A Lot	Completely	Not Required
Community Health Centre						
Community Support Services						
French Language Services						
Health Links						
Hospital						
Hospice (Palliative Care)						
Indigenous Community						
LHIN						
Long-term Care						
Mental Health & Addictions						
Municipality						
Primary Care (Team-Based Care)						
Primary Care (Non-Team-Based)						
Public Health						

9. Do people in these stakeholder groups know about the services your organization provides to address population health and planning needs within your Sub-Region?

SELECT (√) FOR EACH STAKEHOLDER GROUP	Nothing	A Little	Some	A Lot	Everything	Not Required
Community Health Centre						
Community Support Services						
French Language Services						
Health Links						
Hospital						
Hospice (Palliative Care)						
Indigenous Community						
LHIN						
Long-term Care						
Mental Health & Addictions						
Municipality						
Primary Care (Team-Based Care)						
Primary Care (Non-Team-Based)						
Public Health						

10. Do people in these stakeholder groups respect the services your organization provides with addressing population health needs and planning within your Sub-Region?

SELECT (√) FOR EACH STAKEHOLDER GROUP	Not at All	A Little	Somewhat	A Lot	Completely	Not Required
Community Health Centre						
Community Support Services						
French Language Services						
Health Links						
Hospital						
Hospice (Palliative Care)						
Indigenous Community						
LHIN						
Long-term Care						
Mental Health & Addictions						
Municipality						
Primary Care (Team-Based Care)						
Primary Care (Non-Team-Based)						
Public Health						

11. Indicate how strongly you agree or disagree with each statement on the culture within your Sub-Region Collaborative Table (SRCT).

SELECT (√) FOR EACH STATEMENT	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree
Our SRCT's mission is understood by all of us.							
We all know our SRCT's vision.							
We have a strong sense of belonging and identification with our SRCT.							
Our SRCT has a common purpose.							
We know the goals of our SRCT.							
We put in extra effort to make sure our SRCT succeeds.							

12. Indicate how strongly you agree or disagree with each statement on the structure within your Sub-Region Collaborative Table (SRCT).

SELECT (√) FOR EACH STATEMENT	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree
The way our SRCT is organized makes it possible to do things well.							
Our SRCT 's structure is effective.							
Our SRCT functions well.							
We communicate well with each other within our SRCT.							
It is safe to take a risk on our SRCT.							

13. Indicate how strongly you agree or disagree with each statement on the capacity within your Sub-Region Collaborative Table (SRCT).

SELECT (√) FOR EACH STATEMENT	**Strongly Disagree**	**Disagree**	**Slightly Disagree**	**Neither Agree nor Disagree**	**Slightly Agree**	**Agree**	**Strongly Agree**
The members within our SRCT have sufficient skills to implement the projects.							
The members within our SRCT have sufficient knowledge to implement the projects.							
Members within our SRCT have adequate experience.							
Members within our SRCT are able to bring up problems and tough issues.							
We have enough members in our SRCT to work toward our major goals.							

14. Indicate how strongly you agree or disagree with each statement on the leadership within your Sub-Region Collaborative Table (SRCT).

SELECT (√) FOR EACH STATEMENT	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree
We have clear leadership in our SRCT.							
The leadership has a plan(s) to implement the projects.							
The leadership knows what they are talking about when it comes to the projects.							
The leadership recognizes and appreciates team efforts that help to successfully implement projects.							
The leadership supports the efforts by learning about the projects.							
The leadership carries on through the challenges of implementing the projects.							
The leadership reacts to critical issues regarding the implementation of the projects by openly and effectively addressing the problem(s).							

15. Indicate how strongly you agree or disagree with each statement on the knowledge and skills within your Sub-Region Collaborative Table (SRCT).

SELECT (√) FOR EACH STATEMENT	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree
Our SRCT has the knowledge needed to address patient needs and plan care at the local community level.							
Our SRCT has the concrete skills needed to address patient needs and plan care at the local community level.							
Working with members of our SRCT, my unique skills and expertise are valued and utilized.							
An influential person in our SRCT strongly promotes patient needs and plans care at the local community level.							
At least one member we work with clearly communicates the needs and benefits of addressing patient needs and planning care at the local community level.							

16. Indicate how strongly you agree or disagree with each statement on the inter-organizational relationships within your Sub-Region Collaborative Table (SRCT).

SELECT (√) FOR EACH STATEMENT	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree
Our SRCT actively supports patient needs and plans care at the local community level.							
Our SRCT has a system in place to monitor how well activities are implemented to address patient needs and plan care at the local community level.							
Our SRCT has ways to promote ongoing activities to address patient needs and plan care at the local community level.							
Our SRCT communicates well with other SRCTs who are implementing similar initiatives at the local community level.							
Our SRCT obtains support from coaches to help implement initiatives.							

