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Literature Review

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Introduction

Research Methodology

This literature review provides an overview of existing research on change management in healthcare to support the identification of key research priorities for effecting change in Canadian healthcare. It was prepared to support the Monieson Centre for Business Research in Healthcare's Change Management for Healthcare Policy Workshop through funding from a Canadian Institutes of Health Research Planning Grant. The goal of the workshop is to enable interaction between Queen's School of Business researchers with expertise in existing change management theory, healthcare policy researchers from Queen's Faculty of Health Sciences and School of Policy Studies possessing knowledge of the challenges facing the healthcare system, and key sector stakeholders, in order to develop a vision for partner-oriented research on healthcare policy reform.

The research design consisted of a systematic review of the literature in both healthcare and business contexts of change management. Inclusion criteria parameters for the literature search included years 1990 to 2013 from Canada, the United States and international English-language studies. Search terms included "change management healthcare," "managing change health," "change management models in healthcare," and "healthcare change Canada." Databases used for searches included ABI/Inform, Business Source Complete, Canadian Electronic Library, CBCA, PubMed, Scholars Portal, Science Direct, and Scopus. The researchers reviewed over 100 scholarly articles, which included publications from the grey literature, and these were further narrowed down to 45 articles that fit the necessary criteria.

Background – The Current State of Canadian Healthcare

Canada's healthcare system is in need of significant change. Where 2011 healthcare spending was originally forecast to reach 8.1% of GDP [2], it ultimately grew to approximately \$193 billion, or 11.9% of GDP [1]. A 2010 comparison of 11 countries ranked Canada lowest in several key wait times: being able to see a doctor or nurse when sick, seeing a specialist, and having elective surgery [1, 2]. Among these comparators, Canada had the largest proportion of adults waiting in emergency departments for four hours or more before receiving treatment. Furthermore, for specialist appointments, 41% of Canadian patients reported wait times of over two months, which was 7 percentage points greater than the second-lowest ranked country, Norway. With Canada ranking last out of 30 countries in terms of value for money [3], efficiencies in the management of Canada's healthcare systems must be found. The added complexity of an aging population only increases the need for effective primary care reform, improved chronic disease management, better integrated care models of care delivery, and contained costs of healthcare delivery.

The need for reform has been clearly identified by Canadians at both patient and healthcare professional levels. The highest priority for Canadians is timely access to care followed by high quality of care, both of which are believed to have declined in recent years [3]. Ten years ago, the 2003 *First Ministers' Accord on Health Care Renewal* and the 2004 *10-Year Plan to Strengthen Health Care* were created in order to stimulate a decade of reform, but successes have been limited. Innovations in healthcare delivery did not reach their full potential, in part due to difficulties in finding effective ways to share knowledge and integrate best practices among jurisdictions. Canada's healthcare system is highly valued by its citizens. However, the health system has been unable to keep pace with the evolving needs of Canadians. As such, many decision makers believe the Canadian healthcare system needs "to be massively transformed" [3].

Healthcare organizations are complex, in part because of a confluence of professions, including physicians, nurses, pharmacists, and administrators, each with seemingly competing interests, perspectives, and time horizons. Addressing these myriad issues affecting Canada's healthcare system will require ongoing leadership from governments and provider organizations, and stronger collaboration amongst healthcare professionals. It is important that all of these stakeholders have a common understanding of change and its implications. Proposals to reform the Canadian healthcare system will only be successful if existing institutional legacies and the interests of leaders and stakeholder groups are taken into account. Pouring more money into a system that isn't configured to achieve desired societal outcomes is an ineffective way to allocate resources. Instead, practical solutions must be implemented to deliver improved health and economic outcomes. There is a pressing need to provide Canadian healthcare decision makers, professionals, and researchers with a well-defined and relevant set of interdisciplinary and evidence-informed approaches to change that can be applied in a variety of contexts. Managing organizational culture is increasingly viewed as an essential part of health system reform. Change management theory offers solutions for the effective implementation of healthcare reforms.

To facilitate healthcare reform in Canada, health managers and other decision makers must have an understanding of how change occurs in order to create a setting that is conducive to innovation. Individuals experience change in two distinct ways, either as change agents or change targets [4]. *Change agents* are individuals entrusted with the duty and concomitant powers necessary to effect change in policy or practice [5]. These individuals may include policy makers, managers within an organization, and management consultants. *Change targets* refers to those being reorganized within an organization as part of the change process. These individuals typically include employees within an organization; however, individuals may also be agents and targets of change simultaneously [4].

Cultivating an environment conducive to change entails gaining commitment and overcoming resistance. This can be accomplished by understanding the motives of those affected by the change and determining whether they view the change positively or negatively. In order to secure commitment to change, an individual must perceive the positive factors associated with change as outweighing the negative [4]. In the context of Canadian healthcare, building commitment entails gaining the support of the entire system, from patients to doctors, to front-line nurses and hospital administrators, to personal support workers and governmental officials. The presence of strong leadership and the ability to establish new forms of cooperation will play an important role in cultural transformation. Change must be undertaken with the patients' interests at the centre. Resistance to change arises out of a plethora of factors that make addressing the issue very complex. Managers must skilfully adopt an optimal strategy using a combination of approaches best suited for the situation and individuals involved. Managers can classify these individuals based on their level of resistance, and determine the level of consultation and overall engagement they will need in order to mitigate resistance [4].

All Canadians require timely access to an appropriate array of medically necessary services. The emerging drive towards patient-centred care demands a level of care that responds to individuals' needs, is delivered effectively, and is well-coordinated among all care providers. Transformational change will help refocus the system to build a culture of patient-centred care. However, to realize this vision, effective change management strategies are needed – strategies which set a clear and firm direction, yet are flexible enough to respond to changing contexts, allowing for the ongoing emergence of a continually improving practice care model.

