PERSPECTIVES ON INTEGRATED CARE FROM AN ONTARIO PILOT OF BUNDLED PAYMENTS

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Thesis submitted to the University of Ottawa
in partial Fulfillment of the requirements for the
Master of Science in Health Systems

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Abstract

This thesis organizes information that will help to inform bundled payment strategies, programmatic design, and decision making for key stakeholders to improve integrated care in local health systems. We aim to contribute to the advancement of integrated care literature, policy, and practice by clarifying how health system integration unravels in practice when implementing bundled payments. The objective of this study is to understand why and how Bundled Care enabled integrated care in Ontario's health system. A qualitative, exploratory research design was used to collect data, guided by the Quadruple Aim framework and the Rainbow Model of Integrated Care. Data were collected through semi-structured interviews with health system quality improvement experts in Ontario, Canada. Deductive and inductive data analysis methods, as informed by Hennick et al. (2011), were used. Results identified the need for Bundled Care, the outcomes of Bundled Care across macro, meso, and micro levels of the health system, and key factors of how Bundled Care processes contributed to health system integration. Study findings indicate that significant upfront investments and alignment across the health system is necessary when designing and implementing bundled payments. This study demonstrates how adapting one component within a health system (financing) influences other sub-systems in pursuit of the Quadruple Aim. The results can be used by individuals and organizations accountable for driving more integrated services in their local health system through the design and implementation of bundled payments.

KEYWORDS: Bundled Care, bundled payments, health financing, health system integration, integrated care

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Acknowledgments

To my thesis supervisor, Dr. Craig Kuziemsky, and my thesis committee, thank you for your ongoing support and guidance over the past three years. You have taught me valuable research principles and skills that I will carry forward in my career in health systems.

To the study participants, thank you for dedicating your time and contributing your knowledge, insights, and experiences to this thesis. It is clear that you care deeply about enabling more integrated health systems to improve care for the people and community you serve; this is truly inspiring.

To my partner's family, thank you for your generous support and encouragement throughout this journey. To my partner, Jonathan, words cannot express how grateful I am for your endless compassion, insight, and thoughtful actions that contribute to my learning and personal growth.

To my mother, father, and siblings, thank you for supporting me in every way possible. Thank you for inspiring tenacity and confidence to pursue my dreams and ambitions.

This research was supported by funding from the Natural Sciences and Engineering Research Council of Canada.

1. Chapter 1: Introduction

This chapter provides an overview of the background and motivation for our thesis. It presents a problem statement followed by the study objectives and a description of how our thesis is organized.

1.1. Problem Statement

In 2008, Berwick et al. (2008) proposed the Triple Aim, later adapted to the Quadruple Aim by Bodenheimer et al. (2014), which frames the goal of health systems around the pursuit of four interdependent aims: (1) improving the individual experience of care (including quality and satisfaction); (2) improving the health of populations; (3) reducing the per capita cost of healthcare; and, (4) improving the work-life of health care clinicians and staff. Today, Canada's health systems are focused on transforming the design and delivery of care in pursuit of these aims to enable sustained access to high quality, safe, and person-centered care (Baker & Axler, 2015).

However, the complexities of modern healthcare delivery make achieving these health systems aims highly challenging. Current complexities include a growing aging population, increasing incidence and prevalence of multiple chronic conditions, keeping up with rapid advances in medical technology, increasing social inequities, and geographical challenges of serving rural and remote areas – particularly for Indigenous communities (Martin et al., 2018). The increasing concern of these economic, political, and social complexities have contributed to the shift in health systems focus from *fragmented* care to support *integrated care* (Hutchison, 2011; Leatt et al., 2000; Nurjono et al., 2016).

Integrated care refers to care that is comprehensive, continuous, and coordinated across multiple health and social care providers, that is not inhibited by organizational or sectoral

boundaries and that is informed by the needs and preferences of patients (Tsasis et al., 2013). The delivery of care that is integrated requires seamless care transitions between hospitals, specialized clinicians, primary health care, and home and community-based services (Bayliss et al., 2015; Tsasis et al., 2013). Unfortunately, Canada's health system is designed and operates in siloes, resulting in *fragmented care* for patients and families (Wojtak & Purbhoo, 2015). *Fragmented care* refers to the autonomous operations of health organizations and sectors, and to the misalignment of incentives which leads to a lack of coordination of services for patients and families (Enthoven, 2009). Fragmented care has been seen to adversely affect quality of care, economic costs, and population health outcomes (Enthoven, 2009; Nolte & Pitchforth, 2014). For example, studies of older populations suggest that fragmented care is attributable to poor medication management and reconciliation as well as increased occurrence of avoidable hospitalizations and hospital readmissions, leading to poor patient experience, outcomes, and substantially higher costs (Clarke et al., 2017).

There are significant barriers to enabling integrated care. At the policy level, fragmented funding models across the health system contribute to siloed delivery of care. Integrated Funding Models (IFM) have been designed and implemented in countries around the world, including the United States and the Netherlands, to bridge sectors and settings to improve integrated care (Struijs & Baan, 2011; Sutherland & Hellsten, 2017). A type of IFM, *bundled payments*, are designed to promote integration in health care delivery, drive high quality and efficient care, reduce costs, and improve patient outcomes and experience (Wojtak & Purbhoo, 2015). In bundled payments, a group of healthcare providers receive a single payment to cover all the care needs of an individual patient's full spectrum of care for a specific health issue or condition (Wojtak & Purbhoo, 2015). Bundled payments intend to incentivize process and behavioural

changes in health systems to shift how they are organized in order to improve the delivery of a patients' care journey (Adida et al., 2017; Wojtak & Purbhoo, 2015).

There remains a need for evidence-based guidance that illustrates practical ways that economic models or health financing helps to progress towards integrated care (Suter et al., 2009; Tsiachristas et al., 2015). Policymakers have recognized that funding model reforms are among the most significant policy levers for driving change in health systems (Sutherland & Hellsten, 2017). If and how bundled payments drive health system transformation towards integrated care and the Quadruple Aim requires further exploration in the Canadian context (Misfeldt et al., 2017; Sutherland & Hellsten, 2017).

1.2. Study Objectives and Research Questions

We aim to contribute to the advancement of integrated care literature, policy, and practice by clarifying how health system integration unravels in practice when implementing bundled payments. Specifically, our study focused on the six bundled payment pilots rolled out in Ontario's health system in 2015, titled *Bundled Care*. The objective of this study is to understand why and how Bundled Care is used to enable integrated care in its specific context. We explored this by interviewing quality improvement experts in Ontario's health system that can speak to the design, implementation, and evaluation of Bundled Care. We were inspired to complete this study in response to claims by Valentijn et al. (2015). They argued that the Rainbow Model of Integrated Care (RMIC) and the Triple Aim framework (Quadruple Aim for our study) must be used to examine integrated care initiatives to bridge the gap between how integrated care initiatives act as a means for improving health and cost-related outcomes. The following research questions guided our study:

1. What are the perceived motivations (needs) and objectives (intended results) of Bundle Care within the context of the Ontario health system?
2. What are the perceived outcomes of Bundled Care at the patient, provider, and system levels?
3. How did Bundled Care processes contribute to health system integration?

1.3. Thesis Organization

The following chapter begins with a literature review that describes the concepts of integrated care, health system integration, health financing, and value-based health care, and synthesizes the gaps in the literature. The study design and methodology are described, inclusive of a conceptual model used to assist in answering the research questions. Presentation and discussion of the results follow. Finally, the study concludes with an overview of its theoretical and practical contributions to the literature, stakeholder implications, strengths, limitations, and recommendations for areas of future research.

2. Chapter 2: Literature Review

The following literature review provides an overview of integrated care, health system integration, health financing, value-based health care, and an analysis of the gaps found in the literature. Systems thinking concepts are used to understand these gaps and guide our exploratory approach.

2.1. Integrated Care

As the objective of our study is to understand why and how Bundled Care enabled integrated care in Ontario, it is necessary to define what *integrated care* is. Systematic reviews completed by Suter et al. (2009) and Singer et al. (2011) identify that there is no unified or commonly agreed-upon definition for integrated care. A review completed by Goodwin (2016) considered that the definition of integrated care is altered by its perspective or purpose that various stakeholders within care systems attribute to the term, as summarized from his article, *Towards People-Centred Integrated Care: From Passive Recognition to Active Co-production*? directly:

- *A social science based definition:* integration is a set of methods and models on the funding, administrative, organizational, service delivery and clinical levels designed to create connectivity, alignment and collaboration within and between the cure and care sectors. The goal of these methods and models is to enhance the quality of care and the quality of life, consumer satisfaction, and system efficiency for people by cutting across multiple services, providers, and settings. Where the result of such multi-pronged efforts to promote integration lead to benefits for people, the outcome can be called 'integrated care.'

- *A health system-based definition:* integrated health services are health services that are managed and delivered to facilitate a continuum of health promotion, disease prevention, diagnosis, treatment, disease-management, rehabilitation, and palliative care services, coordinated across the different levels and sites of care within and beyond the health sector, and according to individual and population needs throughout their life course.
- *A management-based definition:* the process that involves creating and maintaining, over time, a common structure between independent stakeholders to coordinate their interdependence and enable them to work together on a collective project. Integrated care is concerned with the models and processes in delivering care; the definition of integrated care should reflect both the objective of and the essential components to achieving integrated care in a health system.
- *A person-centred based definition:* integrated patient care is defined as patient care that is coordinated across professionals, facilities, and support systems; continuous over time and between visits; tailored to the patients' needs and preferences; based on shared responsibility between patient and caregivers for optimizing health.

For this study, a health systems-based definition is used to define integrated care. It is important to note that there is a distinction between health system integration and integrated care, wherein health system integration is the process to achieve integrated care.

2.2. Health System Integration

The World Health Organization (WHO) defines a health system as follows: "a health system consists of all organizations, people and actions whose primary intent is to promote, restore or maintain health." (De Savigny & Adam, 2009, pg. 30) The goal of health systems, as proposed by the Quadruple Aim framework (Berwick et al., 2008; Bodenheimer et al., 2014), is

the pursuit of four interdependent aims: (1) improving the individual experience of care (including quality and satisfaction); (2) improving the health of populations; (3) reducing the per capita cost of healthcare; and, (4) improving the work-life of health care clinicians and staff. As complex adaptive systems, health systems are non-linear, unpredictable, and resistant to change, where quality improvement solutions may contribute to unintended consequences and worse outcomes (Sturmberg, 2018). This complexity makes health system transformation incredibly challenging to navigate and achieve.

Systems thinking concepts provide guidance on how to operate in complex, real-world settings (De Savigny & Adam, 2009; Sturmberg, 2018). Systems thinking views health systems as interrelated sub-systems, suggesting that understanding health systems lies in understanding the relationships within and between its sub-systems (Peters, 2014). Embedded in systems thinking concepts, the WHO describes health system sub-systems as six clearly defined 'Building Blocks' consisting of: (1) service delivery, (2) health workforce, (3) health information, (4) medical technologies, (5) health financing, and (6) leadership and governance. Systems thinking infers that these sub-systems work together dynamically to achieve health systems goals—as processes in one sub-system are changed, this will affect complex and sometimes unpredictable change in the other sub-systems. (De Savigny & Adam, 2009; Peters, 2014).

Health system integration refers to the processes that contribute to advancement toward integrated care (Suter et al., 2009). Health system integration strategies must be tailored to and aligned across each level of the health system to drive transformative and sustainable change. Valentijn et al. (2015) categorized these health system levels as macro, meso, and micro levels and argued that system change must occur coherently across these levels to move towards

integrated care, as summarized directly from his article, *Towards a taxonomy for integrated care: a mixed-methods study*, (Valentijn, 2015, pg. 4-7):

- *Macro-level* encompasses system integration—a coherent set of informal and formal rules and policies between care providers and external stakeholders for the benefit of people and populations.
- *Meso-level* encompasses both organizational integration and professional integration. Organizational integration refers to inter-organizational relationships (e.g. contracting, strategic alliances, knowledge networks, mergers), including common governance mechanisms, to deliver comprehensive services to a defined population. Professional integration refers to interprofessional partnerships based on shared competencies, roles, responsibilities, and accountability to deliver a comprehensive continuum of care to a defined population.
- *Micro-level* encompasses clinical integration, which refers to the coordination of patient-centred care in a single process across time, place, and discipline.

Health system integration is complex as it requires fundamental change across each level of the health system, subject to systemic political, economic, and social-cultural barriers (Auschra, 2018). Specific features and experiences of health system integration also vary by local social, political, economic, context, and need; nevertheless, the multi-level challenges to enabling the collaborative work necessary for health system integration has proven to be similar across health systems (Auschra, 2018). Recent reviews from Maruthappu (2015), Kuluski et al. (2017) and Auschra (2018) identified the following systemic challenges with enabling health system integration:

- regulatory challenges,

- pre-existing divisions in financing,
- economic burden,
- operational complexity,
- cultural inertia at both clinical and management levels,
- lack of a shared vision,
- lack of developed partnerships,
- lack of information technology platforms,
- misaligned performance management, and
- problems in the long-term sustainability of integration.

It is these multi-level, multi-stakeholder, and multifaceted challenges that create barriers to the design and implementation of successful and sustainable integrated health systems and contribute to the ongoing global challenge to achieve integrated care.

2.3. Health Financing

As per the WHO's Health System Building Blocks, *health financing* refers to, "raising adequate funds for health in ways to ensure people can use needed services and are protected from financial catastrophe or impoverishment associated with having to pay for them (De Savigny & Adam, 2009, pg. 30)" A systematic review by Suter et al. (2009) identified health financing as a key component of health system integration efforts. Health financing models influence the conditions under which health system organizations, teams, and individual patients operate, and have been used increasingly by policy makers to promote certain behaviours to address overall policy goals (Appleby et al., 2012). In the context of health system integration, health system financing models may be used to promote appropriate distribution of funds across

sectors and services, enable collaborative teamwork across sectors and settings, and provide adequate resources for sustainable change (Nolte, 2017; Sutherland & Hellsten, 2017).

In Canada, differentiated funding for home care, long-term care, social care, mental health and addiction services, acute care, community care, and primary health care is a major barrier to health system integration (Suter et al., 2009). Integrated funding reform seeks to align the financial incentives of disparately reimbursed providers and organizations to promote integrated care.