17. Indicate how strongly you agree or disagree with each statement on addressing patient needs within the community.

SELECT (√) FOR EACH STATEMENT	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree
Addressing patient needs and planning care at the local community level fits well with other initiatives in our community.							
Addressing patient needs and planning care at the local community level is timely given the current needs of our community.							
Addressing patient needs and planning care at the local community level fits well with the culture and values of our community.							
Addressing patient needs and planning care at the local community level is feasible for our community.							

18. Indicate how strongly you agree or disagree with each statement on the challenges in addressing patient needs within your Sub-Region Collaborative Table (SRCT).

SELECT (√) FOR EACH STATEMENT	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree
It is difficult as a SRCT to address patient needs and plan care at the local community level.							
The SRCT project plan(s) is(are) hard to understand.							
The many different parts in a SRCT makes it complicated to implement project plan(s).							
Our SRCT is able to try out the project plan(s) in a limited way.							
Our SRCT can test small parts of the project plan(s) to see if it is working.							
If we try the project plan(s) and if things don't go well, our SRCT can go back to the way we used to do things.							

19. Indicate how strongly you agree or disagree with each statement on the importance of addressing patient needs at the local community level. (SRCT=Sub-Region Collaborative Table).

SELECT (√) FOR EACH STATEMENT	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree
Addressing patient needs and planning care at the local community level are our SRCT's top priorities.							
Our SRCT emphasizes that addressing patient needs and planning care at the local community level are very important.							
Our SRCT finds it enjoyable to work toward addressing patient needs and planning care.							
Our SRCT has fun working toward addressing patient needs and planning care.							
Our SRCT finds it meaningful to work toward addressing patient needs and planning care.							

20. In order of importance, which of the following describes the reasons for your participation as a member of the Sub-Region Collaborative Table (SRCT).

Rank in order of importance [1= Most important, 7 = Least important]	1,2,3,4,5,6,7
I want to work toward addressing patient needs and planning care at the local community level.	
I have clinical expertise and/or leadership skills.	
I want to network with others.	
I was asked by my employer to represent.	
I was asked by my employer to network with other organizations.	
I am able to think at a systems-level.	
I am interested in transforming the system.	

Appendix D: Interview Questions

Introduction and Consent

Thank you for participating in this interview. The results from this interview will be useful for the LHIN. The interview is 30 minutes long. Your participation is voluntary. The results will be kept anonymous. Also, you may refuse to answer any questions. I will be recording the interview for research purposes. Do you have any further questions before we start? Do you agree and consent to this interview?

Name_____(Initials)

Date/Time_____

Sub-Region Collaborative Table(s):

□ Urban 1 □ Urban 2 □ Suburban 1

□ Suburban 2 □ Rural 1 □ Rural 2

"Previous State: Working relationships"	Probes
Question 1: Have you previously worked with any of the members of the Sub-Region Collaborative Tables? (Semi-structured) • If yes, which stakeholder group do you have most experience working with? (Probe key words/phrases) • Because you previously worked with the stakeholder group, was the Sub-Region Collaborative Table able to focus on population health and planning needs right away? • If no, go to the next question.	Here are the probing key words: • Context/specific patient population? • Reasons for collaboration/capacity? • Key success (or hinders) factors? • Ability to problem-solve?
Question 2: Have you worked within the Health Links model? (Semi-structured) • If yes, how did Health Links build or strengthen the relationships and communication between providers? • Within the Health Links model of care, what do you recommend for sub-region transformation? • If no, go to next question. Note: If the participant is from Health Links • How does Health Links contribute to sub-region transformation? • What do you recommend for Sub-Region transformation using the Heath Links model of care? •	Here are the probing key words: • Context/specific patient population? • Reasons for collaboration/capacity? • Key success (or hinders) factors? • Ability to problem-solve?