Change Management Models

Planned Change and Emergent Change

The change management literature reflects two core modes of change management: planned change management and emergent change management. Planned change management dominates the academic literature and owes much to the work of Kurt Lewin [6]. The planned change approach views change as a transitional process between fixed states. Throughout this process, a series of pre-planned steps are employed, thereby making this approach amenable to research analysis [7]. The planned change approach recognizes that, in order to successfully adopt new behaviours within an organization, old behaviours must be relinquished.

It should be noted that planned change makes an assumption that, overall, the change targets within an organization will agree with management's vision of change and the steps designed to transition towards the "changed" state [7]. In practice, this scenario rarely exists as workers within an organization come from different backgrounds and have varying attitudes, beliefs, and needs. This reality makes a state of complete agreement on a course of action virtually impossible. Moreover, planned change places too much emphasis on the role of managers and obscures the contributions of employees in the change process [7]. By placing an emphasis on pre-planned processes, timetables, and objectives, all of which are developed by management, this approach obscures the impacts employees have on change initiatives.

Emergent change is a newer concept and lacks a single theoretical alternative to planned change. Rather, the emergent change field consists of many unrelated theories presenting varying approaches to change management. The emergent change approach views change as a less prescriptive and more analytical undertaking. While change will ultimately transition an organization from one state to another, this approach places less emphasis on plans and projections to focus on understanding the complexity of the business environment and developing a range of alternatives to guide decision making [8]. The emergent change approach recognizes that change must be linked to market forces, work organizations, systems of management control, and the shifting nature of organizational boundaries and relationships [8]. Unlike planned change, emergent change emphasizes a "bottom up" approach to change management. While the planned change model emphasizes pre-planned processes and objectives that underscore the role of management, the emergent change approach argues that the pace and nature of change is so rapid and complex that senior managers may have difficulties identifying changes and devising strategies to address them in a timely fashion [8]. As a result, managers must cede some of the decision-making authority to employees and act as facilitators of change as opposed to controllers of change [8].

The emergent change approach assumes that if organizations operated in more predictable and less volatile environments, the need for change would be minimized [8]. Only under such circumstances would change be merely a process of moving from one fixed state to another, as outlined by a management team. Moreover, emergent change places a great deal of focus on the external environment and implies that these external forces effectively divest management of the ability to guide change and set organizational trajectories [8].

While the planned and emergent approaches to change are often pitted against one another as though they are mutually exclusive, it is important to recognize that these are theoretical approaches. At times, the best strategy for organizations to adequately manage change rests in between the two theories; this will require shrewd integration of the two based on an organization's particular

circumstances [9]. Change agents and change targets alike must recognize that in order to achieve successful change, an interplay of factors will need to be considered, including the organizational (internal) and environmental (external) circumstances driving the change [9]. As such, both theories may need to be drawn upon for guidance.

Models Driving Change

The change management literature presents a complex body of academic work that provides a robust challenge to anyone attempting to summarize it. This body of literature contains contributions from several academic disciplines, including psychology, sociology, and business, spanning a period of about six decades [10]. Furthermore, the literature contains frameworks, models, evidence, and illustrations from a variety of theoretical and organizational contexts [10]. While no frameworks or models of change management are unique to healthcare organizations, several models are employed in the literature when analyzing change efforts in these organizations. This review will therefore provide a summary of the dominant change management models that are referenced and often applied to change efforts in healthcare organizations. Further, frameworks from recent Canadian studies will be assessed against the established theoretical context of planned change or emergent change.

The models found in the business literature and presented in this document are used more frequently in higher level structural changes. As related to healthcare, this would apply to the development of a new Health Authority in the National Health Service of the United Kingdom, for example, as opposed to micro-level process changes in healthcare facilities. Although in theory these models are applicable in a variety of contexts, their use in the literature does not demonstrate their universal applicability.

Planned Change Models

Planned change management dominates the academic literature, and prominent is the work of Kurt Lewin [6]. Lewin constructs four theories that together lead to an understanding of, and a framework through which to bring about, planned change. These theories include *field theory*, *group dynamics*, *action research*, and the *3-step model* [11]. Though these theories are often looked at independently as separate themes of Lewin's work, they are intended to present a unified whole, with each serving as an element to facilitate an understanding of planned change [11].

Field Theory

Field theory presents an approach to analyzing the context, or field, in which group behaviour takes place. This high level approach maintains that "one should view the present situation – the status quo – as being maintained by certain conditions or forces" [12]. The components of these conditions and forces are group behaviours which are described as a set of symbolic interactions that affect group outcomes and individual behaviour alike [11]. Therefore, an individual's behaviours and actions are dependent on group dynamics and the overall group environment, which represents the 'field.' While there are generally patterns to group behaviours, the theory acknowledges that the group environment, or 'field,' is dynamic and undergoes constant change owing to the changes in the forces or circumstances that impinge on the group. This reality is what Lewin terms a "quasi-stationary equilibrium" [11]. If a manager is able to identify, plot, and determine the potency of these forces, they will then be able to understand an individual's behaviour and identify the forces necessary to change this behaviour.

Group Dynamics

Group dynamics involves the study of the causes, modifiers, and consequences of forces at work within groups [11]. While field theory looks at the nature of the environment and how it affects group behaviour, group dynamics looks at the nature and characteristics of a group that precipitate certain behaviours and why these behaviours are chosen to counteract the forces that impinge on the group. More specifically, the characteristics of interest when looking at group dynamics include group norms, roles, interactions, and socialization processes used to create change [13].

Action Research

Action research presents an approach for conducting research to enhance direct practice [14]. This theory postulates an approach for analyzing a situation, identifying possible solutions, and determining the best course of action based on the nature of the situation. For the approach chosen to be successful, a 'felt need' – a realization amongst the people involved in the process that change is necessary – must exist [14]. Action research is a self-reflective process that first involves a change planning stage, and then consists of acting and observing the process and consequences of change, reflecting on the processes and consequences, and, finally, re-planning to repeat the cycle [14]. This process draws on field theory to understand the forces and context in which the group operates, as well as group dynamics to understand the nature of individual group members and the sources of their behaviours. Action research emphasizes that change must take place at the group level and must incorporate participative and collaborative processes to minimize resistance and increase effectiveness [14].