2.4. Value-based Health Care

As a value-based health care model (Porter, 2010), IFMs incorporate economic incentives for improved interaction between care providers and organizations to focus on patient-centred, integrated care (Sheiman, 2016; Suter et al., 2009). Based on the research of Michael Porter (2010), Value-Based Health Care (VBHC) is an approach from reframing the health care systems around the overarching goal of value for patients. Porter (2010) defines *value* as "the outcomes that matter to patients and the costs to achieve those outcomes (pg. 2477)." However, as Porter et al. (2017) noted, the current health system's fragmented organizational structures and disconnected information systems for health care delivery makes it a challenge to measure and deliver value.

Bundled payments are an example of a VBHC model as its objective is to maximize value per episode of care (Conrad et al., 2016; Scott & Eminger, 2016). The aim is to incentivize cost reduction per episode while improving patient health outcomes (Conrad et al., 2016). The intent of taking an episodic approach to care is to eliminate unnecessary services by making the delivery of care more efficient (reduce costs) by improving coordination of care amongst providers and patients (improve health outcomes) (Scott & Eminger, 2016).

2.5. Summary of Gaps in the Literature

We know that different funding models are needed in different settings for different care needs of people and communities (Sutherland & Hellsten, 2017). While health financing is a critical sub-system to drive health system integration, their effectiveness, advantages, and disadvantages depend significantly on the context and needs within the health system (Jacobs et al., 2015).

Between 2015 and 2018, the Ministry of Health and Long-Term Care (MOHLTC) in Ontario, Canada facilitated the implementation of six pilots of bundled payments, titled *Bundled Care* (Farrell & Scarth, 2017). The Bundled Care pilots varied on clinical condition (e.g. COPD, cardiac surgery) specific care pathway, number of hospital and community partner organizations (e.g. two to fourteen partners), and time period (Embuldeniya et al., 2018; Walker et al., 2019). While these six pilots were diverse in design, all were based on common design principles including one envelope of funding to integrate and bundle services across an episode of care (Walker et al., 2019). Across each of the six pilots, a collaborative care team managed patient care for a specific episode from the hospital to home; at the same time, organizational partners transferred funds as determined by the design of the bundle and integration of funds (Walker et al., 2019).

Designing and implementing bundled payments that cross established silos disrupt health systems that are structured and operate around these silos, which makes it a highly complex and systematic issue (Sutherland & Hellsten, 2017). Introducing bundled payments has triggered questions in Ontario including; why these models are used in this context, which methods can encourage health system integration, and how these models fit within the other components of the health system (Mattison & Wilson, 2017).

What is already known about this topic:

- Integrated care is a priority for many provincial health systems and health authorities across Canada;
- Health financing is a critical change lever in health policy, and interest in them has increased to control rising expenditures and costs, improve quality, and use available resources more effectively; and
- Bundled payments provide an alternative funding model for provincial policy makers struggling with issues of system fragmentation.

Based on the above review of the literature, the following gaps have been identified:

- There is limited evidence on how altering health financing changes overall health system integration activities towards integrated care; and
- This review did not identify any studies documenting health system quality improvement experts' views and experiences with bundled payments as to why and how Bundled Care enabled integrated care in Ontario.

3. Chapter 3: Methods

The subsequent chapter describes how our study was designed to answer the research questions, which includes the use of a qualitative, exploratory research design combined with semi-structured interviews as a method of inquiry. The data collection and analysis approaches that were used are also discussed.

3.1. Study Design

3.1.1. Study Objectives and Research Questions

The objective of our study is to respond to the identified gaps noted in the previous chapter, and to understand why and how Bundled Care enabled integrated care in a specific setting. We explored the following research questions:

1. What are the perceived motivations (needs) and objectives (intended results) of Bundled Care within the context of the Ontario health system?
2. What are the perceived outcomes of Bundled Care at the patient, provider, and system levels?
3. How did Bundled Care processes contribute to health system integration?

By answering these questions from the perspective of health system quality improvement experts, this study aims to inform integrated care strategy, programmatic design, and decision making for key stakeholders.

3.1.2. Conceptual Model

Figure 1 presents the conceptual model that was developed from the health system research discussed in the literature review, and that was used to guide our exploration of why and how Bundled Care enabled integrated care in Ontario. The stages in the conceptual model align with the research questions posed in this study.

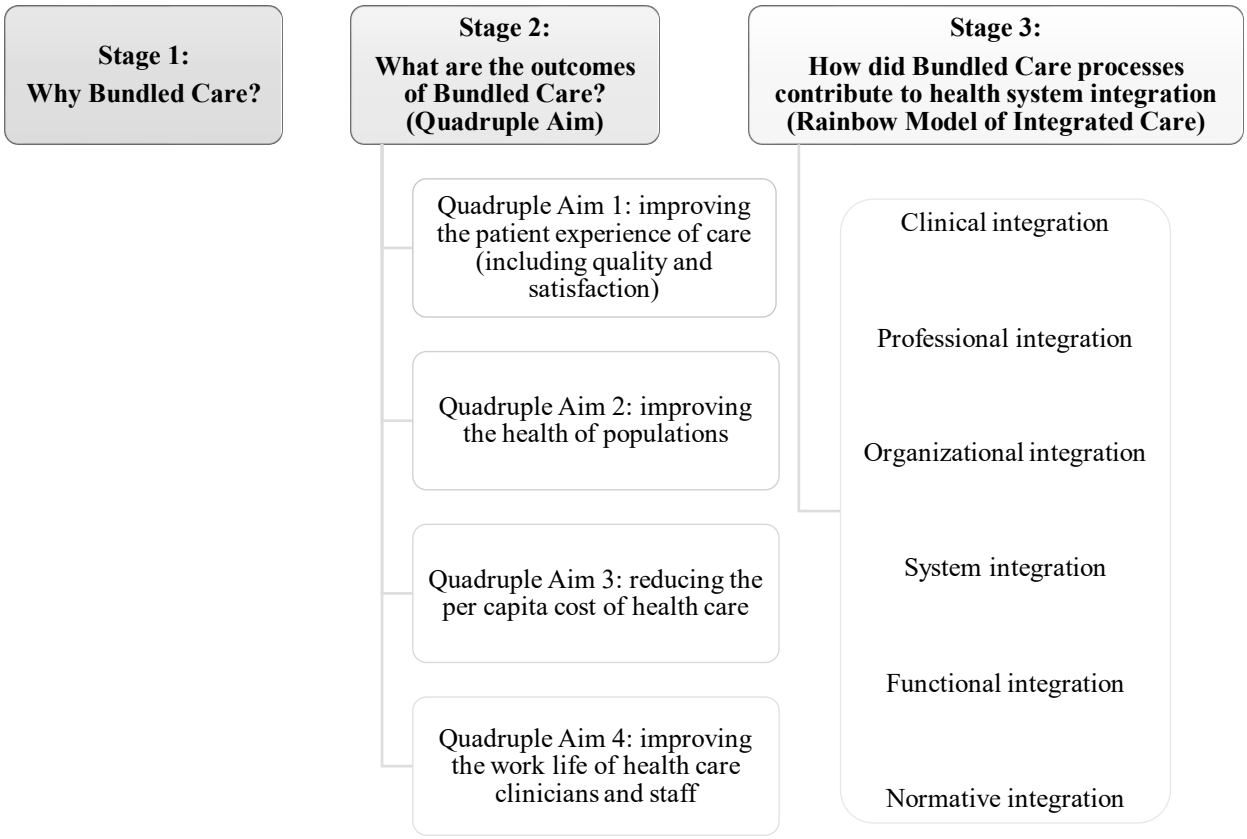

Figure 1: Conceptual model to understand why and how Bundled Care enabled integrated care in Ontario

Stage 1 of the conceptual model explored research question 1 to understand the perceived motivations (needs) and objectives (intended results) of Bundle Care within the context of the Ontario health system. **Stage 2** of the conceptual model explored research question 2 to understand the perceived outcomes of Bundled Care at the patient, provider, and system levels. Stage 2 is framed by the Quadruple Aim framework as it is an internationally recognized framework for describing what the overall aims of a health system are. The purpose was to understand if Bundled Care is helping to advance toward health system aims. **Stage 3** of the conceptual model explored research question 3 to understand how Bundled Care processes contributed to health system integration. Stage 3 is framed around the six health system

integration processes of the RMIC. The purpose is to understand how Bundled Care enabled processes of health system integration in Ontario's health system.

3.2. Setting

In 2015, the MOHLTC in Ontario, Canada, issued a call for Expression of Interest (EOI) to participate in a local IFM Initiative. The EOI was targeted to health system stakeholders in Ontario, including, the Local Health Integration Networks (LHIN's), hospitals, and direct service home care providers, to participate in the IFM Initiative (Farrell & Scarth, 2017). The goal of the IFM Initiative was to test a bundled payment approach to integrated care and funding over a patient's episode of care (Walker et al., 2019). Out of fifty proposals, six bundled payment pilots proposed by different health systems, titled Bundled Care, were selected to design and implement bundled payments in their local systems (details on each Bundled Care pilot can be found in **Appendix A**) (Walker et al., 2019, pg. 12-17).

It is important to note that when describing Bundled Care in Ontario, most study participants emphasized that the six pilots varied in design, target population, and implementation**.** Variety in design and implementation likely resulted from an exploratory approach to the EOI from the MOHLTC. This exploratory approach invited applications from a self-organizing group of healthcare organizations in a defined geographic catchment and within a defined target population, based on local context and need (Walker et al., 2019). Therefore, what study participants discussed were six different pilots under the umbrella term Bundled Care, as (P,1) noted,

> "*And so, each one* [Bundled Care pilot] *is different. So, the problems that will arise with bundled payment for cardiac surgery are different than the problems that will arise for bundled payment for a joint replacement, which is still different than the problems that will arise for bundled payment for let's say a c-section or a low-risk delivery."*

Given the variety in the design and implementation approaches of the six pilots, this study considered and presents results of the objectives, outcomes, and processes of Bundled Care in Ontario generally across the six Bundled Care pilots, rather than for any one specific pilot.

3.3. Methodology

To address the above research questions, the qualitative research methods employed in this project closely followed the principles and practices described by Hennink et al. (2011). As Hennink et al. (2011) describe, qualitative research is an approach that allows the researcher to examine people's perspectives and experiences in detail by using a specific set of research methods, such as in-depth interviews, focus group discussions, observation, and analysis of texts and documents. Qualitative research seeks to gather rich data to explain and understand the contextual influences on the research issue (Hennink et al., 2011). This approach is most suitable when aiming to understand specific issues (why) or describe processes or behaviours (how) (Miles et al., 2014). This principle was an important consideration for our chosen research methodology because, as previously mentioned, the success of bundled payments can be significantly impacted by context, which is what we set out to explore. Semi-structured interviews were used as a method of inquiry to elicit the knowledge, views, and experiences of health system quality improvement experts in Ontario to gather rich data on why and how Bundled Care enabled integrated care.

3.4. Data Collection

The following describes the study participants, as well as the data collection methods used within our study.

3.4.1. Participants

Our study gathered the knowledge, views, and experiences of health system quality improvement experts in Ontario, Canada. For this study, health system quality improvement experts were defined as individuals who are involved in health system quality improvement initiatives in Ontario and who could speak to the design, implementation, and/or evaluation of Bundled Care (e.g. policy maker, administrator, implementor, or subject matter expert capacity). Inclusion criteria included employees of the MOHLTC, LHIN's, and Ontario health quality council, service-specific subject matter experts, and health services/system researchers affiliated with an Ontario university. Exclusion criteria included any care providers of the service delivery organizations that were a part of the Bundled Care pilots, as well as patients and family members who received care through Bundled Care. This approach was purposeful as this study aimed to elicit the views from a health system design and quality improvement perspective. This study recruited a total of 14 participants.

Recruitment included both criterion purposive and snowball sampling (Hennink et al., 2011). The aim of criterion purposive sampling was: (1) to ensure appropriate expertise to contribute to our thesis, (2) to ensure there was representation from the different types of health system quality improvement experts as defined by our inclusion criteria, and (3) to ensure that there was regional representation from the six Bundled Care pilots. The latter proved difficult to accomplish, and the resulting 14 study participants do not represent an equal distribution across the six Bunded Care pilots.

The first round of recruitment included sending an invitation to participate to an identified list of health system quality improvement experts, based on researcher knowledge and familiarity of industry experts. This first round of recruitment yielded a total number of 8

participants. Therefore, the second round of recruitment was used to identify additional respondents via snowball sampling by asking the individuals who agreed to participate in the first round of recruitment to identify someone else to interview that met the inclusion criteria. Study participants collectively provided a range of geographical perspectives across regional and provincial perspectives.

3.4.2. Ethics Approval

Ethics approval was obtained from the University of Ottawa Research Ethics Board (**Appendix B**). Consent to participate was obtained from study participants for the semi-structured interviews. First, a 'letter of information' (**Appendix C**) was sent to identified individuals to determine their interest in participating in the study. Once interest was established, participants were then provided with 'consent to participate' forms (**Appendix D**), which they signed and returned to the principal investigator prior to data collection.

3.4.3. Semi-Structured Interviews

The 14 recruited individuals participated in semi-structured interviews. A semi-structured interview approach was used to gather rich data and allow for flexibility and probing of important concepts, which enabled the emergence of new insights and provided an opportunity to clarify responses (Creswell & Poth, 2016). The average interview duration was 30:06 minutes, with a range from 19:42 minutes to 41:15 minutes. Each semi-structured interview was guided by using a semi-structured interview guide (**Appendix E**) as informed by the conceptual model (**pg. 13**). Below are a few examples of questions from the interview guide:

- Question 1: Based on your experience, what does Bundled Care mean to you? *Probes: What are the objectives? What are the desired outcomes?*
- Question 4: What are your thoughts on how Bundled Care can be better designed to improve the care experience for providers? *Probes: What would that look like in practice? How would this lead to more integrated care?*

All interviews were conducted by the principal investigator, Samantha Laxton, and in English. Each interview was audio recorded with the participants' consent, which was indicated by a signed copy of the consent form. Data collected in the discussions was used for the basis of analysis.

3.5. Data Analysis

Our approach to data analysis closely followed the principles and practices described by Hennink et al. (2011). As per their proposed methods, we utilized inductive and deductive strategies for data analysis; codes were derived from the conceptual framework driving the study (deductive), while new emerging codes were developed by directly reading the data (inductive).