"Current State: Working relationships"	**Probes**
Question 3: Can you help me understand how the members of the Sub-Region Collaborative Table are currently working together? (Semi-structured) • Through sharing with the Sub-Region Collaborative Tables were there any "*aha*" moments where you learned about each other's organization(s) or the system challenges? • Were there any contentious issues discussed, if yes, how was the conflict handled/resolved? • Is there a joint decision-making process for planning?	Here are the probing key questions: • Is language used clear and understandable? • Is there knowledge exchange and willingness to learn from each other?
Question 4: Are there are any recent partnerships being formed at the Sub-Region Collaborative Table? (Semi-structured) • If yes, what factors can you think of that "*sparked*" the partnership? In your opinion, are these partnerships driven by top-down or bottom-up approach? • From your perspective, what would strengthen the partnerships even further? • If there does not appear to be any partnerships developing, in your opinion, what would be important for developing future partnerships?	Here are the probing key words/phrases: • Informally or formally? • Are they starting to self-organize? • Mutual respect? • Mutual trust? • Knowledge-sharing? • Shared common goal? • Mutual respect/trust?
"Future State: Recommendations to Improve Integrated Care"	**Probes**
Question 5: Recommendations to improve "readiness" for integrated care? (Semi-structured) • How supportive are people in your organization about implementing integrated care? • How does leadership support integrated care in your organization? • In your opinion, what are some ways you can improve buy-in for integrated care?	Here are the probing key words: • Climate (organizational culture, readiness for change?) • Commitment (leadership capacity, motivation, vision)? • Structure (policies, resources, organizational design)
Question 6: Do you have any suggestions to improve integrated care? (Semi-structured) • Will it be more important to implement policy directives from "above" or solicit participation and buy-in from "below"? • Is it better to standardize care or encourage innovation in the delivery of care? • What processes need to be in place to make sure integrated care is done well?	Here are the probing key words: • "*command & control*" versus "*negotiate & steer*" approach? • Ability to self-organize & adapt • Predict emergent behaviours? • Planning (agreements, reporting, accountabilities)?

"Next Steps: LHIN and Patient-Centred Care"	Probes
Question 7: Do you have any further questions on improving patient experience, accessibility and transitions of care, or system integration? (Open-Ended) • What are some things that can be done that can improve patient experience? • What options do you recommend for improving accessibility and transitions of care? • Do you have any further recommendations for improving system integration for the LHIN?	Here are the probing key words: • Patient-Centred care (Patient experience, clinical outcomes) • Accessibility (Transitions, geographic coverage) • System Integration (Identify priorities, service planning)

Appendix E: Individual Interviews & Member Checking

Interview (KI=Key Informant)	Date of Interview	Method	Stakeholder Group	Subregion Table
KI 1	4-Apr-18	Telephone	Primary Care	Suburban 2
KI 2	9-Apr-18	Telephone	Community	Rural 2
KI 3	11-Apr-18	Telephone	Mental Health	Rural 1
KI 4	11-Apr-18	Telephone	Community	Urban 2
KI 5	16-Apr-18	Telephone	Hospital	Suburban 2
KI 6	16-Apr-18	Telephone	Mental Health	Suburban 1
KI 7	18-Apr-18	Telephone	Community	Rural 1
KI 8	25-Apr-18	Telephone	Mental Health	Suburban 1
KI 9	25-Apr-18	Telephone	Community	Suburban 2
KI 10	25-Apr-18	Telephone	Health Region	Rural 1
KI 11	25-Apr-18	Telephone	Mental Health	Rural 2
KI 12	25-Apr-18	Telephone	Community	Suburban 1

Member Checking (MC)	Date of Member Checking	Method	Stakeholder Group	Subregion Table
5 Members	11-Dec-19	Face-to-face	Health Region	Various Tables

Appendix F: Qualitative Interviews – Thematic Analysis

Interview questions and analysis have been informed by theoretical concepts of Relational Coordination, Complex Adaptive Systems, Ten Key Principles for Successful Integration, and Implications for Practice and Policy Concepts. The interview recordings have been organized, categorized and analyzed into related themes with an example quote.

Relational Coordination Concept Quotes

The participants who were interviewed were asked openly about Communication and Relational Dimensions. To analyze the theoretical concepts, example quotes were provided for Successes and Challenges. If the discussion was "POSITIVE", the Success node was marked, and if the discussion was "NEGATIVE", the Challenge node was checked. If there was no discussion on the concept, no nodes were checked. The Relational Coordination Concepts with an example quote is presented below. (Key Informant = KI)

• **Communication (Success=83%)** *"It's been very good for networking. I've had an opportunity to meet and talk with people who I wouldn't otherwise necessarily had contact with. As a result of that down the road perhaps there may be more formalized partnerships that can develop. Often these kinds of things develop as a result of relationships and conversations. It's been very good for that, in terms of finding a place to have all fit together and interact and get to know each other." (KI 1)*	• **Communication (Challenges=58%)** *"So, when I think of integration I think of an integrated, a purpose for integrated care planning, and for me that means you have to start with mapping it on a shared communication platform...An easy way to communicate about important things as a basic for integration is the most important thing." (KI 2)*
• **Shared Goals (Success=50%)** "*With the tables we are almost done prioritizing. We've had to whittle down, at a high level and come up with some common goals we want to work on. I think the process is effective."* (*KI 4)*	• **Shared Goals (Challenges=42%)** *"We're not even quite there from a planning perspective, we don't have goals that were all identified and signing onto and addressing. I think some of the frustration around the table from members is that we're starting to lose the plot around what are we doing here and why have we met four times and we haven't moved any markers whatsoever? In theory, we're going to start to lose some engagement if we can't very collectively show that we have an actual plan going forward." (KI 6)*