3-Step Model

Lewin's 3-step model provides a general explanation of how organizational change is actualized. The model posits a three step sequence of change: unfreezing, moving, and refreezing [11].

The first stage of the model, unfreezing, involves destabilizing the status quo, or the 'quasi-stationary equilibrium' by creating buy-in for change and ensuring that organizational members appreciate the need for change [11]. More specifically, this stage involves breaking down the status quo by disconfirming the validity of the status quo, inducing guilt or survival anxiety, and creating psychological safety [11]. Disconfirming the validity of the status quo consists of articulating the arguments for why the status quo is unsustainable. Inducing guilt or survival anxiety results in cultivating a belief amongst those involved in the change process that change is necessary for survival [11]. Creating psychological safety leads to the mitigation of an individual's anxiety towards change and fear of the unknown [15]. Lewin argues that only after this unfreezing process can old behaviours be discarded and new behaviours successfully adopted [11].

The second stage of Lewin's 3-step model, moving, draws from field theory and group dynamics to first identify what needs to be changed, and then develop an implementation strategy that will resonate with the change targets [11]. Due to the complexity of forces that influence groups and individuals within groups, "one should seek to take into account all the forces at work and identify and evaluate, on a trial and error basis, all the available options" [11]. This analysis draws on the learning approach promoted by action research.

Once an ideal state has been obtained through the change process, refreezing must occur to stabilize the group at a new quasi-stationary equilibrium [11]. New individual behaviours adopted throughout

the change process must be congruent with the overall group personality and environment of the learner, or the process may lead to a new round of disconfirmation [11]. Therefore, change must be initiated as a group activity to ensure group norms and routines are accommodating to new individual behaviours. This process of refreezing ensures that individuals do not regress to old behaviours [11].

In sum, Lewin’s model of planned change emphasizes an understanding of how social groups are formed, motivated, and maintained. Field theory and group dynamics provide an approach to secure this understanding. Once an understanding is attained, action research is used to inform the 3-step model of change. Lewin’s four phases form the theoretical foundation of planned change management. While other theories exist, many of these theories are extensions of Lewin’s 3-step model. Examples of such theories include Lippitt et al.’s seven-phase model [16], Kotter’s 8-Step Change Model [17], and Bullock and Batten’s four-phase model [18] (See Table 1).

Table 1 - Bullock and Batten, Kotter, and Lippitt Change Management Models as they relate to the Lewin’s 3-Step Model

Lewin	Bullock and Batten	Kotter	Lippitt
Unfreezing	Phase 1 - Exploration: The organization has to make a decision on the need for change	Step 1: Establish a sense of urgency	Phase 1: Diagnose the problem
			Phase 2: Assess motivation and capacity for change
Unfreezing	Phase 2 - Planning: Understand the problem	Step 2: Create a guiding coalition	Phase 3: Assess change agent’s motivation and resources
		Step 3: Develop a vision and strategy	
Moving	Phase 3 - Action: Changes identified are agreed upon and implemented	Step 4: Communicate the change vision	Phase 4: Select a progressive change objective
		Step 5: Empower employees for broad-based action	
		Step 6: Generate short-term wins	Phase 5: Choose appropriate role of the change agent
		Step 7: Consolidate gains and produce more change	
Refreezing	Phase 4 - Integration: Stabilize and embed change	Step 8: Anchor new approaches in the culture	Phase 6: Maintain change
			Phase 7: Terminate the helping relationship

Emergent Change Models

The emergent approach to change management is relatively new and currently lacks a principle theoretical foundation. Supporters of this approach are more united in their stance against planned change than in agreement about any particular alternative [19]. Currently, the most commonly cited models of emergent change management include: Hinings and Greenwood's model of change dynamics [20]; Kanter et al.'s "Big Three" model of organizational change [21]; and Pettigrew's process/content/context model [22].

Hinings and Greenwood's Model of Change Dynamics

In accordance with other emergent change models, Hinings and Greenwood's *model of change dynamics* acknowledges that change involves a complex interaction of organizational context and internal organizational processes [20]. Change, as per this model, is an unfolding series of circumstances and actions stemming from unanticipated consequences and a moving context. The model of change dynamics posits that change occurs through the interplay of five factors: situational constraints, interpretive schemes, interests, dependence of power, and organizational capacity [20]. Each of these factors is dynamic and managers must recognize and determine appropriate responses to each:

- i. *Situational constraints* are environmental (i.e., the nature of an organization's broader industry), technological (i.e., the nature of the product and production process in an organization), and size-related factors (i.e., the nature and extent of the division of labour and the existence of impersonal control mechanisms – larger organizations have more extensive specialization of functions and personnel and more formal control systems) that may necessitate change, or enhance or thwart an organization's ability to achieve successful change [20].
- ii. *Interpretive schemes* are ideas, beliefs, and values that underlie the operations of an organization [23]. These form the foundation upon which organizational design arrangements and structures are built.
- iii. *Interests* represent the orientation and motivation of members of an organization to maintain and enhance their sectional claims [20]. The model of change dynamics conceptualizes organizations as political systems in which advantaged groups jostle with others to maintain their privileged status. Consequently, organizational subunits have distinct interests that are sometimes at odds with those of other subunits. While organizational subunits are, in theory, interdependent, interactions between units may become disruptively competitive [20].
- iv. *Dependencies of power* represent the power relations within an organization [20]. These relations determine which organizational actors have the capacity to determine outcomes and influence decisions [20]. Within an organization, power can be 'concentrated,' that is, the opportunity to influence decisions is limited to a small group. Power can also be 'dispersed,' that is, the opportunity to influence decisions is not limited to a small group. Rather, individuals are autonomous and exercise a considerable degree of control over their daily activities [20].
- v. Lastly, the ability of an organization to achieve successful change is dependent on the skill of its leadership to generate commitment and excitement over the prospect of change, that is, the extent of transformational leadership, and its ability to construct and communicate its vision of change. These two capabilities define an *organization's capacity*.