As per Hennink et al. (2011), the first step in our data analysis involved data preparation. Data preparation involved two main tasks: producing a verbatim transcript of the interviews and removing identifiers from the data to preserve participant anonymity. Our data preparation included converting the recorded interviews into textual data by transcribing audio files verbatim (a word-for-word replica of the discussion) following each interview (Hennink et al., 2011). There were several advantages to transcribing interviews directly after they were completed: (1) it allowed us to identify new issues that were able to be further explored in subsequent interviews, (2) the information from early transcripts provided further information to support participant recruitment, and (3) transcribing interviews as the data was collected enabled us to identify patterns in codes that emerged from the data. The verbatim transcripts were anonymized and preserved the colloquial style of language and phrases used by participants as some expressions held cultural meaning, which was retained for analysis (Hennink et al., 2011). Additionally, as verbatim transcripts became data for analysis, each transcript was checked for accuracy and completeness. On data saturation (Fusch & Ness, 2015), we ceased to pursue

further interviews once the codes from initial analysis became pronounced, and once the nuances in participant perspectives contributed little to our overall analysis.

Developing codes was the next phase of data analysis. Transcripts were imported into NVivo 12^{TM,} and coding was completed within the software to support accuracy of the coding process. A topic that was raised became a code if it appeared to be valid and robust and, importantly, demonstrated a pattern of reoccurrence (Hennink et al., 2011). A structured analysis was used where deductive codes were developed first, and then inductive codes were added after re-reading the data. Deductive coding included the identification of codes that originated from the conceptual model; inductive coding included the identification of codes that emerged directly from the data. The data was annotated during the reading to identify explicit and subtle underlying codes (e.g. positive tone or negative tone), the types, range and repetitiveness of topics raised, and key phrases used to describe the topics (Hennink et al., 2011). Once the codes were developed, they were used to develop our data structure (**pg. 13**). To assist in maintaining consistency in coding, we as a team (the thesis supervisor, Dr. Craig Kuziemsky and principal investigator, Samantha Laxton) discussed at length the data analysis and coding to ensure that the approach continued to target and answer the research questions.

3.6. Establishing Trustworthiness and Credibility

While we are involved in health system and integrated care work as a profession, we do not have a personal agenda or grievances which could skew our ability to represent and present fieldwork and data analysis in a trustworthy manner (Miles et al., 2014). Ultimately, as we conducted this research, we aimed to put aside all opinions, come from a pragmatic perspective, and approach the research questions and methods in a way that limited the influence of bias. We followed the guidance of Miles et al. (2014) and Lincoln and Guba (1985) and deployed tactics

(thick descriptions, member checking, and investigator triangulation of data) to ensure the credibility of the findings.

The use of thick descriptions (data rich and detailed quotations from study participants presented in the results section) was employed in conjunction with member checking. Member checking included taking the entire written narrative back to five of the study participants. One consistent response from the member checks was those study participants were pleased to see that what they discussed was consistent with other participant views and recommendations. By seeking confirmation from study participants on our description and analysis, we are satisfied that participants' viewpoints were well represented. Furthermore, to ensure that the analysis of the data was consistent, investigator triangulation of data was performed with the thesis supervisor, Dr. Craig Kuziemsky, and the principal investigator, Samantha Laxton (Creswell & Poth, 2016). This was performed by providing Dr. Kuziemsky with five of the transcripts of which were independently coded and then discussed. Where there was disagreement, a discussion was had, and common ground was found. For example, when we first pursued codes of system challenges, Dr. Kuziemsky provided guidance, ensuring that what was captured was about Bundled Care and not about other potential challenges within the health system (e.g. Ontario Health Teams). Establishing trustworthiness and credibility of the findings was an essential step in this study as the information gathered would only be useful to those who work in Ontario's health system if it was reflective of the perspectives of what is happening within that system.

4. Chapter 4: Results

This chapter presents the results from the data analysis process explained in Chapter 3. Emergent themes are presented to address the research questions posed in this study. Each theme is supported by quotations from the interview transcripts. The chapter is divided into three sections, as informed by the stages of the conceptual model **(pg. 14)**. First, in Section **4.1,** Why Bundled Care? (Stage 1 of the Conceptual Model), the perceived objectives of Bundled Care are considered in comparison to the Quadruple Aim framework. In Section **4.2,** What are the outcomes of Bundled Care? (Stage 2 of the Conceptual Model), perceived outcomes of Bundled Care are presented and considered as enablers or challenges to supporting the pursuit of the Quadruple Aim. Lastly, in Section **4.3** How did Bundled Care processes contribute to health system integration (Stage 3 of the Conceptual Model), how Bundled Care processes contributed as enablers or challenges to health system integration is informed by the RMIC. **Table 2** provides a summary of the study results in relation to each research question.

Table 2: Summary of study results by research question

<table>
<tr><th colspan="3">Research Question 1: What are the perceived motivations (needs) and objectives (intended results) of Bundled Care within the context of the Ontario health system?</th></tr>
<tr><td colspan="3">Need for Bundled Care is to pursue the Quadruple Aim in response to current health system challenges, objectives include to:
Improve patient experience of care and health outcomes
Improve population health for chronic and complex care needs
Improve value of care
Improve provider experience of care
Improve health system learning</td></tr>
<tr><th colspan="3">Research Question 2: What are the perceived outcomes of Bundled Care at the patient, provider and system levels?</th></tr>
<tr><th>Quadruple Aim</th><th>Enablers</th><th>Challenges</th></tr>
<tr><td>Improving the Patient Experience of Care (including Quality and Satisfaction)</td><td>Patient-centred, coordinated, and seamless care</td><td>Inability to manage concurrent chronic and/or co-morbidities</td></tr>
</table>

Improving the Health of Populations	• Good management of single conditions with clear episodes	• Concerns of sustainability of pilot once scaled
Reducing the Per Capita Cost of Health Care	• Perceived improved value of care	• No actual movement of funds or savings to date
Improving the Work Life of Health Care Clinicians and Staff	• Improved communication and coordination between transitions	• New ways of working, rapidity of change
Research Question 3: How did Bundled Care processes contribute to health system integration		
Rainbow Model of Integrated Care	**Enablers**	**Challenges**
Clinical/service integration	• Clearly defined care pathways	• Lack of processes for continuity of care
Professional integration	• Sharing of best practices	• Lack of clinical leadership engagement
Organizational integration	• Engagement of leadership, historical relationships	• Lack of shared governance or shared accountability frameworks
System integration	• Shifting care to appropriate care settings	• Legislation is preserving operational silos
Functional integration	• Care team digital and virtual health tools	• Lack of connected information systems at the organizational level
Normative integration	• Contributed to a narrative of integrated care	• Financial lever alone cannot drive system integration

4.1. Why Bunded Care? (Stage 1 of the Conceptual Model)

This section presents the results for Research Question 1: What are the perceived motivations (needs) and objectives (intended results) of Bundle Care within the context of the Ontario health system? The way that study participants described Bundled Care varied from one person to another but were aligned to overall principles, objectives, and activities. Generally, study participants referred to Bundled Care from a system perspective—such as described by

(P,11), an "alternative funding model to help drive change within the system" or from a financial perspective as, "a way of taking a pot of money that would be allocated across the episode of care." (P,8)

When asked to describe the objectives of Bundled Care, some study participants, such as (P,9), referenced the Quadruple Aim directly, "So, this is modeled around the Quadruple Aim… it's improving the population's health. But the other thing is about efficiencies right." While others, such as (P,3), spoke about key objectives of Bundled Care that aligned the Quadruple Aim indirectly,

> *"The objectives are to improve the coordination of care between different providers who now work largely independently or at a distance from each other. It's to improve the outcomes for patients who are generally requiring a variety of services to deal with complex medical needs. And then it's a hope that in doing so we can coordinate care, reduce duplication and therefore reduce cost."*

Whether Bundled Care helped to achieve the aims of the Quadruple Aim will be discussed in a forthcoming section. In this section, results are presented for how study participants perceive the need and objectives of Bundled Care.

4.1.1. Quadruple Aim 1: Improving the Patient Experience of Care (including Quality and Satisfaction)

Study participants highlighted the need for Ontario to enable more patient-centred services across the health system. *Patient-centred care* refers to an approach to care that adopts the patient perspective and is focused on patient needs and preferences (Kodner, 2009). Study participants discussed that one of the objectives of Bundled Care in Ontario is to enable a more seamless care journey for patients, centred around the needs of the patient, as (P,6) described,

> *"So, I think the objectives are to follow the patient through their transition from acute to post-acute most efficiently and effectively possible and not being hampered by existing payment silos. It's one*

> *that follows the patient through their care journey, as opposed to relying on the fact that there are three different providers and buildings that a patient must go through from the moment that they have an acute episode. It's a more streamlined, effective pathway."*

In line with Quadruple Aim 1: *improving the patient experience of care,* study participants view that the objective of Bundled Care is to use a funding model to promote a patient-centred approach to care for a specific care pathway.

4.1.2. Quadruple Aim 2: Improving the Health of Populations

Study participants discussed that the current health system in Ontario does not adequately address the holistic needs of people and communities who require multiple care providers or require more complex care due to chronic illness or complex needs. As (P,1) explains, "people have been talking about the fragmentation, lack of integration, the discontinuities for patients, and the problems associated with transitions in Ontario for a long time." When asked why there was a need to implement Bundled Care in Ontario, (P,3) responded,

> *"The recognition that our system isn't well designed to provide coordinated care reliably to complex patients who have multiple needs and who have increasingly complex situations that demand the coordination of providers with different skills in different locations."*

Study participants discussed that one of the objectives of Bundled Care in Ontario is to enable patient-centred services for people and communities with chronic conditions or complex care needs across multiple-care providers, by making care transitions between and across these settings and sectors more coordinated and seamless, as per (P,4),

> *"I do know there's a lot of focus on sort of these chronic conditions and supporting the patients with more of an integrated care team. So, we struggle a lot in healthcare with obviously multiple transitions for patients across multiple organizations, and I think supporting sort of a better transition from more of an acute setting to the community and supporting these patients on an ongoing basis seems to be one of the key objectives throughout these major bundled funding projects."*

In line with Quadruple Aim 2: *improving the health of populations,* study participants viewed that one of the objectives of Bundled Care is to improve population health for people and communities with chronic conditions and for those who require care in multiple care settings.

4.1.3. Quadruple Aim 3: Reducing the Per Capita Cost of Health Care

Study participants discussed the objective of Bundled Care is to shift how care is currently funded to a more integrated way of funding that ties healthcare spending to better health outcomes. As (P,8) described, "Bundled Care is really about saying, 'OK, well we have these different funding streams in different accountabilities. How do we merge them all?'." This view suggested that although the components of the health system are the same, Bundled Care is about bridging accountability across a system through healthcare spending. (P,8) continued, "you might still have the same hospital, and you might have 'Joe Smith's' home care organization and 'Jane's clinic,' and they all are as before but what's different now is that all them are growing from a single source of funding that is managed by one of the organizations."

When asked about the need to reduce costs (P,2) clarified that the primary aim was not about reducing costs, rather, improving value by driving improved quality outcomes more efficiently, "The hope was it would make care more efficient. But there was an interest in testing how to 'buy' a better health outcome. So, it was value, not just cost savings." (P,1) further explained that the objective is not purely to reduce costs as there are underlying systemic economic realities that would prevent the pure reduction in costs, but rather improve value;

> *"So, I think that there was always a sense that given demographics given inflation more broadly, it would be very difficult to reduce costs overall. So, the conversation was more around improving value, the outcomes that you would get for given investments."*

Study participants noted that there is limited feasibility in reducing costs of care because of the realities of modern health care delivery and economic realities. In line with Quadruple

Aim 3: *reducing the per capita costs of care,* study participants viewed the objective of Bundled Care is to improve the value of care by "buying" a better population health outcome at a similar cost.

4.1.4. Quadruple Aim 4: Improving the Work-Life of Health Care Clinicians and Staff

Study participants perceived that enabling patient-centred, coordinated and seamless care is challenging because of the fragmentation of Ontario's health system. Here, the *fragmented system* refers to the reality that Ontario's health system and care providers operate in siloed structures and processes, which was perceived by study participants to contribute to a fragmented care journey for patients and between providers. As (P,14) explained, "what we have done in this system is created siloes of specialization, and we recognize this may be because then you have the in-depth knowledge to improve, but the handoffs that are required are a challenge from the patient and provider perspective of a system." (P, 3) illustrates how fragmented cares manifests itself in practice,

> *"The reality is that you have a long history of separate management and governance services. And despite the introduction of financial incentives, there are often cultural and logistical issues that create challenges for people to work together. You know people who work in hospitals don't understand the community very well and people who work in the community, don't always trust the people who work in hospitals to understand what their role is."*

(P,12) discussed the impact that operational siloes can have on care delivery from a provider perspective,

> *"Those working in the hospital didn't have confidence when they discharge somebody home that somebody would be at home if the patient needed them and that they were going to get the care that they wanted."*

In this example, (P,12) viewed that the fragmented system led to behaviours that were perceived as not ideal (costly, inappropriate care setting) to the patient which impeded provider's ability to build trust and relationships with other providers who cared for the same patient.

Study participants discussed that one of the objectives of Bundled Care in Ontario is to build a collaborative team to deliver care to patients, as (P,11) stated,

> *"By bundling the payment across the patient's journey and really encouraging providers to work together to plan that journey collaboratively, you've been able to really focus on improving that transition so that it really is seamless."*

In line with Quadruple Aim 4: *improving the work-life of healthcare clinicians and staff*, study participants viewed that one of the objectives of Bundled Care is to promote providers to work together more collaboratively.

4.1.5. Emergent Theme: Learning Health System

A theme that emerged from the data that does not align directly with the Quadruple Aim was that one of the objectives of Bundled Care is that of *learning from past outcomes*. The concept of a *Learning Health System* refers to health systems in which data, evidence, informatics, and incentives are continuously captured through experience and culture is aligned for continuous improvement and innovation to iteratively inform the delivery of care (Greene et al., 2012). A health system that embodies a Learning Health System approach is one that is committed to collecting ongoing data to understand what works well and what does not work well.

Study participants discussed that the motivation to implement Bundled Care was centred around the opportunity to implement innovative models of care to learn about why things work or do not work. (P,9) explained, "I think when you use funding as an incentive to do something … you're giving providers the flexibility they need to be more innovative and efficient in the

way that they provide care." (P,1) stated that the overall approach to Bundled Care in Ontario was truly considered as a pilot, as an innovative way to design and deliver care, "So, I think the primary objective was to learn. They [Bundled Care] were pilots right – I think one way to look at the whole initiative is to look at it as a little bit of a laboratory or a learning endeavor."