• **Shared Knowledge (Success=83%)** *"There's been a lot of ah-ha moments at the table where I think every single one of us has kind of went, oh, we didn't know that about us because we're specifically looking at local information or trying to anyway. It's been great format to learn more and be very specific about our region and what the needs are. There's been lots of ah-ha moments." (KI 2)*	• **Shared Knowledge (Challenges=42%)** *"There's acknowledgement that the information isn't necessarily unbiased. So even though there's information being shared, I don't know that it's leading change. I don't want to suggest that none of the information is of value. But there is an element of some information that gets shared that has this problem with it." (KI 1)*
• **Mutual Respect. (Success=25%)** *"There's a high level of respect amongst everyone who's in the group. I think that there's a high level of trust, because people allow people to continue their thoughts. They may agree to disagree, but they don't do it in such a way that's negative and disruptive, and making a person look bad, or feel bad if that makes sense. Respect is utmost I think in the group. I would say trust is fairly high up there as well. If I were ranking it, I would say probably a four to five on trust, and a five out of five on respect." (KI 10)*	• **Mutual Respect. (Challenges=42%)** *"Because yeah, I don't think the trust comes, the more I think about this, I don't think it comes automatically. Just because we're members of the same planning table doesn't mean that we're all aligned and really fully trust each other and depend on each other. I think that, that hopefully will come with some time as we get to know each other better." (KI 6)*

Relational Model of Organizational Change Concept Quotes

The participants who were interviewed were asked openly about Relational Model of Organizational Change Concepts. To analyze the theoretical concepts, example quotes were provided for Successes and Challenges. If the discussion was "POSITIVE", the Positive node was marked, and if the discussion was "NEGATIVE", the Negative node was checked. If there was no discussion on the concept, no nodes were checked. The Relational Model of Organizational Change Concepts with an example quote is presented below. (Key Informant = KI)

• **Shared Accountability (Positive=33%)** *"Well, there needs to be a joint account...Like a joint agreement about integration that everybody kind of signs on to, like a code of integration or some talk about a similar document that everybody signs on for. To me that would be a start and because if you signed up then you've got a little bit more skin in the game, you know?" (KI 2)*	• **Shared Accountability (Negative=25%)** *"I also think that there needs to be more accountability around how services are being covered and are organizations doing what they're being funded to do?" (KI 1)*

• **Shared Protocols (Positive=50%)** *"It's about time that when we look at the health care sector as a whole, and again if we want to talk about primary and acute and community-based health service providers, plus of course the patient and his or her family where appropriate, so that's what I mean by like the full access. Integrated care to me means that that patient and his or her family where appropriate is going to have access by consent of course, the patient is going to be granting access to his or her record to that person's circle of care." (KI 6)*	• **Shared Protocols (Negative=8%)** *"Certainly, we know that our clients understand that as agencies and organizations we don't talk much to each other on the level of their care plan." (KI 2)*
• **Shared Information Systems (Positive=67%)** *"I think some of the other things that will probably work well is to start electronic solutions, like Connecting Ontario. It's through contractual relationships that we have, but there is some shared documentation. I think right now is more clinical. I think it would be nice to have a platform where things are shared. Just even from some of the pieces that we are doing electronically around sharing of clinical information has helped with collaboration. I think there is an electronic piece in terms of a platform or system that needs to be in place." (KI 4)*	• **Shared Information Systems (Negative=8%)** *"When we talk about circle of care, there's a very narrow view from a digital health solutions perspective, it's a very narrow view around who has access to what. I want to push the agenda around digital health solutions. There's a huge divide in digital health solutions that bind primary, acute & community health service providers, including patients & caregivers." (KI 6)*

Inter-Organizational Relationships Concept Quotes

The participants who were interviewed were asked openly about Inter-Organizational Relationships. To analyze the theoretical concepts, example quotes were provided for Positive and Negative. If the discussion was "POSTIVE", the Positive node was marked, and if the discussion was "NEGATIVE", the Negative node was checked. If there was no discussion on the concept, no nodes were checked. The Inter-Organizational Relationships Concepts with an example quote is presented below. (Key Informant = KI)

• **Previous-Working Together (Positive=50%)** *"Because of the evolution of the maturity of the group working together over the last couple of years, bringing the sub-region dimension or lens into the conversation, into the new collaborative table has been a fairly for lack of a better word, easy bringing together of people." (KI 10)*	• **Previous-Working Together (Negative=25%)** *"Primary, acute and community-based providers, those three broad categories, there's definite divisions and silos." (KI 6)*