Hinings and Greenwood's model of change dynamics acknowledges the complexity of the environment in which organizations operate. This model proposes that in order for organizations to undergo successful change operations, leadership must heed the situational constraints presented by the organization's broader context. Furthermore, change must accommodate internal factors such as the beliefs, values, interests, and power relations within the organization. Managers must exhibit leadership in their ability to generate commitment and communicate their vision of change.

Kanter et al.'s "Big Three" Model of Organizational Change

The "Big Three" model of organizational change stems from 5 major acknowledgements relating to the complexity of change:

1. It is hard to make changes stick
2. There are clear limitations to managerial action in making change
3. Attempts to carry out programmatic continuing change through isolated single efforts are likely to fail because of the effects of system context
4. The need for change may make it harder for change to occur
5. Some of those best at new practices in one realm may show limitations in others [21]

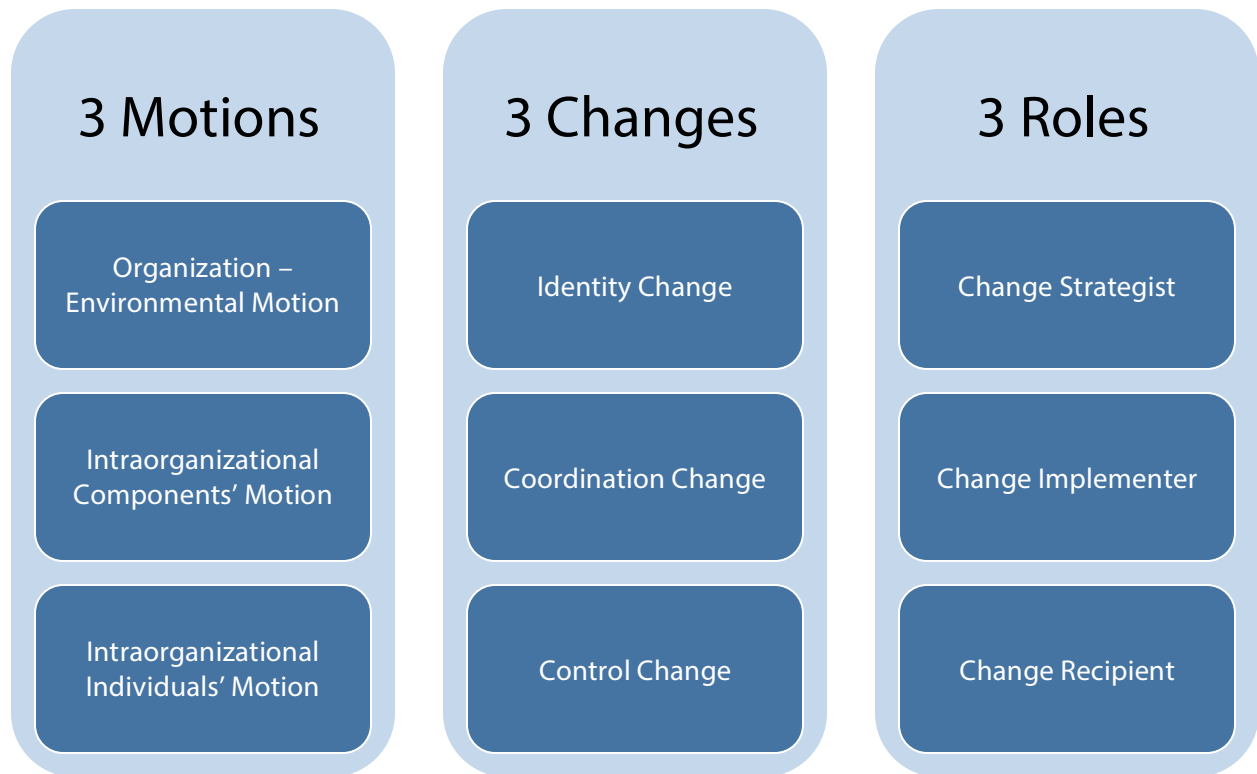
Overall, these acknowledgements fall in line with other emergent change models in suggesting that change occurs incessantly in modern day organizations and the organizational contexts and broader environmental factors limit management's ability to control, predetermine, and plan for change.

The Big Three model proposes that there are three kinds of motion, three forms of change, and three roles in the change process [21] (see Figure 1). In terms of motions, the model suggests that there is the motion of the organization in relation to the broader environment, the motion of the organizational components relative to one another, and the motion of individuals within the organization as they vie for power and control [21]. These motions help distinguish between the types of organizational changes.

Forms of change arise as identity changes, coordination changes, and changes in control [21]. Identity changes occur between the organization and its environment and are generally caused by pressures and opportunities in the environment. Examples of these changes include changes in niche markets, and changes in relationships with customers and funders [21]. Coordination changes occur between the internal parts constituting an organization [21], where examples include changes in the shape and structure of an organization. Control changes concern controls in the power relations within an organization [21]. Examples of this include changes in the set of interests that predominate the organization, changes in ownership and governance, as well as changes in the composition and membership of dominant coalitions.

Roles in the change process include the change strategist, change implementers, and change recipients [21]. Change strategists set the vision and overall direction of the organization in relation to its environment, and are often involved at the beginning of a change sequence. This role is often assumed by senior individuals within an organization. Change implementers oversee the internal organizational structure as it relates to change. This entails taking on a project management role, often assumed by mid-level managers, who become involved in the change process around its midpoint. Change recipients are those most affected by change, but who have the least influence on its conception. Change recipients are the last to be involved in the change process and are usually those at the bottom of the organizational totem pole [21].