(P,5) explains how Bundled Care created the environment for learning in Ontario's health system;

> *"When you have the bundle holder, being accountable with the funds for the full episode of care it allows you to do things differently than how our current system is set up, it allows some flexibility for innovation, although clinically appropriate."*

The Learning Health System approach must look at learnings across the Quadruple Aim, as stated by study participants, to evaluate how Bundled Care improves the care experience for patients and providers while improving overall costs and population health.

4.1.6. Summary of Results for Research Question 1

In summary, study participants characterized Bundled Care as a funding model to drive health system change. Several participants explained that the need for Bundled Care was to move Ontario's health system towards achieving the Quadruple Aim, while taking a Learning Health System approach to understanding how Bundled Care may contribute to each Aim. Study participants summarized Bundled Care as a way to create a more seamless care journey for patients, to address the needs of populations with chronic illness and who require care across multiple providers, and to improve value by providing care in a more cost-efficient way.

4.2. What are the Outcomes of Bundled Care? (Stage 2 of the Conceptual Model)

This section presents the study results related to research question 2: What are the perceived outcomes of Bundled Care at the patient, provider, and system levels? The results of this section are framed according to the Quadruple Aim. The purpose of using this framework was to understand how the outcomes of Bundled Care are enablers or challenges to the pursuit of the Quadruple Aim.

4.2.1. Quadruple Aim 1: Improving the Patient Experience of Care

One of the primary goals of the Quadruple Aim is to improve the experience of care for patients when interacting with the health system. In this view, improving patient care experience (satisfaction and outcomes) is integral to improving the overall quality of care received by a patient, *patient-centered care* being a core component of this. The following section presents findings of how study participants perceived Bundled Care outcomes influenced the patient experience of care.

Study participants perceived that patient's felt better connected to their care team across their care journey, as (P,11) summarized, "From the patient's experience, just feeling that connectivity between the hospital and the movement to the home… I think much more of a patient-centric approach." Study participants perceived that this patient-centric approach led to improved patient experience of care, as (P,10) states,

> *"Across the board, the patient experience was clearly improved; it certainly seemed to be quite positive and more positive than they would have thought it would be without the program. In terms of the coordination of care and particularly some aspects around coaching and self-management improvement, people felt better supported they felt they had a number to call."*

As (P,10) perceived, not only did patients feel better connected to their care team, but they also felt a greater sense of being part of the care team.

Study participants discussed the risk in Bundled Care is that it may lead to inappropriate care services. For example, either by missing out on a service that they may require by transitioning too soon out of acute care, or by having too many services provided that are unnecessary. (P,1) further explained why this might happen, particularly with how Bundled Care is constructed in Ontario,

> *"I think in principle, one of the challenges with Bundled Care is if the Bundle Holder is the acute care hospital, there is an incentive to minimize the provision of post-acute care. And, to send a patient home when they might benefit from much more expensive in-patient, post-acute care rehabilitation."*

Alternatively, study participants noted that the reverse also has the potential to happen as well, where there may be an over delivery of services that perhaps the patient does not require, but since it is part of the Bundle, the patient receives it anyways, (P,10) explained,

> *"They* [patients] *felt actually in some cases the programs are actually a little bit too much for them; they might not have needed three visits post-acute care. I don't blame them for holding to the fidelity of the programs, but some of the patient pathways could have been a bit more efficient."*

Study participants discussed how Bundled Care is a good model for specific conditions or one condition, but it is not as good for handling chronic illness, complex stays, or co-morbidities that have high variability. (P,1) provided a pragmatic example to illustrate this challenge,

> *"I think a potential challenge is some of these bundled payments are for a clear episode of care. But many patients are getting episodic care on top of ongoing care, and so what happens to somebody who has diabetes and is in a wheelchair and is getting ongoing home and community care and is perfectly happy with their home and community care. But now they're coming for cardiac surgery. Do*

> *they get switched over? Do they get to continue with there home care? I don't know."*

For people who have multiple conditions, their care needs to be delivered across multiple providers, inclusive of primary care and medication management. These key elements are currently outside of the scope of Bundled Care. (P,5) discussed that Bundled Care may not be sufficient to manage chronic illnesses or co-morbidities,

> "*I think there's a recognition that for very long term chronic complex conditions where there's high variability in terms of patient need and or there's high variability for other particular patients need over time… It may not be a Bundled Care model that is the most appropriate; you may have to take a different kind of a funding approach."*

Study participants perceived that Bundled Care, the way it is structured now, is not capable of managing the level of complexity required to care for patients with co-morbidities.

4.2.2. Quadruple Aim 2: Improving the Health of Populations

The second Quadruple Aim is about improving the health of populations. *Population health* refers to the health outcomes of a group of individuals, including the distribution of such outcomes within the group. These groups are often geographic populations, such as jurisdictions or communities, but can also be other groups such as employees, ethnic groups, or any other defined group. The following section presents how study participants perceived Bundled Care improved the health of populations in Ontario's health system.

Study participants perceived Bundled Care to be good at managing a single episode of care for a single condition, which study participants perceived had the ability to improve health outcomes for that specific population cohort, (P,6) described that,

> *"The bundles that seem to work well are very episodic and very surgically driven. So, hip and knee, shoulder, stroke, they are common, defined episodes… Diabetes would not be a good bundle, it's too medically complex, there are too many co-morbidities and too many moving parts."*

However, as Bundled Care was only six bundled payments pilots in specific regions in Ontario, their ability to improve population health is limited. Challenges related to the scalability of these pilots were discussed, which highlights the complexities of Bundled Care to improve the health of Ontario's populations once scaled.

From a patient perspective, participants acknowledged that the restrictive eligibility criteria for patients to enroll in the program was necessary to test some aspects of the pilot, however at the same time, it was perceived that the study sample was not representative of the population. For example, (P,4) mentioned that a restrictive eligibility criterion was that, "…patients couldn't have any other active homecare services which sort of excluded people that had co-morbidities from this pilot." From a scalability perspective, this is a challenge to determine how the program will function as the scope expands to be more inclusive of a more representable population. (P,12) was particularly concerned about the impact of opening up these eligibility criteria would have on the quality of care provided, "So, we have to look as we open up eligibility criteria how does that change the model in terms of the ratio of patients to providers and what would that do in terms of our ability to really provide that excellent quality care."

From an operational perspective, one of the challenges of Bundled Care to improve population health as perceived by study participants was about how patients are referred to Bundled Care. As (P,7) explained, for a patient to be captured and put into Bundled Care, the referral can only be from in-patient hospital care,

> *"You have to go to the hospital to be admitted getting onto this program. So, it's a great little pathway. But as of today, they haven't been able to start this in patients who just are having exacerbations in their community, perhaps preventing a lot to primary care or you know some other sort of trigger to start this pathway."*

Participants discussed that while there are many patients with specific conditions coming through the hospital, patients are probably better served in their community and, "being able to identify patients in the community before their condition worsened and required them to go to the hospital." (P,4)

Participants noted another challenge in the design of Bundled Care, describing that too much time has been spent on figuring out the funding and payment mechanisms of Bundled Care. As a result, study participants perceived that what Bundled Care is doing in Ontario is focusing on the administrative functions of a funding mechanism rather than focusing on the quality of care, as (P,3) summarized "We have spent a lot of emphasis on the Bundle, on understanding the payment on price and we haven't really talked or emphasized the adoption of best practices which is required for integrated care or Bundled Care." The challenge with this approach, as perceived by study participants, was rather than focusing on population health outcomes and quality of care, time and attention were spent on administrative functions and setting the price.

4.2.3. Quadruple Aim 3: Reducing the Per Capita Costs of Health Care

The third aim of the Quadruple Aim is to reduce the per capita costs of health care to improve the economic sustainability of health systems. Rather than focusing on whether Bundled Care reduced the per capita costs of health care; this section presents results on how study participants perceived Bundled Care increased value for patients.

The new ways of working and changing the scope of roles, accountability, and practice of Bundled Care fundamentally changes the business model of care. At the system level, this is a challenge because, as care delivery shifts to be provided more in the home and community,

choices will need to be made regarding where the shift in services will be provided, and what the impact is from a financial and business model perspective. (P,12) explained,

> *"...with this incentive* [Bundled Care], *people will just set up all the services in the hospital and not worry about working with the rehabilitation hospital. Or that or referring to a community clinic that they've always referred to and they'll just take the money and build the service within the hospital and will miss the point to actually better ensure that patients are receiving the care in the setting that is going to give us the most value. That's a very legitimate concern, and I think that that is happening."*

There were two ways that Bundle Care pilots were able to structure their partnership agreements across organizations. First, the Bundle Holder was a hospital; the bundle holder can work with the existing rehabilitation hospitals and home and community care providers within those areas along the patient journey from hospital to home. Second, the Bundle Holder, or hospital, can seek Approved Agency Status, where the Bundle Holder launches a Request for Proposal (RFP) process and selects a home care provider who they partner with to provide home care services to the whole patient cohort. (P,13) explained,

> *"So, part of becoming an approved agent, they* [hospital] *essentially are contractually obligated, at that point, are legislatively obligated to provide the care coordination associated with that care that they're providing in the home, i.e., they cannot use the LHINS care coordinators. And so, that is a big thing right. You know, as a hospital, you're not currently in the business of care coordination, and now – you are."*

The participant continues to recommend that, "I would pay very close attention to each individual model in part, to be honest, because the details of each individual model haven't even necessarily been made totally clear." As cautioned by (P,1),

> *"Another thing you should maybe look is what is the specific design of each model and what is the specific financial model for each model. And I personally haven't seen that. I don't think it has been made very transparent. I don't think you'll find it on the government website… Here's what we were paying for now in Model 1. Here's*

> *what we're paying for now in Model 2. I think it's all been a little bit quiet, and you know these models have been 'win-win-win,' and in real life, very few things are a 'win-win-win.'*

To expand on the point previously discussed regarding the ability to scale and the 'ratio of patients to providers,' (P,7) noted another hindrance on the scalability of Bundled Care is that the human resource element of the Bundled Care is potentially beyond the current capacity of Ontario's health system,

> *"The human resources elements are intense… it's a very intensive program. It has been demonstrated to reduce hospital readmissions for sure. Yes. But it costs a lot to keep these people on this path, human resource-wise. It's a lot of support."*

Further, participants discussed that underlying the administrative burden are complex funding challenges and questions at the system level, for example, questions of 'who's setting the price?'(P,1) empathized that setting the price is always a sensitive discussion that needs to happen,

> *"It's* [Bundled Care] *also a technical challenge. And just making sure that you get the price of the right, you know you set the price according to some sort of best practice let's say about the length of stay and how many patients should go to in-patient rehabilitation and recognizing that those things may change over time as technology changes or as the patient population changes."*

The decisions around the price of the Bundle are critical as this is the mechanism to which the system aims to either reduce cost or achieve improved patient outcomes at the same costs.

A challenge perceived by study participants is that organizations involved with Bundled Care have not yet seen any transition of funds between organizations (P,4) mentioned "the savings that we're experiencing as organizations are readily paper-based, so to speak, … but the

money isn't a true transitioning *between* the organizations." Partner organizations in Bundled Care have not recouped savings from Bundled Care, as perceived by the study participants.

Study participants discussed a variety of unknowns related to the value of health care particularly around the financial sustainability of the model, including, the fundamental change in the business model of care. Business model considerations include changing the setting care is provided, the human resource cost to deploy Bundled Care, as well as the administrative costs of setting the price, the transfer of funds and the lack of recouped cost savings.

4.2.4. Quadruple Aim 4: Improving the Work-Life of Health Care Clinicians and Staff

The fourth aim, *improving the work-life of health care clinicians and staff,* is inclusive of health professionals (e.g. clinicians) and those whose collective efforts result in the delivery of care to a patient or population of patients (e.g. financial, administrative, and managerial staff). The following section presents the results of how study participants perceived Bundled Care influenced the work-life of clinicians and staff.

Study participants perceived that care providers felt that they were able to optimize care for their patients through Bundled Care, as (P,6) stated,

> *"Providers feeling like their patients were well cared for, that they weren't falling through the cracks, that they weren't bouncing back to ED [emergency departments]. There is a provider element of satisfaction because providers ultimately want their patients to receive good care and get frustrated when they see cracks in the system that allowed their patients to slip through."*

(P,10) noted that this experience or satisfaction was experienced by each member of the care team, "the nursing staff within the hospitals were really happy to know a what actually happens with their patients after the hospital, they had never known that before." Study participants also explained that providers enjoyed pioneering a new model of care that's moving in the direction that they feel the system ought to be moving in, (P,8) noting,

> *"You have some providers who are very eager to take it* [Bundled Care] *on because they see great opportunities for improving the care experience improving outcomes for their patients. They see it as a way of being kind of at the forefront of where it looks like health care is going to go."*

Study participants mentioned, as (P,12) summarized, that Bundled Care was one of the first situations for many providers to work so closely with cross-sector providers and that these new working relationships led to greater trust and stronger relationships among the care team,

> *"They* [providers] *actually came together as true teams. And they knew each other by name. They knew who was going to be providing the service and the care. They knew that if they got a phone call from the coordinator because the patient was running into a problem, they recognized the individual they answered, and patients avoided going to emerge."*

Further, (P,5) commented on how Bundled Care led to a positive experience for care providers, "There's a lot more satisfaction. Care wasn't happening chaotically, and it wasn't this sort of faceless set of colleagues that they hadn't developed trust with. So, that's the biggest 'a-ha' for me in the first round of implementing these models."

Study participants also discussed the concern of the rapidity of change, considering that providers are accustomed to delivering care in a certain way. Bundled Care introduced significant changes to the delivery of care model that directly impacted the way providers work together. (P,3) discussed that this translated to uncertainty and "created barriers to the translation of that design of care that exists at an organization level to the practice of care that's at the provider level."

Specifically, this new way of working has resulted in new roles providers must perform that they previously did not. In Bundled Care, a provider is accountable for following a patient outside of their organization, and with a specific care team that they did not work with

previously. Participants, such as (P,9), perceived that there are complexities introduced with following that patient that led to an administrative burden for providers,

> *"But now we're asking providers or the hospitals who are responsible for holding those bundled funding dollars and arranging the patient's care, for keeping track of everything from when their patient is admitted to what happens to them after they leave the hospital. And this is something new to these providers because they're now taking on responsibility for a post-acute care pathway that they never initially thought about before."*

Participants discussed that administratively these tasks get onerous. Additional technical challenges that participants discussed include, dealing with new scenarios where a patient falls off the Bundle, questions around when to discharge a patient off the Bundle, or challenges with the regional models of care and figuring out who is 'in' and who is 'out.' As (P,7) explained, compounding these challenges is the reality that, "there are no new associated compensation and we're asking providers to negotiate those rates while building gain-and-risk sharing agreements, so, it's a lot." Study participants view that this new way of working in Bundled Care created an environment for clinicians and staff to build trust and work in an integrated way, but also led to uncertainty of accountability, roles, and renumeration due to the rapidity of change.