• **Current-Relationship Building (Positive=92%)** *"As you work together you get to know each other and then you probably know to get those issues which you would like to tackle. It's still at a very early stage "initial development stage"." (KI 10)*	• **Current-Relationship Building (Negative=92%)** *"I think once we get down to the work, one of the things that is happening as we speak, is breaking off into subgroups to do a bit of a deeper dive. I think that that's when some of that hands-on work will emerge, and some of the partnerships will happen there. I think it's just a teeny bit premature to be talking about new relationships being sparked." (KI 3)*
• **Future-Readiness to Collaborate (Positive=92%)** *"I do believe going forward that as we start rolling up our sleeves a little more and start thinking about how we can potentially collaborate to resolve or to address some of these health population challenges, I think these sorts of connections or even those bonds will start to develop even more." (KI 6)*	• **Future-Readiness to Collaborate (Negative=58%)** *"That is, part of the trust issue, it's not even an issue of trust it's an issue of protecting turf." (KI 6)*

Self-Organizing Capacity Concept Quotes

The participants who were interviewed were asked openly about Self-organizing Capacity. To analyze the theoretical concepts, example quotes were provided for Positive and Negative. If the discussion was "POSTIVE", the Positive node was marked, and if the discussion was "NEGATIVE", the Negative node was checked. If there was no discussion on the concept, no nodes were checked. The Self-organizing Capacity Concept with an example quote is presented below. (Key Informant = KI)

• **Learn and adapt (Positive=83%)** *"If we can figure it out, small bits at a time, for really complex clients and trial things and then learn from those trials and then make changes as we see the need to make changes, I think that's how we build integration." (KI 12)*	• **Learn and adapt (Negative=8%)** *"But the learning is that it requires investment because you can't just simply have that out there and expect people to do it if you don't spend the time to aid. When you're a community agency, we don't have the infrastructure that the hospital has or that even home and community care have." (KI 7)*

• **Systems awareness (Positive=67%)** *"They've done a good job in identifying barriers and some gaps in the system so far, without even knowing all programs service inventory. I think every organization that sits at the table, knows their own clientele well enough to know what the gaps are for their particular clients that they serve." (KI 10)*	• **Systems awareness (Negative=25%)** *"I'm saying that our system gets lots of feedback about how come you guys don't talk to each other and know what each other is doing." (KI 2)*
• **"negotiate and steer" (83%)** *"Certainly, I think partnership development is something I am a big fan of, and I think some of that's going to happen organically for sure. But as far as top-down, I don't know what more the Health Region can do. I think what's been positive is that you know the Tables has provided a vehicle by which, you know, we're all sort of making new relationships." (KI 6)*	

Inter-dependency Concept Quotes

The participants who were interviewed were asked openly about Inter-dependency. To analyze the theoretical concepts, example quotes were provided. If there was no discussion on the concept, no nodes were checked. The Inter-dependency Concept with an example quote is presented below. (Key Informant = KI)

- **Alignment (100%)**
  "I think that creating those spaces where people can link with each other, talk about joint problems or common problems, and then collaboratively problem solve." (KI 4)

- **Complexity (83%)**
  "They have to start doing it in some manner anywhere because there won't be any ideals, ideal process or ideal situations that you can really do things in a perfect manner. So, it's trial and error. You have to start from somewhere." (KI 9)

- **Feedback (50%)**
  "I am a big believer in when people help to build it, they're less likely to sabotage it. When they help to build it, they're likely to bring up why something won't work and you have the opportunity to work together to mitigate those risks in advance." (KI 5)

Health Systems Transformation & Change (Mindset) Concept Quotes

<table>
<tr><td colspan="2">The participants who were interviewed were asked openly about Health Systems Transformation & Change (Mindset). To analyze the theoretical concepts, example quotes were provided for Positive and Negative. If the discussion was “POSTIVE”, the Positive node was marked, and if the discussion was “NEGATIVE”, the Negative node was checked. If there was no discussion on the concept, no nodes were checked. Health Systems Transformation & Change (Mindset) Concepts with an example quote is presented below. (Key Informant = KI)</td></tr>
<tr><td colspan="2">• Context (67%)
“And it's also important to recognize context because what works in one place isn't necessarily going to work in another place.” (KI 1)</td></tr>
<tr><td colspan="2">• Mutual necessity by recognizing the value of others (100%)
“I mean I think the sense where everybody operates in their own vacuum are gone.” (KI 3)</td></tr>
<tr><td>• Constructing a shared vision and responsibility (Positive=67%)
“We're trying to go to the patient rather than the patient coming to us. Even if they're in the community. I think that there has to be a vision for that. And there is here. But I think that it's really going to shape how we move forward as our organization and as a table where we have the capability and the buy in to go to the patient and give that patient a really go above and beyond their expectations. That's the goal.” (KI 5)</td><td>• Constructing a shared vision and responsibility (Negative=17%)
“Working in silos is almost like automatic in a way, until we really be very loud and clear that you know, this isn't about stats, this is about patient first. Because we're drawing from organizations that are members around table on what is your information showing, but we're not asking that same question from the actual clients and patients themselves.” (KI 6)</td></tr>
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Ten Key Principles for Successful Integration Concept Quotes