Figure 1 – Big Three Model of Change



The Big Three model illustrates the key areas of change that must be understood in order to increase an organization's likelihood of success. Managers must have a thorough understanding of the nature of change being undertaken. Furthermore, they must understand and take into consideration the perspectives and interests of all three change roles – strategists, implementers, and recipients. Kanter et al. argue that only through engaging this full spectrum will organizations be able to achieve successful change.

Pettigrew's Context/Content/Process Model

Pettigrew's Context/Content/Process model acknowledges the complexity and inessancy of change, but also perceives change as purposive because it is undertaken in search of a competitive advantage and not merely as a tool to keep up with the external environment [24]. This model posits that change should be analyzed based on three dimensions: *context*, *content*, and *process* [25].

In this model, context consists of an organization's internal environment – its structures, culture, power distributions, skill base, and resources – as well as its external environment – the economic, legal, and social circumstances under which it operates. As external environments change, internal environments must also be changed to accommodate the external changes [25].

Content entails the components of change and draws on both internal and external logics. Thus, the content of change should respond to the factors in the external environment, such as market opportunities, as well as to those within the organization, such as improving operational efficiency

[25]. Management must exhibit leadership in the ability to conceptualize change and galvanize others in the organization towards achieving this vision of change.

The process of change includes the operational activities undertaken to materialize change [25]. This component of Pettigrew's model can be divided into three factors that managers must address: development of the logic of change implementation, managing the change transition, and curtailing resistance to change [25]. Process represents the final stage of the conceptual model of change. As such, process can only be determined after a thorough understanding of the organizational context has been attained and the perspectives of all individuals involved in the change process have been considered in the content stage.

The Context/Content/Process model encourages change leaders to be well aware of the organizational context, including internal structures and external constraints, in order to improve the likelihood of success of their change initiatives. Furthermore, managers should ensure the content of change resonates with all those involved in the change process. Only after these prerequisites are met can the process of change implementation be mapped out.

Change Management Models in Health Research

In addition to the planned and emergent change management approaches, which arise largely from the business literature, several other change management models have recently developed from a healthcare context. Three such models are Lukas et al.'s Organizational Model for Transformational Change in Healthcare Systems, Canadian Health Services Research Foundation (CHSRF)'s Evidence-Informed Change Management Approach, and Canada Health Infoway's Change Management Framework.

Lukas et al.'s Organizational Model for Transformational Change in Healthcare Systems

Lukas et al.'s Organizational Model for Transformational Change in Healthcare Systems presents a conceptual model for guiding healthcare organizations towards sustained organization-wide patient care improvements [26]. Lukas et al. define healthcare organizations in terms of four components: (1) *Mission, vision, and strategies*, which set direction and priorities; (2) *Culture*, which is determined by values and norms; (3) *Operational functions and processes*, which are embodied by work done in patient care; and (4) *Infrastructure*, including information technology, human resources, fiscal services, and facilities management that supports the delivery of patient care [26]. Change in any of these four components is what constitutes change in the organization/healthcare system, according to the Lukas model. To facilitate this process, the model proposes five essential elements of transformational change in healthcare organizations:

1. Impetus to transform
2. Leadership commitment to quality
3. Improvement initiatives that actively engage staff in meaningful problem solving
4. Alignment to achieve consistency of organization-wide goals with resource allocation and actions at all levels of the organization
5. Integration to bridge traditional intra-organizational boundaries between individual components [26]

Impetus to transform refers to external pressures that compel an organization to undergo change [26]. While the impetus to transform generally originates from outside of the organization, internal factors

can also necessitate organizational change. Leadership commitment to quality refers to the acknowledgement of senior management of the necessity of change [26], as senior management must guide and promote change through the organization. Improvement initiatives are initiatives to better operations [26]. These undertakings, if sustained, have the potential to improve the overall efficiency and performance of an organization. They are an excellent opportunity to engage staff and incorporate their insights into the change process [26]. Moreover, these initiatives along with staff engagement may afford management some insight into the resource capacity of the organization and how to align change initiatives to achieve consistency of organization-wide plans, processes, and goals. Lastly, integration across an organization is necessary to break down boundaries between individual components so the organization functions as a coherent unit [26].

Lukas presents five interrelated elements that are necessary to successfully implement change in healthcare organizations. In order to achieve successful change, healthcare change leaders must acknowledge the need for change and actively engage staff in sustaining short-term improvement initiatives to perpetuate their effects. Furthermore, change leaders must take measures to ensure these initiatives align with broader organizational goals and that organizational subunits are integrated and functional as coherent units.

Canadian Health Services Research Foundation (CHSRF)'s Evidence-Informed Change Management Approach

More recently, the Canadian Health Services Research Foundation (CHSRF) published *Evidence-Informed Change Management in Canadian Healthcare Organizations* [27], which presents a model targeted at Canadian healthcare organizations. Its specific aim is the development of leadership to support change. The key advantage of this document is that it outlines change in a manner that is specific and pertinent to a Canadian context.

The document presents a practical model for change management containing four stages: *planning, implementing, spreading, and sustaining* change [27]. Within the planning stages of change, change initiators must seek to understand the context and dynamics of change as well as determine the readiness and capacity of change [27]. Understanding the context and dynamics of change entails reflecting on the steps necessary for initiating and implementing change as well as garnering support. Change initiators must scope out potential partners that may support or reject the change process, as well as all those that will be affected by the change. Determining the readiness and capacity of change entails coming to terms with the readiness of individuals at all levels of the organization to accept change. Moreover, an organization's capacity, be it financial or otherwise, to undergo change should also be assessed.

After completion of the planning stage, change initiators may implement change by taking action based on their planned approach. According to the model, change initiatives in the health context may aim to improve effectiveness (e.g., patient and workplace safety and quality improvement), efficiency (e.g., accountability, financial sustainability, and improved service delivery models), and/or the impact of scientific approaches and learning (e.g., maximizing the potential for researchers and decision makers to 'translate knowledge' and communicate with and learn from each other) [27].