4.2.5. Summary of Results for Research Question 2

In summary, results for research question 2 are framed by the Quadruple Aim. One of the most discussed enablers was regarding the forming of more integrated care teams that seemed to improve clinician and staff work life. This was perceived to have an overall positive influence on provider and patient experience of care. Barriers appeared to be associated with constraints in the design of the pilots. For example, restrictive eligibility criteria were perceived to impede visible positive outcomes of population health, and the lack of designing for scale resulted in human resource and capacity concerns.

4.3. How does Bundled Care enable Health System Integration? (Stage 3 of the Conceptual Model)

The following section presents emerging themes identified in the data analysis to address Research Question 3: How did Bundled Care processes contribute to health system integration? The emerging themes are aligned to the RMIC. The RMIC describes six fundamental processes of health system integration: *(1) clinical or service integration; (2) professional integration; (3) organizational integration; (4) system integration; (5) functional integration;* and *(6) normative integration* (Valentijn et al., 2015). The purpose of framing the results to the RMIC was to describe practical mechanisms of how Bundled Care contributed to enablers or challenges of health system integration across the micro, meso, and macro levels of the health system.

4.3.1. Clinical or service integration

Clinical integration refers to the coordination of patient-centred care for a complex need in a single process across time, place, and discipline (Valentijn, 2015). Study participants, such as (P,14), noted that Bundled Care drove clinical integration by creating a culture to 'wrap care around the patient,' to enable a patient-centred system,

> *"I think what we have done is really get everyone to focus on the actual patient, and what we need to do is to embrace co-design and to ensure that the leadership of these administrations consider how to work in a living environment with quality improvement as your culture."*

To further clinical integration, (P,10) suggested that Bundled Care promoted a patient-centred culture in its design and provision of care, "There's really fundamental things that they [providers] learned in that process about engaging patients in the co-design [of Bundled Care] and working with your partners to set up care pathways." This co-design led to a clearly articulated care pathway that is informed by patients and families. As (P,5) discussed, this

allowed for the inclusion of key features of Bundled Care to improve the patient experience of care,

> *"When you think about what you want that patient experience to be like so, a single point of contact across the continuum, a single point of access to the care team 24/7 with the ability to see their electronic medical record and actually give it advice or book a visit the next day… you kind of need to get all that feedback… so there is a lot of upfront work that needs to be done*."

Identifying key attributes that patients and family's value in care delivery was considered critical for clinical integration and patient-centred care.

Challenges arise when the care pathway of a condition does not have a clear scope or has high variability as this was pointed out that it will not work well in a bundled payment. (P,4) recommended using clear care pathways in Bundled Care to ensure the fidelity of the care transitions and coordination of care,

> *"I think clarity on the pathway is really the critical part… I think we really need to understand what's in scope and out of scope as far as conditions and length of stay, how that transitions to patients who don't fit."*

At the onset of designing bundled payments, the upfront investment of co-designing a well-defined care pathway with people and communities is perceived to be important to support the care model to enable patient-centred care and clinical integration. (P,12) summarized a key takeaway from Bundled Care is "to ensure patients are at the table informing the care they envision."

In summary, in line with clinical or service integration, study participants view that Bundled Care promoted clinical and service integration for well-defined care pathways but is not possible for pathways with high variability. Further, patients must co-design pathways with clinical and service providers so that the patients' needs, and preferences inform them.

4.3.2. Professional integration

Professional integration refers to the inter-professional partnerships between care providers based on a shared understanding of competences, roles, responsibilities, and accountability to deliver a comprehensive continuum of care to a well-described population (Valentijn, 2015). Study participants recommended that providing implementation supports when implementing Bundled Care is not only helpful, but a necessary component to support the change journey for providers and staff, (P,1) described,

> *"Change is not always super easy, and it's easy to sit at Queen's Park and think, 'oh, if I just change the way we pay for care, people will actually change the way they do their work.' That doesn't usually happen right. Usually, people need coaching, peer support, or other help to actually change their behavior."*

Sharing of best practices between providers was commonly mentioned by study participants as a key implementation support that must be concurrent with implementing Bundled Care. (P,4) discussed that the sharing of best practices among peers supports widespread understanding of specific factors that made pilots successful, "Sharing of best practices provides a template for people as they consider what changes are necessary and how to go about making those changes, this would result in a clear understanding of where efforts should be focused."

It was perceived by study participants that, in Bundled Care, sharing of best practices is important so others can understand what worked well or did not work so well, as (P,4) continued,

> *"I'm certainly interested in hearing from the other groups across the province in terms of their journey… I think opportunities to learn about this through other experience will be helpful as we approach these broad integration activities positively or negatively, I think everybody's experience is important."*

Additionally, clinicians and staff contributing to Bundled Care were supported provincially through a Community of Practice, which was perceived to support professional integration as (P,6) described,

> *"The [Community of Practice] work that has supported the work of teams that are implementing Bundled Care is really from an implementation support perspective with an emphasis on both quality and the financial arrangements. The metrics are more so related to implementation. Who's attending? What are they learning? What are they applying?"*

Another commonly discussed theme from study participants is the importance of clinician leadership to promote professional integration, by engaging clinicians and identifying clinician champions. This is considered important in the design and implementation of Bundled Care; it is perceived to reduce a certain level of resistance to change during implementation. (P,5) discussed that having clinician buy-in is a foundational component to building relationships and trust between providers, "[Leaders need] to figure out what you need to collaborate with the clinical team because, if not, it's not going to work. If surgeons don't feel comfortable, you know you're not going to have the buy-in." (P,10) reflected that this was a shortcoming in Bundled Care, "I don't think that the programs did a lot to engage and improve provider experience, they struggled a little bit with the providers who thought this is going to be great." In line with professional integration, participants view that Bundled Care did not engage clinical leadership, which may contribute to driving professional integration, however, implementation supports were set up to encourage the knowledge exchange and lessons learned across providers.

4.3.3. Organizational integration

Organizational integration refers to the inter-organizational partnerships (e.g. agreements, contracting, strategic alliances, knowledge networks, mergers), based on

collaborative accountability and shared governance mechanisms, to deliver a comprehensive continuum of care to a well-described population (Valentijn, 2015).

Considering organizational integration across a patient pathway, participants discussed that the engagement of the leadership team and 'system leadership' was critical in Bundled Care. *System Leadership* refers to the practice of enabling and leading all local partners to drive change at all levels of the health system to actualize goals of person-centred, coordinated care (Turner, 2019).

As (P,14) discussed, strong engagement from the leadership team is important in Bundled Care to build trust and relationships across the system, "What you have to do is to 'walk the walk' or 'walk and talk." Bundled Care is perceived by study participants as a good model to learn from regarding establishing and building trust. (P,2) explained, "the thing we can learn is how you partner and build relationships and how much work that is to build trust."

Additionally, (P,13) mentioned the importance of having a strong leadership organization in the Bundle as the bundle holder for organizational integration,

> *"I would say when you have a strong leadership organization that can influence or improve integration… think about all the different decisions they've had to make along the way. Much of that is because they do not hold the right jurisdiction to be able to tell another organization to do A or to do B, or you must do this, or you're going to do that."*

In Bundled Care, the Bundle Holder is responsible for increasing collaboration with its partners to enable a seamless care journey for the target population. (P,12) mentioned that a success factor to implementation is if the Bundled Holder's already had, "good trusting relationships at the beginning because they've to work through some of the kinks and be thoughtful in their gain sharing agreements."

Lastly, (P,4) explained that they consider shared governance to be the most important driver of change regarding organizational integration, stating,

> *"The biggest lever that will drive integration is shared governance and shared leadership and moving towards integrating organizations. But I think the financial part is one strong aspect of that. And I think the realization of the savings of these bundles translating that to increase services provided by one organization from another it is probably the good first step in any formal integration of organizations."*

In line with organizational integration, study participants viewed that strong system leadership is critical to organizational integration as it builds trust and relationships and that funding models are a good first step to organizational integration.

4.3.4. System integration

System integration refers to the coherent set of (informal and formal) political arrangements to facilitate professionals and organizations to deliver a comprehensive continuum of care for the benefit of people and populations (Valentijn, 2015). The system-level includes the political, economic and social environmental climate (e.g. regulatory, financial, payment regimes and market characteristics), which creates the conditions under which organizations, care teams, individual patients, and individual care providers operate.

Given integrated funding across organizations, study participants discussed that Bundled Care promoted the shift of care from acute settings, to home and community care settings. This was perceived by study participants to support the need to deliver care in the most appropriate and less costly care settings by building cross-sector relationships and accountability. (P, 9) described how Bunded Care encouraged the shift of care delivery from acute care settings to the community,

> *"There's been a long-standing interest in enhancing the ability of the system to care for patients outside of a hospital setting and outside*

> *of and avoiding the need for a long stay long term care bed. So, there was a long sense that there's a lot more that we could do in people's homes and clinic or ambulatory care settings to recover people after hospital and help them from needing to go to the hospital in the first place. And the idea was to take a funding and oversight approach that."*

A barrier to system integration discussed by study participants was specific to legislation in Ontario, as (P,4) explained,

> *"So, the legislation doesn't necessarily support bundles across jurisdictions across sectors across patients even I would say like to do like truly broadband implementation we've got to look at the legislative construct so that it actually is more of an enabler. Like right now it's a full-on barrier. I can spend three months negotiating a contract only with my legal department before I can actually even do anything … that's not very nimble."*

Further, (P,13) explained the conflict that results from these barriers, "[Leaders] are like, 'oh no, we need this today,' and we are like 'alright talk to me in three months.' So, people think, 'well, what are you doing?' and I've got to tell them we're working through six pieces of legislation to try to make this work." It was suggested that these types of systemic barriers that stifle innovation and growth at a local level when implementing new programs.

4.3.5. Functional integration

Functional integration refers to supporting communication mechanisms and tools (i.e., financial, management, and information systems) structured around the primary process of service delivery to provide optimal information as a feedback mechanism for decision support between organizations, professional groups, and individuals (Valentijn, 2015).

Key attributes to Bundled Care that facilitated a more seamless care journey for patients and providers were activities that were enabled through digital and virtual technology, including single point of access, one electronic medical record for the care team, 24/7 access to a care

provider. (P,5) discussed that technology enabled patients to access care when they needed it, at the right place, right time and with the right provider,

> *"They* [patients] *very much like having that single point of contact that covers both the hospital and the home care continuum. In the bundled model that I've worked in, there's also been a 24/7 contact number. And so, I know patients have described that as almost being a bit of a comfort measure knowing that there is a way to connect with the team if they run into trouble once they leave the hospital."*

(P,4) discussed information and communication technology as a mechanism to enhance communication among the integrated care team of Bundled Care, and to be used as a model to drive a digital and virtual health agenda in Ontario, *"I think there are pieces around trying to drive towards a single medical record or better connections between patients' records."*

A barrier that was commonly discussed among participants is the lack of connected information systems to optimize the implementation and operationalization of Bundled Care. (P,13) explained that disconnected information systems make it challenging to follow patients across different organizations and sectors, which is a key component to providing coordinated and integrated care,

> *"What's making it a bit of a dog's breakfast right now is there are no real connected systems. And so, when a discharge happens, and you're trying to track funding, and you're trying to track volumes, you're trying to track outcomes. These systems are not integrated. There's no clean way to do that today – you can say there is reporting, but it doesn't give it the right depth because it's actually the clinical side where you're trying to manage the patient."*

From an operational perspective, to enable seamless care along a patient trajectory, study participants viewed that connected information systems must translate data across systems, networks, organizations, and providers, which is currently not possible in Ontario's health system. (P,2) discussed the consequences of this barrier, "You've got that all these folks creating

their own manual templates and Excel or whatever it is that they are using… and these things are happening. Who is actually going to have an 'apples to apples' comparison of this stuff [data] anyway? So, I think that's been a huge hindrance." The disconnected information systems are perceived to force organizations to continue to operate in siloes.

Similarly, it is critical for leaders, who must make important decisions regarding the design and implementation of Bundled Care, to have access to reliable data and evidence to inform their decision making. As (P,3) recognized, having a good evaluation strategy and supporting the Bundled Care programs with reliable data analytics and performance management components is recommended as a success factor for health system integration, "it is important to measure and observe the changes in practices, as well as changes in payment and changes in outcome,"

Participants also recommended designing bundled payment pilots for scale. From a practical and pragmatic perspective, a strategy to design for scale is to understand from the onset the clear vision, objective and scope of the bundle and the necessary steps involved achieve this, for example as (P,5) explained, "Be very clear about the steps to evolve these pilots into a full-blown program and start to begin to plan for that as you start planning for a pilot. I think that's something that we don't do. What we didn't do well here is really understanding how we can scale and spread this across."

In line with functional integration, implementing Bundled Care led to the use of innovative digital health technologies to enable a more integrated care journey for patients, however, the lack information systems and the lack of design for scale and sustainability are challenges of functional integration that Bundled Care was perceived to be unable to overcome and was highlighted in need for future designs.

4.3.6. Normative integration

Normative integration refers to a mutually respected cultural frame of reference (i.e., shared mission, vision, values, and behaviour) between organizations, professional groups, and individuals to achieve shared goals towards person-centred focused and population-based care (Valentijn, 2015). The processes above of clinical and service integration and organizational integration discussed the importance of aligning the health system to a common vision of patient-centred care as well as a clear vision, objectives, and scope of the bundled payment at the onset of design. Additional themes related to normative integration are discussed in this section.