The participants who were interviewed were asked openly about Ten Key Principles for Successful Integration Concepts**.** To analyze the theoretical concepts, example quotes were provided for Positive and Negative. If the discussion was "POSITIVE", the Positive node was marked, and if the discussion was "NEGATIVE", the Negative node was checked. If there was no discussion on the concept, no nodes were checked. The Ten Key Principles for Successful Integration Concepts with an example quote is presented below. (Key Informant = KI)

Comprehensive Services across the Continuum of Care • **Agreement Services (Positive=83%)** *"You know right now. We are basically doing a logic model for the issues we have identified. We've done some group work at the table to look at what are the major issues in these neighborhoods, and now we're developing logic models around addressing those." (KI 3)*	• **Agreement Services (Negative=17%)** *"It's not formalized. And I think that's part of the struggle that I have with this table is unfocused and I didn't want to say disorganized, but there needs to be more structure applied including what you're describing there that clarity around what the decision-making process should look like." (KI 1)*
Patient Focus • **Patient-centred philosophy (67%)** *"I've been recommending that we engage with the patient and the caregiver populations. Why are we not practicing that at the Table meetings? That's a real head scratcher to me and I think that has to be strongly recommend that we do that. I don't know how many spaces or seats, I'll leave that to others to think about, but I think the fact we have zero right now is a big problem. That's a huge blind spot and it generates tension in the community when there's a saying when a lot of people with experience say like "not for us, without us" is one of their sorts of motto's or slogans. You can't blame them for saying it because traditionally the patients voice is really not part of the discussion. I just feel like that's a big red flag we're actively involved with." (KI 6)*	
Geographic Coverage and Rostering • **Regional perspective (Positive=75%)** *"It's different. Every table will have its different nuances and flavors to them. Other social determinants of health, those are part of what we need to put in our considerations for what we're doing." (KI 10)*	• **Regional perspective (Negative=8%)** *"Members of the community had a negative reaction to the possibility that money would flow to the hospital. There was actually some lively discussion at the table. People were pushing back from the community and ultimately there was some compromise reached. That seemed to be a good place to land. Nothing has happened as a result yet. That's a clear example of a contentious issue being semi dealt with in the meeting." (KI 1)*

Performance Management (53%) *"There's nothing from an accountability agreement standpoint that requires agencies to do that. If the language changes in the accountability agreements, or if accountability agreements were going to be held by the table itself as an entity, then that's where I think we'll see a greater contribution by all sectors towards whatever those standards are." (KI 10)*	
Organizational Culture & Leadership • **Culture (Positive=67%)** *"Well, I think there needs to be what I would say is permission from the top that the ground level can collaborate. So, that's the beginning for me and then demonstration of that by leadership or I'm going to say expectations by leadership that that is happening and demonstrated not just kind of lip service that's demonstrating by enabling time and permission to do certain things." (KI 2)*	• **Culture (Negative=25%)** *"Even though, at the beginning, when they do the expression of interest it emphasizes that you don't represent your organization, you represent your own expertise or as a stakeholder in the sector, but even though being emphasized like that, but still people are people, so when you still work in the organization, so you're bound to have this kind of self-interest." (KI 9)*
• **Leadership (Positive=75%)** *"Yes, I would say that the leadership team, and the senior leadership team very much sees the need for the system to work in a more integrated way." (KI 12)*	• **Leadership (Negative=17%)** *"Everybody thinks going to the table is to really to go and get resources for themselves. I think there's still a lot of those hidden agendas there. Until the work group is able to really work somehow together with a common kind of goal and objective." (KI 9)*
Physician Integration • **Integration (Positive=25%)** *"How patient primary care collaborates is intertwined with the rest of the services, is a key piece of making sure that the system is integrated." (KI 4)*	• **Integration (Negative=67%)** *"We're frequently dealing with the challenges of a disintegrated system without those; the delineation between the sectors and the struggles between sectors." (KI 12)*
Governance Structure • **Governance (Positive=50%)** *"Let's be mindful around governance and structures and accountabilities and responsibilities, all the stuff." Because I think if we can start mapping out what that looks like in a fair and equitable manner that people will be more comfortable to buy in a little more." (KI 6)*	• **Governance (Negative=33%)** *"To share those good practice with others and the collaborative, but that kind of development is not easy because it's not that easy that people will easily buy in or give up what they're doing." (KI 9)*
Financial Management • **Funding (Positive=17%)** *"I think its openness to hear each other or support each other, despite the fact that there might be some competitiveness in terms of financial funding." (KI 4)*	• **Funding (Negative=67%)** *"The community tends to have a perspective that is resentment that all the money from the funder goes to the hospital, not enough goes to the community." (KI 1)*