Spreading change entails propagating change beyond its initial context [27], for example applying the results of a successful localized pilot project to increasingly larger health systems, such as communities, regions, and provinces. Spreading change also entails influencing organizational culture by introducing new customs, traditions, and ways of doing business [27].

Lastly, sustaining change entails monitoring and adjusting the change process as practical experience is gained over the course of the initiative [27]. This includes developing a theory of how the process and end product of change should look and comparing practical evidence with the theory.

The CHSRF model of change management presents a four-stage process of change. In order to successfully implement change, change initiators must understand the stage of change they are in and take the necessary steps to manage the change. During the planning stage, change initiators must be sensitive to, understand, and prepare for the change process. Implementing change entails taking action on the change initiatives proposed. Spreading change is accomplished when change is taken beyond its original context. Finally, sustaining change is accomplished by monitoring and adjusting the change process as practical experience is gained.

Canada Health Infoway Change Management Framework

The Health Infoway Change Management Framework was created to establish a set of common priorities and develop a unified plan to guide e-health change management efforts in Canada [28]. Aside from its initial intent, however, the Health Infoway framework's core change management principles are applicable in a variety of contexts. Furthermore, the framework aligns well with other change management models previously discussed in this review. The framework presents six key elements of the change management process that should be addressed throughout the course of a change initiative. These elements are governance and leadership, stakeholder engagement, communications, workflow analysis and integration, training and education, and monitoring and evaluation [28]:

- *Governance and leadership* represents the mechanisms that guide and regulate the course of an organization [26]. Effective governance and leadership can facilitate alignment of priorities and objects and generate buy-in on change initiatives. An organization's governance structures must fit the organizational culture and objectives in order to increase the likelihood of success [26].
- *Stakeholder engagement* refers to the process of involving people who can affect or who are affected by the achievement of an organization's objectives [26]. To avoid misunderstanding, disappointment, and/or resistance, stakeholders should be engaged at the outset of a change initiative. To ensure efficient change, each stakeholder needs to be understood in terms of their level of commitment, which allows for a mapping of different engagement strategies for different types of stakeholders:
 - Inform: stakeholders who will receive updates on progress and decisions
 - Consult: stakeholders who will receive updates in addition to having an opportunity to influence decisions
 - Involve: stakeholders who will have their concerns considered and reflected in the alternatives of a decision process
 - Collaborate: stakeholders whose advice will be incorporated to the maximum extent possible
 - Empower: stakeholders who will have their decisions implemented [26]
- *Communications* concerns the ability to deliver the right message, to the right person, through the right channel, at the right time [26]. This element provides an opportunity to solicit feedback, provide information to stakeholders, build trust, and report progress [26].
- *Workflow analysis and integration* entails a critical analysis of how work is currently conducted in order to identify areas of improvement and forecast the effects of change initiatives on

these structures. Ultimately, workflow analysis and integration seek to effectively integrate people, process, and technology [26].

- *Education* refers to an activity in which instruction is provided with the aim of effecting knowledge or skill development [26]. When the end goal of this activity is to improve a recipient's performance or help the recipient attain a required level of knowledge or skill, it is referred to as training [26]. Education initiatives should begin in the early stages of the change process to foster an understanding and generate buy-in for the change initiative. Training, on the other hand, is most effective when delivered just before the trainee is needed to fulfill the task [26].
- *Monitoring and evaluation* refer to overseeing and assessing the impacts an initiative has on its target audience [26]. These can be completed for formative or summative purposes. Formative evaluation refers to an evaluation conducted at any time point across the continuum of a change project to confirm if short-term goals and milestones are being met [26]. Summative evaluations are conducted at the end stage of a project to assess whether end term goals of a project have been met [26]. Monitoring and evaluation are most effective when the desired benefits of a change initiative are established during the planning stages and presented in such a way that makes them measurable. This provides direct metrics by which the performance of a project can be assessed.

Comparing Canada Health Infoway Change Management Framework against Established Models

Unlike the models previously mentioned in this document, The Canada Health Infoway Change Management Framework does not present a systematic approach to managing change. Rather, it provides core components of managing a change undertaking. These core components are not presented with any particular sequence to guide managers on what to accomplish first and what to attend to last. However, the components presented as part of the framework are held in common with other change management models as follows:

- *Governance and leadership* is essential for ensuring change initiatives align with broader strategic goals. This component is emphasized by all models of change management. While some models do not formally articulate the importance of strong leadership, it is implied in the sequences and processes that are contained in the models. All models are generally written for use by change leaders as opposed to change targets.
- *Stakeholder engagement* is also emphasized to varying extents by all of the previously discussed change management models. For instance, Kurt Lewin's group dynamics emphasizes an understanding of the nature and characteristics of groups involved in a change process. Achieving this understanding requires engaging these stakeholders to get a sense of the impetus for their actions and behaviours. Furthermore, Lewis posits that successful change initiatives must refute the validity of the status quo and create psychological safety around change; this, by nature, involves engaging stakeholders in the change initiative. Hinings and Greenwood's model of change dynamics also acknowledges the importance of stakeholder engagement through their emphasis on accommodating beliefs, values, interests, and power relations. The Big Three model posits that change leaders must take into account the perspectives of all individuals involved in a change process, including change strategists, change implementers, and change recipients.
- *Communications* is an essential component of any change management initiative. As such, it is an important aspect of all change management theories. Similar to governance and leadership, although the change management models mentioned in this review do not

explicitly state the importance of communication, it is implied in the activities that change leaders are encouraged to undertake as part of the change process. For instance, Lukas et al.'s articulation of the importance of cultivating an impetus to transform necessitates communication between change leaders and change targets.