Ultimately, participants recommended that building trust will improve the likelihood of success and sustainability of Bundled Care. (P,14) further discussed how to build trust and that having trust is critical when addressing complex and uncomfortable situations that arise when things go wrong,

> *"For the providers to build a relationship with another provider, you would have to ensure that a clear understanding of the expectations from the acute-care side to the post-acute and you have to build the relationship in such a way that when things go wrong – because they will go wrong – there is an honest discussion and transparency is extremely important… being transparent, being open, being innovative, creative all those things will build trust."*

From a system perspective, participants perceived that Bundled Care went beyond just incentivizing the coming together of integrated care teams and collaborative organizations, that this changing environment opened a conversation between providers and organizations about how care can be better provided to patients. For example, (P,11) explained that "[Bundled Care] provides an incentive for providers to come together and say, 'Are we really doing this the best way we can, in the most efficient way, with the resources available?'" (P,1) discussed that it was Bundled Care that contributed to a new narrative of identifying where Ontario underperforms in

delivering coordinated care and better defining what integrated care ought to look and feel like in Ontario, " I mean I think for sure they [Bundled Care] have helped contribute to a narrative that the current way we pay for care promotes fragmentation and this doesn't incentivize providers working together. And so just on that basis alone, I would say they could be viewed as a success."

Study participants noted that introducing Bundled Care to drive health system transformation alone was not enough to create sustainable change in the system towards integrated care. There was a sense of dispute with the underlying assumption of Bundled Care that if you change how providers are compensate and require them to work in a more coordinated fashion, and require them to work through the care pathways, that this will lead to better-organized care. (P,3) noted that there is a fundamental challenge with this assumption,

> *"The disadvantage is that the payment mechanism assumes a series of activities that will result from the changes in the payment that will lead to changes in care. But that's pretty much a black box as far as the funders are concerned. Most of the evidence suggests that some people can do this, but others struggle to make it happen."*

Furthermore, (P,6) described that simply implementing new funding incentives through Bundled Care alone are not enough to enable integrated care, that this requires significant upfront investment to achieve,

> *"I don't think we do a good enough job of setting ourselves up for success… we talk a lot about change management frameworks. But we don't apply them to what we do. We don't lay the groundwork. We don't build the burning platform. We don't engage and educate – like we don't do any of that stuff – we go. So, we say 'bundled payments are a go. It's going to be effective as of yesterday. And we're going to help you' – you know that's not laying the groundwork."*

Participants view the challenge is that changing the payment model does not negotiate the changes in behavior, both communication behaviours and direct care behaviours that are

necessary for integrated care as (P,1) stated, "… this is where it's so obvious that the funding lever alone isn't enough." (P,4). Study participants did note that what Bundled Care did contribute to patient-centred care, as (P,14) explained: "On the positive side, the administration of the systems realized that the patient is at the centre, and the trend of the funding be tied to it."

In line with normative integration, Bundled Care shifted the narrative in Ontario's health system towards more integrated systems and integrated care for people and communities. Yet, it was perceived that it along is unable to translate to a full transformation in culture throughout the system.

4.3.7. Summary of Results for Research Question 3

In summary, study participants perceived that Bundled Care did contribute to initiating some health system integration processes. Enablers suggested by study participants include improving the care of disease or condition-specific populations using clearly defined care pathways. Organizational integration was perceived to be improved by the experience of the lead organization in the Bundle. Bundled Care was perceived to initiate a common understanding of what integrated care is, which was perceived to promote normative integration. Barriers to system integration, as perceived by study participants, included the lack of connected information system (functional integration) and a lack of coherence in top-down policy to support implementation.

4.4. Summary of Study Results

In summary, this chapter presented results from the data analysis to address the research questions posed in this study. Themes provided in Section **4.1** Why Bundled Care? (Stage 1 of the Conceptual Model) described what participants identified as the objectives for Bundled Care in Ontario's health system, and results presented showed the alignment to the Quadruple Aim.

Section **4.2** What are the outcomes of Bundled Care? (Stage 2 of the Conceptual Model) Bundled Care outcomes are aligned to the Quadruple Aim framework and presented results related to how Bunded Care contributed to enablers or challenges in the pursuit of the Quadruple Aim. Lastly, Section **4.3** How do Bundled Care processes contribute to health system integration, (Stage 3 of the Conceptual Model), practical mechanisms of how Bundled Care enabled and challenged the process of health system integration were analyzed and structured around the RMIC. In the next section, a discussion based on the above results is presented and considers the main research findings in relation to the extant literature.

5. Chapter 5: Discussion

The findings presented in the previous chapter respond to our research questions and demonstrate how Bundled Care contributed to integrated care in Ontario's health system. This chapter discusses our study results in relation to the literature to inform integrated care literature, policy, and practices, which may support decision making amongst key stakeholders (such as policy makers, quality improvement experts, health administrators, clinicians, and staff). This chapter is categorized into three sections, reflective of the health system levels that Bundled Care was investigated against (1) micro-level (care); (2) meso-level (organizational); and (3) macro-level (system). We focus the discussion on how key processes contribute to Quadruple Aim-related outcomes and offer design and implementation recommendations to inform future bundled payments. Prior to doing so, we briefly revisit the study's objectives and research questions and summarize the systems thinking concepts that underpin our discussion.

5.1. Review of Study Objectives and Research Questions

The objective of this study was to understand why and how Bundled Care enabled integrated care in Ontario's health system. Our findings address the following two gaps identified in the literature review: (1) the lack of practical evidence on how altering the financing component of the health system affects overall health system integration, and (2) the lack of research on why and how Bundled Care resulted in integrated care (in the Ontario health system) from the perspective of health system quality improvement experts. To address these gaps, we pursued the following research questions:

1. What are the perceived motivations (needs) and objectives (intended results) of Bundle Care within the context of the Ontario health system?

2. What are the perceived outcomes of Bundled Care at the patient, provider, and system levels?
3. How did Bundled Care processes contribute to health system integration?

We were inspired to do this study in response to claims by Valentijn et al. (2015), that the link between the theoretical rationale of the RMIC and the three interdependent outcomes of the Triple Aim framework (Quadruple Aim for our study) must be examined to bridge the gap between how integrated care initiatives act as a means for improved health and cost-related outcomes. We contribute to the advancement of integrated care literature, policy and practice by clarifying how health system integration unravels in practice when implementing a bundled payment model is a specific context. More specifically, we identify how Bundled Care positively and negatively influences key processes of health system integration across the macro, meso, and micro levels of the health system. We explored this by interviewing individuals who are engaged in the design, implementation, and/or evaluation of health system quality improvement initiatives, and who could speak to Ontario's Bundled Care pilots.

5.2. Systems Thinking in relation to Integrated Care

Health system transformation requires a fundamental shift in the structures, processes, and behaviours within organizations, teams, and people (Baker & Axler, 2015; Best et al., 2012; Suter et al., 2009). Systems thinking states that it is the complex interrelationships across the health system and how sub-systems work together which results in the system behaviours we see today (De Savigny & Adam, 2009; Swanson et al., 2012). Study participants discussed practical ways that altering health financing drove other health system components to interact and negotiate trade-offs, ultimately contributing to improved integrated services to people and

communities. Despite Bundled Care being a new model in Ontario (with areas for improvement), our findings indicate that it contributed to dimensions of health system integration.

5.3. Micro-level: the Care Level

With regards to patient experience of care (the first Quadruple Aim objective), study participants' descriptions of patient outcomes aligned to the elements of Kodner and Spreeuwenberg's (2002) people-centered view of integrated care. For example, there was a strong focus on the patient's seamless transitions of care between hospital to home, enhanced access to their care team throughout the episode of care, and improved satisfaction with their overall experience of care. Related to the typology of health system integration, their views regarding patient outcomes were primarily about *clinical integration* (Goodwin, 2016; Valentijn et al., 2013). Clinical integration was perceived to be facilitated by clearly defined care pathways specific to the disease or condition, with transitions exclusive to acute, post-acute, and home care settings.

Issues arose in the implementation of Bundled Care and the pursuit of integrated, patient-centred care that warrants further consideration. Bundled Care did not allow for the management of highly variable care pathways or more complex care issues (e.g. multi-morbidities). This clinical integration limitation in the model inhibits the fulfillment of two key elements of people-centred integrated care: comprehensiveness and continuity of care (Kodner & Spreeuwenberg, 2002; Valentijn, 2013). By dissuading continuity in the patient's care team outside of the Bundle, Bundled Care's disease-focused design limits attention to peripheral or underlying health concerns.

This disease-centred approach does not allow for the realization of the degree of comprehensive and holistic care that defines integrated care. For example, as per the health

systems definition of integrated care (Goodwin, 2016), integrated care goes beyond pure medically based needs and encompasses the need to holistically address health and social needs of patients and families. In recognition of this limitation, bundled payment designers must consider how the model can either, (1) be adapted to manage multiple concurrent conditions of patients and families, or, (2) understand how Bundled Care compliments other health financing models or initiatives that work together to collectively address the holistic needs of patients and families in a comprehensive, coordinated and continuous way.

5.4. Meso-level: the Organizational Level

At the meso-level, participants discussed Bundled Care from both the provider's (*professional integration*) and the organization's (*organizational integration*) perspectives. From a provider perspective, Bundled Care was perceived to overcome the lack of trust and poorly established relationships in Ontario's health system by enabling new integrated ways of working together. This, in turn, inspired a "collective attitude" amongst clinicians and staff, which is indicative of normative and professional integration. Therefore, it appears that by strengthening team communication and collaboration, Bundled Care contributes to the fourth Quadruple Aim objective—improving the work-life of clinicians and staff—proposed by Bodenheimer et al. (2014).

A key professional integration challenge was with regards to clinicians and staff developing *new* competencies, skills, and relationships required to manage the change to collaborative, episode-based care from siloed care, this is echoed by Scott & Eminger (2016). Reiss-Brennan et al. (2016) calls attention to the complex challenges of transforming autonomous provider practice to a collaborative model, which we reaffirmed in Bundled Care. Challenges include the burden on clinicians and staff to learn new administrative and data entry

processes to adequately follow the patient outside of the organization and throughout their episode of care. Furthermore, a significant portion of care was delivered virtually with the use of new digital platforms which requires new skills to manage care in this new environment.

It appears that interconnected and interoperable clinical and operational data infrastructures and virtual platforms are critical in supporting clinicians and staff to execute the core functions of Bundled Care. Although virtual health care delivery teams for disease management aim to support patients, families, and care providers by facilitating information exchange and enhancing communication, Demiris (2006) has cautioned that it is important to have a clear, published, and easily accessible set of rules and regulations or a code of conduct for the virtual health care team. The challenges associated with utilizing virtual health tools in a collaborative team is that providers must maximize social connection and ease of use while managing concerns of privacy, lack of social interaction, and rapidly changing legislation and regulatory frameworks (Demiris, 2006). From a system perspective, policy, ethical, and legal issues associated with team-based virtual health care delivery will have to be addressed.

Our findings demonstrate that professional integration has a high degree of dependence on *functional integration*. For example, participants emphasized the importance of the care team's ability to access live information with data-sharing capabilities via a common electronic health record for each patient. Doing so promoted the continuity and integration of care for the patient and improves ease of coordination and communication across care settings amongst clinicians and staff. Consistent with Kodner (2009) and Green and Johnson (2015), our findings support the need for future bundled payments to build new team-based collaborative competencies and the implementation of compatible information systems to support professional, functional integration and *normative integration*. However, as reflected in change management

initiatives for health system transformation (Best et al., 2012; Best et al., 2016), it is important to consider the significant time and resources required to support the acceptance and sustainability of change amongst clinicians and staff.

From an organizational perspective, the lead organization in the bundle (the Bundle Holder) played a significant role in organizational integration. Their leadership team's engagement was particularly important for two main reasons: (1) they were able to apply their knowledge, skills, and experiences to overcome novel and complex challenges faced by implementation; and (2) they were able to leverage existing relationships and partnerships to facilitate implementation. Our findings identified several key leadership abilities that seem pivotal in driving organizational integration, consistent with system leadership research by Timmin (2015) and Turner (2019). System leadership refers to leadership that is shared, distributive, adaptive, and focused on inter- and intra-organizational relationships (Timmins, 2015; Turner, 2019).

Our findings point to the need for organizational leaders to make significant investments in building trust, relationships, and shared values and norms across both organizational and sectoral boundaries to build a productive culture within the bundle (normative integration). This can include but is not limited to; engaging clinical, financial, managerial, and community champions; redistributing resources so they are not in competition with other initiatives; guiding through novel and complex policy changes; navigating trade-offs, and mobilizing stakeholders towards a common vision (Timmins, 2015; Turner, 2019). This furthers our understanding of principal actions and behaviours necessary from system leaders to drive organizational and *system integration*. Consistent with Stein (2016) and Turner (2019), doing so may advance

connectivity across health system levels and improve the likelihood of successful and sustainable bundled payment initiatives.

Of interest is that no participant in our study emphasized the necessity of a shared governance framework in Bundled Care to drive organizational integration, which is inconsistent with literature on health system integration (van Rensburg et al*.,* 2016). Shared governance frameworks are commonly referenced as drivers of integrated care, as successful integration is tied to effective stakeholder collaboration, including alignment of roles, responsibilities, and interactions among people and communities, decision-makers, and health and social service providers (van Rensburg et al*.,* 2016). This omission in our findings may reflect the ambiguity surrounding practical applications of governance frameworks or simply point to the perceived importance of cultural (values and norms) over structural (frameworks) considerations. Future bundled payments should evaluate the role that shared governance frameworks could play in promoting organizational integration based on local context and need. As shared governance frameworks warrant further consideration to its role in organizational integration, it is also important to consider its influence on macro-level system integration as well.

5.5. Macro-level: the System-Level

As noted in our literature review, Valentijn et al. (2013) RMIC describes six domains of integrated care; clinical, professional, organizational, system, functional, and normative integration. As seen in the previous sections, these domains play an interconnected role across the levels of the health system (the micro level of clinical integration, the meso level of professional and organizational integration, and the macro-level of system integration (Valentijn et al., 2015). Functional and normative integration are enablers that help connect the various

levels (Valentijn et al., 2015). Regarding system integration, Valentijn et al. (2016) research showed that:

> "experts were particularly focused on the features that are part of clinical, professional, and organizational domains of integration, while features that are part of the 'macro' system integration domain were generally neglected (Valentijn, 2016, pg. 1)."

Our findings are consistent with the observation noted by Valentijn et al. (2015). While we were seeking information on system integration related to local healthcare policies, alignment of regulatory frameworks, and political, economic or social climate, participants tended to talk about operational and cultural considerations, including features of functional integration (learning organizations, information management) and normative integration (shared visions, visionary leadership, linking cultures). Our findings reaffirm the ambiguity of the term 'system integration' and confusion around how it is achieved in practice. Nonetheless, we present the following considerations warranting further discussion to inform the macro-level system integration literature: community-based model of care, policy alignment, performance measurement, and learning culture.