Implications for Practice and Policy Concept

Practice Concept Quotes

<table>
<tr><td colspan="2">The participants who were interviewed were asked openly about Implications for Practice and Policy Concepts. To analyze the theoretical concepts, example quotes were provided for Positive and Negative. If the discussion was “POSITIVE”, the Positive node was marked, and if the discussion was “NEGATIVE”, the Negative node was checked. If there was no discussion on the concept, no nodes were checked. The Implications for Practice and Policy Concepts with an example quote is presented below. (Key Informant = KI)</td></tr>
<tr><td>• Engagement (Positive=58%)
“Great engagement. Health Region has really entered that engagement. It was an opportunity to hear from other individuals who were involved with other agencies. I found that interesting, which made it easier to focus on.” (KI 8)</td><td>• Engagement (Negative=25%)
“There's a high premium on engaging with people with experience and family caregivers from the onset. As we talk about timing and as we talk about thinking we're trying to respond to patient needs and all that, I think our big miss with these Tables is that there's not a regular member space.” (KI 8)</td></tr>
<tr><td colspan="2">• Implementation (83%)
“So, I think that when we start to actually work on the strategies together. When we start to plan, we do a series of pilots or even proof of concepts together. I think that's where those relationships are really going to deepen. You get to know people by working directly with them, by designing the business processes, and implementing and monitoring. I really believe very strongly, from a community development perspective, that when you start to act together you really build those relationships.” (KI 12)</td></tr>
<tr><td>• Opportunities (100%)
“We're actually talking to each other, which hasn't happened before. I'm hopeful through these conversations we will come up with some good solutions. But without that dialogue occurring we're never going to get there and facilitating these dialogues.” (KI 1)</td><td>• Barriers or Challenges (92%)
“We don't always find the system is ready, there's only so much the entire system has to be ready, lots of folks who are not. That’s the challenge.” (KI 2)</td></tr>
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Policy Concept Quotes

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- **Policy Development & Framework (Positive=75%)**
  "I think a framework is helpful, but if it becomes too directive, and it limits what you can do locally. So I think it needs to be informed by what happens but, if there isn't some sort of framework or directive, everybody does their own thing, and you wind up at the end with a very, sometimes a bit of dog's breakfast of approaches. I personally think that a framework is helpful, but not one that tells you exactly how to do everything." (KI 3)

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- **Policy Development & Framework (Negative=17%)**
  "But I think at the end of the day my other big policy piece is around revisiting how the Health Region define and structure the Agreements. Unless the Health Region were to get really creative around saying, "Okay, now park what you know about Agreements for a minute and imagine what a new service agreement might look like." Like if you were to map future state model against what that service agreement as it tie to funding and service targets and everything else. If the Health Region can't resolve that, then none of this can happen because that's the enabler. Right? That's the technical enabler when it says we're not going to affect your funding, there's not going to be any adverse impact to your funding that you get from the Health Region to be able to operate in this new service environment." (KI 6)

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- **System Integration – Top Down (67%)**
  "To start, integration from top down it's easier because you need to have that kind of leadership in order to have the kind of leadership mission to look at integration. If the organization or some stakeholders have that kind of mission they're determined to start new integrated initiatives." (KI 9)

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- **System Integration – Bottom Up (Positive=67%)**
  "But that's down the road. I think right now, that the grassroots or more dynamic approach that's happening right now, is really effective. I feel is more effective that people are participating more. I don't know if that's from a greater sense of ownership around how things are being progressing, rather than a top down approach, which I think, people become a bit more passive." (KI 4)

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- **System Integration – Bottom Up (Negative=8%)**
  "Because there's a recognition that resources are limited and organizations are at risk. If you're having the bottom up approach, it's going to come from a biased perspective. Sometimes it's the loudest voice at the bottom that will direct where things go, which is not necessarily the best way to go. The problem of having a bottom up approach is we're seeing in the tables there's a lot of jockeying for position that happens." (KI 1)

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- **System Integration – Both (50%)**
  "The ministry's going to provide some directives in terms of approach and probably consistency across the province. We're doing this integration, but I think it's the steering committees that are going to be the people who are going to make it happen and come up with the ideas on how it's going to work. I see very much that it's that grassroots, and the bottom-up, but I also see that there's a top-down piece too." (KI 10)

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Appendix G: Member Checking

The member checking process has been completed to confirm the following research findings:

1) Variability in context among the "Tables"
2) Membership "Reasons for Participation"
3) "Lessons Learned" for Future Tables and Research

1) Variability in context among the "Tables"

With member checking, the Health Region members generally agreed there is variability in the context among the "Tables" when comparing the "Urban Tables", "Suburban Tables" and "Rural Tables". The Health Region members appear to be supportive of the Relational Coordination Survey results, which demonstrated a generally higher Relational Coordination among "Rural Tables" compared to the "Suburban Tables".