- *Workflow analysis and integration* as described in the Canada Health Infoway Change Management Framework comprises the mapping of current processes to identify space for improvements, akin to Lewin's action research, which is research conducted with the purpose of enhancing practice. The workflow analysis and integration component is also consistent with the process component of Pettigrew's Context/Content/Process model, which specifies that change leaders must develop a logical sequence of operational activities that will actualize change. Lewin's and Pettigrew's models are the only models employing process analysis similar to Infoway's workflow analysis and integration approach.
- Interestingly, no other model formally recognizes *education and training* as part of the change management process. Furthermore, education and training is not strongly implied within any of the change management theories. An argument can be made, however, that through the communications involved with change management, knowledge will be imparted among key stakeholders.
- *Monitoring and evaluation* is also referred to in Lewin's action research approach. Lewin presents action research as a self-reflective process that consists of a change planning stage, acting and observing the process and consequences of change, reflecting on the processes and consequences, and re-planning to repeat the cycle. The notion of observing the process and consequences of change shares direct overlap with the monitoring and evaluation framework of the Canada Health Infoway Change Management Framework.

The Canada Health Infoway Change Management Framework is most consistent with Lewin's 3-step model of change management (which incorporates his other three principles). Although this model does not formally acknowledge all components of the framework, it implicitly acknowledges the importance of each component of the framework. While it also is well reflected in Pettigrew's process-oriented approach, the Context/Content/Process model does not incorporate any type of monitoring and evaluation component (see Table 2).

Table 2 - Comparison of Canada Health Infoway Change Management Framework Components with Other Change Management Models

Canada Health Infoway Change Management Framework Components	Lewin's 3-Step Model	Hinings and Greenwood's Model of Change Dynamics	Kanter et al.'s "Big Three" Model of Organizational Change	Pettigrew's Context/Content/Process Model	Lukas et al.'s Organizational Model for Transformational Change in Healthcare Systems
Governance and leadership	✓	✓	✓	✓	✓
					(continued)

Table 2 (continued) - Comparison of Canada Health Infoway Change Management Framework Components with Other Change Management Models

Canada Health Infoway Change Management Framework Components	Lewin's 3-Step Model	Hinings and Greenwood's Model of Change Dynamics	Kanter et al.'s "Big Three" Model of Organizational Change	Pettigrew's Context/Content/Process Model	Lukas et al.'s Organizational Model for Transformational Change in Healthcare Systems
Stakeholder engagement	✓	✓	✓	✓	✓
Communications	✓	✓	✓	✓	✓
Workflow analysis and integration	✓	✗	✗	✓	✗
Education	✗	✗	✗	✗	✗
Monitoring and evaluation	✓	✗	✗	✗	✗

National Health Service Change Management Guidelines

The UK's National Health Service (NHS) has implemented a change management model that offers principles to facilitate successful change and workforce efficiency. While this model was developed to support acute care, primary care, and mental health trusts, in order to implement large-scale change through e-rostering or staff bank solutions, the principles can be applied to all change efforts within a health system [29].

The NHS Change Management Guidelines offers a six-step approach to successfully implementing change [29]:

- Step 1. Know where you're going and why
- Step 2. Analyse and design
- Step 3. Gain commitment
- Step 4. Deliver it
- Step 5. Reinforce it
- Step 6. Sustain it.

In Step 1 of the NHS CMG, change leaders must develop a business case, select the project team, and mobilize organizational leadership [29]. Developing a business case is important for outlining the benefits and drawbacks of the change initiative. The business case should outline project outcomes, benefits, milestones, accountabilities, risks, and mitigating strategies [29]. All elements necessary for the business case can be captured by using a project management methodology, such as the PRINCE2 (Projects in Controlled Environments, version 2) methodology [29]. Acquiring the necessary information to complete the business case may require consultations with other departments within

the organization (e.g., finance and human resources), as well as organizational reports (e.g., past budgets).

Ensuring that the project has the right personnel is critical to the success of the change initiative. The project team should hold all the skillsets necessary to represent and deliver the project successfully. Some key roles that should be filled include a full-time project manager, to oversee the execution of the change initiative, and a project board of key stakeholders, to act as a decision-making body and also to agree to the terms of reference and objectives of the project [29].

Leadership enthusiasm is another critical component of success. Regardless of the change initiative being proposed, it is essential that senior management (including the C.E.O. or department director) sponsor the project [29], in order to foster staff buy-in. Moreover, senior management can ensure that key stakeholders are identified and mapped out in terms of their interest in and influence on the project, and, most importantly, that the necessary resources are allocated for the project [29]. Ultimately, Step 1 lays the groundwork for the change initiative and secures commitment from leadership by ensuring that resources necessary for the project are in place.

The analyze and design step of the guidelines, Step 2, involves considering design options, developing a delivery strategy, and understanding the impact of the initiative on all stakeholders [29]. To accomplish this, change leaders must consult stakeholders to ensure that the design and delivery strategy is circumspect and will generate minimal, if any, resistance.

Step 3, gaining commitment, carries on from the initiatives in Steps 1 and 2. This step involves preparing for implementation of change and also ensuring all stakeholders, including change targets, are ready for change [29]. A useful exercise at this stage, according to the model, is pilot testing to assess readiness for change [29].

Delivering the change, Step 4, involves executing all change-related activities [29]. During this stage, staff members are trained as needed to ensure they are equipped with the knowledge and resources necessary to accommodate the change. In addition, it is important to empower stakeholders by keeping them informed of change progress and any short-term successes, as doing this will prevent resistance [29].

The last two steps of the NHS Guidelines are to reinforce and sustain the change initiatives. Reinforcing change is accomplished by reviewing and embedding the new work processes and eliciting feedback [29]. Sustaining change involves measuring change outcomes against organizational goals and developing measures for continuous improvement [29].

The NHS Change Management Guidelines present a systematic approach toward change management. They outline sequential steps that must be taken to ensure that change efforts are successful.