From a systems perspective, given the condition or disease-specific design of Bundled Care, it promoted integrated care through a disease management model. This is consistent with international bundled payments, such as the Bundled Payments for Care Improvements (BPCI) in the United States and other similar models in the Netherlands (Althausen & Mead, 2016; Struijs & Baan, 2011). Therefore, we have reaffirmed the utility of bundled payments in health systems by exploring it in the context of micro-level Ontario care delivery. Concerning system integration challenges, it was not a requirement for those implementing Bundled Care to include primary health care in its bundled payment. One of the unintended consequences of this is that patients were only identified through in-patient hospital services when the patient required acute

care for their specific condition. This finding is contrary to research by Valentijn (2013) and Shaw et al. (2017), who both state that primary care is the starting point of integration because its core functions (first contact, continuous, comprehensive, and coordinated care) form the foundation upon which integrated care is achieved. Thus, we recommend that models like Bundled Care be moved upstream to both primary health and community care settings, with a focus on education and self-management practices. This perspective is echoed by Embuldeniya et al. (2019). Doing so promotes comprehensive and continuous care (clinical integration) while focusing on primary prevention and health promotion (system integration) and improving population health outcomes (the second Quadruple Aim).

Another key challenge identified to promote system integration is the lack of alignment between top-down policy and the implementation requirements of Bundled Care. For example, current local healthcare policies create several barriers when pursuing organizational partnerships, such as inhibiting shared data infrastructures and limiting the scope of services provided by organizations. The absence of a 'top-down' policy that enables 'bottom-up' initiatives may translate into slow rates of adoption, as well as undesirable variations in the evidence and the impact of Bundled Care (Bengoa, 2013). Further, consistent with research from Johnson (2008) and Nuño-Solinis (2019), we note that partnering with patients and families in an integrated care initiative promotes the identification of meaningful and people-centred processes and outcomes. Therefore, policy may benefit from aligning macro and meso level needs, as well as mandating the engagement of people and communities in the design, implementation, and evaluation of bundled payment initiatives.

Regarding VBHC, we have reaffirmed the aim of Bundled Care to promote value. Valentijn & Vrijhoef (2017) define value-based integrated care as a patient's achieved outcomes

and experience of care in combination with the amount of money spent to provide accessible, comprehensive, and coordinated services (third Quadruple Aim objective). This view has distinct implications on the evaluation of bundled payment initiatives. As per Valentijn and Vrijhoef (2017) and Nuño-Solinis (2019), value-based integrated care calls for measuring a wide range of outcomes that matter to the patient, i.e., patient-reported experience measures (PREMs) and patient-reported outcome measures (PROMs). In our study, participants emphasized the important of having a rigorous evaluation strategy from the onset of a Bundled Care initiative to understand how Bundled Care impacts specific and measurable indicators (functional integration). By continually measuring outcomes that matter to the patient, bundled payment initiatives can use this information and continuously drive improvements to meet the needs and preferences of patients and families.

Finally, evaluation activities promoted collective learning across the organizations in Bundled Care, indicative of system-level functional integration. As a pilot initiative, Bundled Care encouraged an environment of innovation, creativity, and continuous quality improvement, features of a learning health system (Greene et al., 2012). Our findings suggest that functional integration (evaluation) promotes normative integration (alignment of vision and values). This is because the evaluation of Bundled Care, as a value-based integrated care initiative, seemed to encourage a culture of continuous learning and quality improvement that centres around the needs and preferences of patients and families.

Regarding system-level normative integration, participants emphasized the importance of enabling peer-to-peer learning and engagement through a virtual community of practice, one which mobilizes the alignment of vision and values by promoting the sharing of best practices. Our study results advance our understanding of how functional integration can drive culture

change. For example, the community of practice contributed to shaping a common language of integrated care between financial and clinical groups. This common language promoted a shared understanding of what integrated care looks like in practice, indicative of normative integration. Moving forward, our findings suggest the need to invest in system-wide implementation resources that create opportunities for open dialogue and learning between stakeholders. Doing so encourages normative integration and drives a common vision for integrated care across those stakeholders contributing to bundled payment initiatives.

5.6. Summary of Thesis Contributions

In summary, Valentijn (2016) suggested that profiling integrated care initiatives along the taxonomy of the RMIC makes it possible to facilitate learnings and sharing of best practices. Overall, our study provides clarity and contributes to an understanding of how Bundled Care contributes to integrated care in Ontario's health system and considered its outcomes in accordance to the Quadruple Aim.

At the micro-level, clinical integration was facilitated through the delivery of episodic care for a defined care pathway, which seemed to improve patient experience and satisfaction of care. From a patient-centred perspective, accurate and flexible care pathways must be reflective of individual patients' care needs and preferences for the specific disease or condition. It is critical that health systems co-design these clearly defined care pathways with patients, families, caregivers, and care providers across health and social systems to provide a shared and common understanding of the care pathway from those who are directly involved with managing it.

Practically, this requires a strong and sustained commitment to stakeholder engagement for the design, development, and evaluation of care pathways (Miller & Stein, 2018). As discussed, a significant challenge to clinical integration is related to communication problems

between organizations and providers. Convening stakeholders from across the system to collaborate on care pathways may improve collaboration, communication, and enhance clinical integration and services to patients and families (Miller & Stein, 2018). The policy implications of doing this are that the resulting care pathway may indicate that current care delivery models are not appropriate to fit the needs of people and communities (e.g. lack the inclusion of primary health care), and therefore must be redesigned or reorganized to ensure suitability and appropriateness of comprehensive, continuous and coordinated care.

At the meso-level, professional integration was facilitated by encouraging clinicians and staff to collaboratively follow patients outside of their specific organization, which built trust and relationships among the cross-sector care team. To optimize the experience for clinicians and staff, future bundled payment initiatives must invest in resources to support the development of new administrative, process, technological, and relational competencies and capabilities throughout their change journey (Miller & Stein, 2018). Practically, there are significant challenges with moving people from individual to collaborative work given historical differences and differences in values, culture and behaviours. Suggested ways to support professional and organizational integration for seamless care experiences include encouraging and documenting a commitment to mutually agreed upon relationships and goals, authority, governance, accountability, roles, reporting, sharing of resources, and importantly, conflict resolution (Green & Johnson, 2015).

At the meso-level specific to an intra and inter-organizational perspective, implementation of aligned clinical and operational data infrastructures (functional integration) and the development of system leadership competencies (normative integration) will support organizational and system integration. To the former, enabling a system-wide common patient

database requires high-level adoption at the provincial or policy level to all agencies that deliver healthcare. However, as informed by lived experience with the NHS (Eason et al., 2013), progress towards delivering e-health systems for integrated care is most visible when top-level infrastructure policies encourage local health system adoption to meet their specific needs. Efforts should first focus on the needs and integration of local health systems, supported by policy that outlines best practices for local integration of clinical and operational data infrastructures.

Lastly, at the macro level, bundled payment initiatives must align the top-down policy to encourage bottom-up innovation to enhance the likelihood of success, scalability, and sustainability of bundled payment initiatives (Best et al., 2016). For system integration, it is critical to invest in upfront strategies to encourage continuous learning and scale. This includes the development of a rigorous performance measurement strategy, inclusive of PREMs and PROMs, and driving a change in culture to align a shared vision, mission, and goals (Nuño-Solinís, 2019). Bundled Care demonstrated that this could be promoted through encouraging open dialogue amongst stakeholders. The practical implications of this are ensuring explicit engagement across clinical, managerial, financial and patient stakeholders, champions, and leadership to endorse the initiative and drive culture change.

Throughout each level of the health system, there was evidence of more operational elements of integration, as well as evidence of the development of a shared culture. Concurrent with a focus on more tangible examples of integration, such as coherence of policies, management, and information systems, health system integration was primarily described in terms of improving the way people interacted with one another and among the sub-systems to help with managing new health system integration processes and health system change.

6. Chapter 6: Conclusion

This chapter discusses areas for future research, study strengths and limitations, practical stakeholder implications, and our contributions to the literature.

6.1. Areas for Future Research

For the past 20 years, enabling integrated care has been a priority for health systems around the world to improve quality, costs, and health outcomes. Evaluating initiatives aimed at improving integrated care provides further insights into its conceptualization and processes. This evaluation is particularly advantageous when done across health system levels and provides clarity to how processes contribute to the pursuit of the Quadruple Aim. While practical applications of health system integration remain to be varied, we see academic researchers playing an important role in identifying experience-informed practices in local contexts to contribute to a shared understanding across health systems. This information can ultimately be used to inform health system integration strategies, programmatic design, and decision making.

We urge further research that clarifies what health system integration looks like in practice in local settings by identifying activities and processes that are specific to RMIC typology, and that also demonstrates outcomes that align to the Quadruple Aim. We also encourage future research that elicits the views of additional perspectives and settings and offers comparative analyses to advance our understanding of the convergence and divergence of various stakeholder views. Additionally, given our purely interview-based qualitative approach, we recommend other qualitative and mixed-method approaches to explore the multi-level motivations, challenges, and desired outcomes as described by various stakeholders. To build on the results of this study, three future areas for research should be considered.

Firstly, future studies should explore the views of patients and families of how and why Bundled Care has influenced their experience (both quality and satisfaction) of care. Research approaches lean on PREMs or PROMS to measure patient experience and outcomes but lacks qualitative data, descriptions, or practical examples that explain why or how. Further, the findings from this proposed research could be compared to our study results to differentiate between systems', providers' and patients' perspectives.

The second area for future research could be to apply our research approach to other jurisdictions that have implemented bundled payments. This would further validate the findings in this study and inform the transferability of recommendations to other local health systems. This would also advance the results from this study in better understanding how the lessons from bundled payments can be leveraged to inform large-scale and sustainable system integration.

Last, the third area for future research is to use the results within this study to develop a strategic plan for bundled payment design and implementation in jurisdictions that have identified the need to implement integrated funding models. For example, the insights and recommendations from this study can be used as guiding principles in the design and implementation of a bundled payment initiative to reduce the risk of challenges faced in the local health system.

6.2. Stakeholder Implications

The practical implications of our research target those who are tasked to design, implement, or scale a bundled payment initiative in their local health system. While health system transformation is focused on the processes of implementation across macro, meso and micro levels, the outcomes will directly benefit the following three main audiences: patients and families, health and social services providers and provider organizations, and policy-makers

(governments, regulating authorities, administrators, and health and social services ministries, etc.).

- **Policy maker implications:** Our study results have identified that system-level policies are impeding the delivery of integrated services at the local level by preserving organizational silos. Policy makers must collaborate with meso-level stakeholders to better understand their needs and modify/align policies appropriately. Further, our results identify the need for policy makers to encourage (through policy and resources) a health system that promotes value-based integrated care and patient-centred care, rather than the mere reduction of healthcare costs. Additionally, considerations for how Bundled Care either works complimentary with other financing models or can be amended to move from episodic care to comprehensive, continuous and holistic care, is required for it to contribute to truly patient-centred, integrated care.
- **Provider and organizational implications:** Our study results emphasize the need for system leaders to invest in implementation resources to support clinicians and staff throughout their change journey. This includes the alignment of clinical, financial, operational and functional data infrastructures to enhance communication and collaboration amongst clinicians and staff. Furthermore, the use of resources to mobilize people across health system levels to encourage a shared vision of patient-centred care and continuous quality improvement. This may build care delivery, operational and relational competencies, capabilities, and trust across the health system.
- **Patient and family implications:** Our study results contribute to our understanding of the importance of partnering with patients and families in the design, implementation, and evaluation of integrated care initiatives. Engaging patients and families in integrated

care initiatives will help to capture meaningful data and to identify key barriers to high quality and patient-centred care across care settings.

6.3. Strengths

We believe that our efforts to identify Bundled Care processes in accordance with the RMIC and consider outcomes in accordance with the Quadruple Aim is one of our study's primary strengths and contributions to the field. This study contributes to an understanding of enablers and challenges to health system integration by providing in-depth examples through implementing bundled payments across health system levels in a specific context. By rooting our research in the experiences and recommendations of those intimately engaged in quality improvement and health system transformation, this research offers a deeper understanding of these aspects than is present within the current literature.

6.4. Limitations

Our study has limitations that should be noted. First, the data collected within this study is only a snapshot in time of the experiences and beliefs of stakeholders within the Ontario health system. Over time, as situations change, the beliefs and experiences of stakeholders will change as well. Therefore, before stakeholders use the data within this study, it may be beneficial to review it again to ensure that it is still relevant to the current situation.

Additionally, although criterion purposive sampling was used to identify a niche skillset and perspective necessary to address the research questions, this sampling method does expose the study to researcher bias, specifically selection bias. The first round of participants invited to participate in the study was identified through a list developed from our knowledge and experience of the field. Ultimately, we were explicit with the inclusion criteria for suitable participants. This allowed us to leverage the first round of study participants and ask them to

identify further suitable study participants. Furthermore, this study did not include all stakeholder groups that would be affected by the change towards an integrated health system through Bundled Care. Groups that were not consulted include clinicians or staff in both hospital and community care setting, or patients and families. Therefore, it would be beneficial to review the results of this thesis with these other stakeholder groups to determine common and diverging experiences.

6.5. Reflection of Contributions

This study contributes to integrated care and health system integration literature by deepening our understanding of the interrelationships between subsystems and how sub-systems dynamically interact together to contribute to a greater whole. Overall, Bundled Care is perceived to have contributed to a greater narrative and conceptual understanding of health system integration and deemed a 'step in the right direction' in its local context. Although our thesis revealed complex challenges in enabling health system integration across macro, meso, and micro levels, it also demonstrates the commitment and drive of stakeholders to improve the current health system so that it is more integrated for the benefit of people and communities. Success depends on the capability of health systems to invest considerable time and resources in implementation and continuous quality improvement as a learning health system. Although many health systems are just beginning their local health system integration journey, we are optimistic that research efforts such as ours provide insights and practical guidance to help advance health systems towards integrated care.