See response from member checking below:

- The "Urban 1 and Urban 2 Tables" were challenging because there were distinct diverse populations and three working groups were formed. (MC)
- The "Suburban 1 Table" worked hard on communication, knowledge sharing, and goal setting and there was no formal intervention in the "Suburban 2 Table". Overall, it was observed that "Suburban Tables" consistently had lower Relational Coordination. (MC)
- There appeared to be stronger collaboration among the "Rural 1 and Rural 2 Tables", since these smaller rural communities are accustomed to collaboration due to necessity and limited resources. Overall, it was observed that "Rural Tables" consistently had higher Relational Coordination. (MC)

2) Membership "Reasons for Participation"

With members checking, the reasons for participation on the "Tables" have been discussed. The Ranking Survey results on reasons for participation are listed in priority below:

1) I want to work toward addressing patient needs & planning care at the local community level
2) I am interested in transforming the system
3) I am able to think at a systems-level
4) I have clinical expertise and/or leadership skills.
5) I want to network with others.

6) I was asked by my employer to network with other organizations.
7) I was asked by my employer to represent

During member checking, when asking the Health Region members about the Ranking Survey results, there are mixed agreement regarding reasons for participation on the "Tables". It is interesting to gain insight into the motive for members who volunteered to participate on the "Tables" from the Health Region members. From the perspectives of Health Region members, there are members who participated on the "Tables" as "Good will", however, their participation has not been supported by their employer. There are also some members who posted their participation on their professional online profile (i.e., "Linked In").

As reported by the Health Region members, there are members who did not participate in the meetings regularly in some the "Tables", which made it difficult to collaborate. In hindsight, the Health Region would like to re-evaluate the membership selection to ensure all the stakeholders are represented. During the membership selection process, members are selected based on their experience providing services within the LHIN; however, the criteria for attending regular meetings seems to be unclear (i.e., lack of support or lack of participation). See response from member checking below:

- "Some members do not find their time is effectively spent in the meetings unless the work impacts them, and so some of the members did not continue their participation or only attended when needed. As a result, this made it very difficult for continuing the work planning and building collaboration at these "Tables"." (MC)
- Perhaps, the membership selection should be reassessed to involve those who have experience and to ensure all stakeholders are represented. For example, there was no representation of patients or Indigenous populations on the "Tables". (MC)

3) Lessons Learned for Future Tables and Research

There are lessons learned for future "Tables" and research identified. In this study, the baseline survey and interviews have been conducted in early 2018; however, due to a newly elected provincial government in 2018, this impact the work of the "Tables" due to anticipation of

health system reform. Thus, the response rate for the Follow-Up survey in 2019 was low. As per Health Region, there were low attendance and cancellation of “Table” meetings in 2019.

Even though the response rate for the Follow-up Survey was lower than expected; however, the Baseline Survey and qualitative interviews results were important along with the responses from member checking which provided rich insights into the members’ perspectives. As reported by one of the Health Region members, the “Tables was a nebulous test” (MC). The mandate of the “Tables” was unclear, as there was no governance, structural or policy changes with no interventions or additional resources to drive performance or accountability.

This quote demonstrates the challenges among the “Tables”.

> “There was no additional funding and uncertainty of available funding for projects, including resources and incentives. This resulted in challenges among all of the “Tables”, including ambiguity of goals, protection of turf, and motivation to engage.” (MC)

There is a need to ensure policy and mandates are clear, structural barriers are identified, and performance measures and accountability are discussed (including resources and incentives).

Based on the member checking, there appears to be general agreement that self-organization is important for cross-sectoral collaborative work. For example, one of the Health Region members reported:

> “Some “Tables” started from “scratch” in the first meeting and then went through the five stages of team development (Forming, Storming, Norming, Performing, and Adjourning). Some “Tables” were already established through previous “working groups”. Further, “Some of the participants had prior history and experience working together previously through participation in working groups.” (MC)

As per Health Region Members, this study results are useful especially with “Lessons Learned” for future “Tables” and research work. The Health Region members reported they are interested in engaging with York University to develop future research capacities, perhaps in studying the Ontario Health Team Model.