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Appendices

Appendix A: Summary of Bundled Care pilots
Appendix B: Ethics Certificate
Appendix C: Recruitment Letter
Appendix D: Participant Consent Form
Appendix E: Interview Guide

Appendix A: Summary of Bundled Care Pilots (Walker et al., 2019, pg. 12-17)

Title	Target Population	Participating Organizations	Bundle Period & Funding Approach	Key Features
Hamilton Niagara Haldimand Brant LHIN: Integrated Comprehensive Care 2.0 (HNHB ICC 2.0)	COPD and CHF patients discharged from acute care with support and residing within the HNHB LHIN boundaries	• HNHB LHIN (and formerly CCAC); • St. Joseph's Homecare; • Brantford Community Health System; • Haldimand War Memorial Hospital • Hamilton Health Sciences • Joseph Brant Hospital • Norfolk General Hospital • Niagara Health System • St. Joseph's Healthcare Hamilton • West Haldimand General Hospital	**Bundle Period:** 60-days after discharge from acute care **Bundle Funding Approach:** Hospital carve out (equivalent to 1-day LOS) and homecare carve out (based on historic homecare use) to create total bundle contributions with gain and risk sharing (e.g. if volumes were higher/lower, costs more or less than expected).	• Integrated comprehensive care coordinator • Standardized integrated care paths (hospital and homecare) • Clinical expertise and rapid acess to specialists and primary care providers • Homecare provided by lead homecare agency • 24/7 telephone line • Use of technology (e.g. virtual team rounds)
Central LHIN – North York Central Integrated Care Collaborative (NYC ICC)	Mid- to late-stage COPD and CHF patients discharged home from acute care and residing within Central, Central East and Toronto Central LHINs	• North York General Hospital • Central LHIN (formerly CCAC) • Saint Elizabeth Home Health Care (SE) • North York PreResp Inc. • Circle of Care • West Park Healthcare Centre • North York Family Health Team	**Bundle Period:** 60-days after discharge from acute care **Bundle Funding Approach:** Moving dollars upfront	• Care coordination (dedicated care coordinator) • Consistent providers (SE providing homecare, ProResp providing respiratory therapy) • Information access • Team rounds • 24/7 telephone line • Remote consults
South West LHIN – Connecting Care to Home (CC2H)	COPD and CHF patients with moderate levels of care needs who were admitted to hospital	• London Health Sciences Centre • South West LHIN (formerly CCAC) • St. Joseph's Health Care London • Thames Valley Family Health Team	**Bundle Periods:** 60-days after discharge from acute care **Bundle Funding Approach:** Proposed retrospective reconciliation with gain and risk sharing agreements	• Hospital in the home approach (LHSC patient navigator, CCAC care coordinator, in home supportive care and tele-home monitoring by a Registered Nurse in a graduated e-shift/e-clinic model)
Central West – Hospital to Home (H2H)	UTI and cellulitis patients who were 18 years of age or older and required short term, non-specialty/complex in-home nursing service (e.g. IV; wound care; drain care; injections; etc.).	• Central West LHIN (formerly CCAC) • William Osler Health System (WOHS) • Headwaters Health Care Centre • Ontario Telemedicine Network	**Bundle Periods:** 60-days after discharge from acute care **Bundle Funding Approach:** An MOU was established between the participating organizations establishing the joint responsibility for financing and budgeting of the program.	• Short term, non-specialty/complex nursing interventions (e.g. IV antibiotics; wound care; drain care; injections; etc/) • Homecare nurses employed directly by the H2H organizations (CW LHIN, WOHS, Headwaters Health Centre) • Access to electronic medical records both inside and outside the

				hospital 1 contact number
Toronto Central and Central – One Client, One Team (OCOT)	Stroke patients defined using the QBP stroke criteria, who were discharged home with and without support or to inpatient rehabilitation.	• North York General Hospital • Sunnybrook Health Sciences Centre (including St. John's Rehab) • Providence Healthcare • Toronto Central LHIN (formerly CCAC) • Central LHIN (formerly CCAC)	**Bundle Periods:** 104-days after discharge from acute care **Bundle Funding Approach:** Funding envelope established based on carve-out from acute care, rehabilitation and homecare, and gain and risk sharing principles developed in case of funding surplus, shortfall and redistribution. Annual retrospective reconciliation and cash settlement. In addition to an expected minimum financial risk, each organization contributed to an innovation fund for various initiatives (e.g. PDSA cycles/pilots; creating business cases).	• Warm clinical handovers using Essential Professional Conversations for complex patients • One single provider agency with a consistent community stroke team (pilot); Exploring the development of sustainable options for one-community team • My Guide for Stroke Recovery • Early Supported Discharge
Mississauga Halton LHIN – Putting Patients at the Heart (PPATH)	Adult cardiac surgery patients, including but not exclusive to patients undergoing coronary artery bypass grafts (CABG), valve replacements and aortic repairs, both elective and urgent/emergent, who reside within the Central West and Mississauga Halton LHINs and who are discharged home	• Trillium Health Partners (THP) • Saint Elizabeth Healthcare	**Bundle Periods:** 30 days after discharge from acute care **Bundle Funding Approach:** A bundled rate was established (revisited semi-annually), setting out the amount the hospital paid to the service provider for each of the three post-acute pathways (low, medium, and high intensities). A set budget was determined using the estimated volume of patients in each pathway and gain and risk-sharing principles developed should costs exceed or fall below the set budget.	• Integrated care coordinators, employed by THP, who started working with patient's pre-op • Nursing, physiotherapy, occupational therapy and personal support worker visits based on discharge "Pathway" intensity assigned to the patient • Virtual care including phone consultations, virtual rounds, and Tele-monitoring • 24/7 call centre

Appendix B: Ethics Certificate

08/01/2020

Université d'Ottawa
Bureau d'éthique et d'intégrité de la recherche

University of Ottawa
Office of Research Ethics and Integrity

CERTIFICAT D'APPROBATION ÉTHIQUE I CERTIFICATE OF ETHICS APPROVAL

Numéro du dossier / Ethics File Number	S-12-18-1998
Titre du projet / Project Title	Delivering Integrated Care Through Bundled Payments: results from interviews with health system leaders in Ontario
Type de projet / Project Type	Thèse de maîtrise / Master's thesis
Statut du projet / Project Status	Renouvelé / Renewed
Date d'approbation (jj/mm/aaaa) / Approval Date (dd/mm/yyyy)	08/01/2020
Date d'expiration (jj/mm/aaaa) / Expiry Date (dd/mm/yyyy)	06/01/2021

Équipe de recherche / Research Team

Chercheur / Researcher	Affiliation	Role
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08/01/2020

Université d'Ottawa
Bureau d'éthique et d'intégrité de la recherche

University of Ottawa
Office of Research Ethics and Integrity

Le Comité d'éthique de la recherche (CÉR) de l'Université d'Ottawa, opérant conformément à l'*Énoncé de politique des Trois conseils* (2014) et toutes autres lois et tous règlements applicables, a examiné et approuvé la demande d'éthique du projet de recherche ci-nommé.

L'approbation est valide pour la durée indiquée plus haut et est sujette aux conditions énumérées dans la section intitulée "Conditions Spéciales ou Commentaires". Le formulaire « Renouvellement ou Fermeture de Projet » doit être complété quatre semaines avant la date d'échéance indiquée ci-haut afin de demander un renouvellement de cette approbation éthique ou afin de fermer le dossier.

Toutes modifications apportées au projet doivent être approuvées par le CÉR avant leur mise en place, sauf si le participant doit être retiré en raison d'un danger immédiat ou s'il s'agit d'un changement ayant trait à des éléments administratifs ou logistiques du projet. Les chercheurs doivent aviser le CÉR dans les plus brefs délais de tout changement pouvant augmenter le niveau de risque aux participants ou pouvant affecter considérablement le déroulement du projet, rapporter tout évènement imprévu ou indésirable et soumettre toute nouvelle information pouvant nuire à la conduite du projet ou à la sécurité des participants.

The University of Ottawa Research Ethics Board, which operates in accordance with the *Tri-Council Policy Statement* (2014) and other applicable laws and regulations, has examined and approved the ethics application for the above-named research project.

Ethics approval is valid for the period indicated above and is subject to the conditions listed in the section entitled "Special Conditions or Comments". The "Renewal/Project Closure" form must be completedfour weeks before the above-referenced expiry date to request a renewal of this ethics approval or closure of the file.

Any changes made to the project must be approved by the REB before being implemented, except when necessary to remove participants from immediate endangerment or when the modification(s) only pertain to administrative or logistical components of the project. Investigators must also promptly alert the REB of any changes that increase the risk to participant(s), any changes that considerably affect the conduct of the project, all unanticipated and harmful events that occur, and new information that may negatively affect the conduct of the project or the safety of the participant(s).

Marc Alain BONENFANT
Coordonnateur de l'éthique / Ethics Coordinator
Pour/For **Barbara GRAVES** Président(e) du/ Chair of the **Comité d'éthique de la recherche en sciences sociales et humanités / Social Sciences and Humanities Research Ethics Board**

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Appendix C: Recruitment Letter

Dear [*insert name of potential study participant*],

Please accept this as a formal invitation to participate in the research project that I am currently conducting as part of a Master of Science program at the University of Ottawa. This project is aimed at exploring why and how bundled payments influence the delivery of care at patient, provider, and health system levels. It is being led by myself, Samantha Laxton (Master of Science in Health Systems candidate at the University of Ottawa) and is supervised by Dr. Craig Kuziemsky (Professor, at the University of Ottawa).

Your participation is completely voluntary. Should you accept this invitation, your participation will involve an individual interview lasting about one hour during which you and I will discuss your experiences with and your views of bundled payments in Ontario. Our discussion would contribute to my Master of Science thesis; however, you would remain anonymous. If you are interested in learning more, I am happy to discuss all other important details with you.

I look forward to hearing from you.

Best regards,

Samantha Laxton
Msc, Health Systems (candidate)
Telfer School of Management, University of Ottawa

Appendix D: Participant Consent Form

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Consent Form: Research conducted as part of a Master of Science Program
Program and University: Master of Science in Health Systems, University of Ottawa

Name of Researcher: Samantha Laxton
Name of Supervisor: Dr. Craig Kuziemsky
Affiliation: Telfer School of Management, University of Ottawa

Invitation to Participate: I am invited to participate in the research study titled, *Perspectives of Integrated Care from an Ontario Pilot of Bundled Payments* conducted by Samantha Laxton and supervised by Dr. Craig Kuziemsky. This project is funded by the University of Ottawa Research Chair in Healthcare Innovation.

Purpose of the Study: I understand that the purpose of the study is to explore the contributing factors related to how and why bundled payments influence the delivery of care at patient, provider and system levels in Ontario, Canada. I also understand that the objective of this study is to help inform decision makers on why and how bundled payments can be used to achieve health system goals.

Participation: My participation will consist of taking part in an individual interview lasting about one hour. I agree to the session being audio-recorded for better data collection purposes only. Please select one of the following: □ Yes □ No

Benefits: My participation in this study will provide me with the opportunity to describe my experiences with and views of bundled payments in Ontario, and the overall findings of the research project will contribute to the advancement of knowledge in how and why bundled payments influence the delivery of care. My participation will also help the student gain experience in conducting qualitative research.

Confidentiality and anonymity: I have received assurance from the researcher that the information I will share will remain strictly confidential. I have been assured that in written reports, my name (and organization) will be disguised to ensure my anonymity.

Conservation of data: The data collected (digital recording of interview and interview transcript) will be kept in a secure manner. They will be stored in an encrypted folder on a computer with a secure password. Only the student researcher and the thesis supervisor will have access to the interview data. The data will be conserved for 5 years.

Voluntary Participation: I am under no obligation to participate and if I choose to participate, I can withdraw from the study at any time and/or refuse to answer any questions. If I choose to withdraw, all data gathered until the time of withdrawal will be deleted.

Acceptance: I, _____, agree to participate in the above noted research study conducted by Samantha Laxton of the Telfer School of Management, whose research is under the supervision of Dr. Craig Kuziemsky. I understand that by accepting to participate I am in no way waiving my right to withdrawal from the study.

If I have any questions about the study, I may contact the researcher or the supervisor at the coordinates mentioned above.

If I have any questions regarding the ethical conduct of this study, I may contact the Protocol Officer for Ethics in Research, University of Ottawa, Tabaret Hall, 550 Cumberland Street, Room 154, Ottawa, ON K1N 6N5

Tel.: (613) 562-5387

Email: ethics@uottawa.ca

There are two copies of the consent form, one of which is mine to keep.

Participant's signature: _____ Date: _____

Researcher's signature: _____ Date: _____

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Appendix E: Interview Guide

For this study, I am speaking to "health system quality improvement experts." To better define this, I would like to further understand what it is that you do.

1. Just for this context, can you tell me about your role?
2. Tell me about your experience with bundled payments?

I would like to gain a better understanding of the bundled payments in Ontario in terms of their objectives, benefits, risks and desired outcomes.

3. What does a bundled payment mean to you?
    a. *What are the objectives?*
    b. *What are the desired outcomes?*

4. Why is there interest in implementing bundled payments in Ontario's?
    a. *Probes: What are the advantages? Disadvantages?*

Patient level:

5. Do you think bundled payments influence care at the patient level?
   Probes: How? Why? Why not? Do you think they influence the patient experience of care? Outcomes?

6. From a patient perspective, what are the benefits of being involved in a bundled payment?
    a. *Any challenges/risks are the patient level? Probes: Is there a risk of a) under-servicing patients b) cherry-picking (eg. less complex) patients to meet financial pressures?*
    b. *Are the patients aware that they are in a bundled payment? Does it matter if they don't?*
    c. *How might you mitigate these risks/challenges?*

7. What are your thoughts on how bundled payments can be better designed to improve care at the patient level?
    a. *Probes: Is that feasible? What resources are needed?*

Provider level:

8. Do you think bundled payments influence the delivery of care at the provider level?
    a. *Probes: How? Why? Why not? Do you think they influence the provider experience of care?*
    b. *What do providers have to do differently when working with this model? (Eg. learn new skills; engage in different practices? How have they reacted to these demands?)*

9. From a provider perspective, what are the benefits and risks of being involved in a bundled payment?
    a. *Probes: Any challenges/risks?*

   b. *How might you mitigate risks / overcome challenges?*

10. What are your thoughts on how bundled payments can be better designed to improve the delivery of care at the provider level?
    a. *Probes: Feasibility? What would you need in order to do that?*

System level:

11. Do you think bundled payments have an impact at the system level?

12. How do you see bundled payments evolving, if at all?

13. Do you think this is a good tool to enable system integration?

    a. *Why? Why not? What are the benefits? What are the challenges?*
    b. How do you recommend bundled payment be designed to better designed to improve health system integration? Probes: What resources are necessary? What are the enablers?
    c. Is there a better way of enabling system integration?

14. Are there any other thoughts about bundled payments and health system integration?

15. What would be your advice or recommendations to other organizations that are looking to adopt bundled payments?

Concluding remarks:

16. If I have any additional questions may I contact, you?

If there is anything else that comes to mind, please feel free to contact me.