Institute for Healthcare Improvement's Triple Aim Framework

The Institute for Healthcare Improvement developed the Triple Aim Framework as a means of enhancing the American health system through improving patient experience of care, improving health of populations, and reducing the per capita cost of healthcare [30]. As part of this framework, the Institute developed the Triple Aim Concept Design, which details steps that should be taken by

health organizations to effect desired health system improvements. These steps are enclosed within five domains [30]:

1. Individuals and Families
2. Redesign of “Primary Care” Services and Structures
3. Prevention and Health Promotion
4. Cost Control
5. System Integration

Within the Individuals and Families domain, the steps necessary to ensure successful change include: a) developing strong relationships between physicians and individuals and their families; b) ensuring individuals are involved in the planning and customization of their own care; c) using patient experiences to inform work for populations; and d) enabling individuals and families to manage their own health [30]. Empowering individuals and families in these ways will ensure patients receive the care they need and have positive interactions with healthcare providers and the system at large.

Redesign of “Primary Care” Services and Structures requires the development of health teams for basic services that have the capacity to deliver, at minimum, 70% of the necessary medical and health-related social services to the catchment area, making services accessible and flexible to suit the needs of patients, and ensuring cooperation and coordination between family physicians and specialists, hospitals, and community services to ensure continuity of care and seamless transition between providers [30]. Enacting these measures will make primary care services more accessible for patients.

Prevention and Health Promotion requires, first, community advocacy to incentivize healthy eating, exercise, reduction of substance abuse, and smoking prevention [30]. Furthermore, multi-sector partnerships must be developed to provide community-based support to those interested in adopting healthier behaviours [30]. Lastly, integrating healthcare and available community data using GIS mapping can facilitate an understanding of local health needs to better manage disease and develop health promotion activities [30]. Prevention and promotion ensures that population health is maintained, thereby reducing the need for healthcare.

Cost Control in the health system requires achieving less than 3% inflation yearly for per capita cost [30]. This can be achieved through concerted efforts by healthcare providers to reduce resource wastage [30]. Efforts must be made to counter incentives for physicians to provide care based on what is available as opposed to what is best for the patient and health system overall [30]. This can be accomplished through rewarding providers, hospitals, and health systems for producing better health as opposed to producing more healthcare.

The final domain of the Triple Aim Framework, System Integration, ensures that capacity for healthcare and social services is matched to the demand for services across suppliers [30]. This requires that healthcare suppliers’ strategies and operations be informed by the needs of the populations they serve [30]. Furthermore, healthcare suppliers should take into consideration the situational factors, medical history, and prior resource utilization of each patient to whom they have attended [30]. Through this sort of comprehensive approach to healthcare, providers will be better able to reduce variations in health outcomes. Lastly, the system should have measures in place to oversee change initiatives and sustain ongoing learning and improvement [30].

The Triple Aim framework offers an approach for leaders in healthcare to improve health system performance through improving patient experience of care, improving health of populations, and

reducing the per capita cost of healthcare. The framework posits that effecting change in these three areas can best be managed by ensuring that individuals and families are included in health decision making, primary care services are redesigned to make them more accessible, health promotion initiatives are enhanced, performance measures are instituted to curtail healthcare expenditures, and health system activities are developed and executed with the needs of target populations in mind.

Core Elements of Change Management

After considering several approaches to change management, as well as applications to healthcare, certain trends emerge. The core elements of change management are factors that are consistently recommended for consideration by change management theories. These elements can be divided into 2 categories: essential elements and useful elements. Essential elements represent elements of change management that are recommended for consideration by 4 or 5 of the theoretical models covered by this paper, whereas useful elements represent those that are recommended by 2 or 3 models (see Table 3).

Four essential elements of change management that emerge from the literature include environmental circumstance, organizational harmony, power dynamics, and organizational capacity:

1. *Environmental circumstance* represents conditions, external to the organization, that compel it to initiate change. Examples of such external circumstances include increased competition and technological innovation, as well as legal, economic, and social constraints [25].
2. *Organizational harmony* represents a convergence of interests among individuals and units within the organization. Individuals and units should have compatible missions and visions and should be working cooperatively towards the same goal. Moreover, overall organizational plans, processes, and goals should also be compatible.
3. *Power dynamics* is the hierarchy of influence within an organization. Understanding which organizational actors – individuals as well as units – have the capacity to influence outcomes and decisions is important. Change leaders should have buy-in from these actors before embarking on a change initiative; this will increase their chances for successful change.
4. *Organizational capacity* is the last essential element of change management. Organizations must ensure that the human, financial, and other resources necessary to undergo change are available. Moreover, it is essential that the necessary skillset as well as the will for change be present.

In addition to these most commonly cited components of change management in academic literature, two additional useful elements for change that emerge from the literature are: nature of change and process for change.

1. *Nature of change* refers to the components of and rationale behind a change initiative. Change proposals should consider an organization's external and internal realities. Moreover, change leaders must ensure that there is sufficient research to validate a change proposal's ability to solve the intended problem.
2. *Process for change* represents the practical component of a change initiative (i.e., the step by step approach to implement the change). Change leaders must ensure that the steps taken to achieve change are agreed upon by all stakeholders and proven to effect the desired change. Moreover, they must incorporate the necessary processes, based on their organizational circumstance, to curtail resistance.

While change leaders should make attempts to incorporate these core elements of change management into their approach, no singular element or combination of elements is sufficient to successfully achieve change. Change leaders must tailor their change management approach to the unique circumstances of their organization. In practice, change efforts vary in their complexity and will resultantly affect a change leader’s ability to satisfy these core elements. For instance, buy-in from all individuals with the ability to influence outcomes in an organization may be impossible at times due to divergent interests among senior management. However, if change leaders are shrewd in the development of their change management approach, they may still be able to successfully achieve change in light of unfavourable circumstances.

Table 3 – Deriving Core Elements of Change Management from Overlap in Theoretical Models

Common Themes / Core Elements of Change Management	Lewin’s Change Management Models	Hinings and Greenwood’s Model of Change Dynamics	Kanter et al.’s “Big Three” Model	Pettigrew’s Context/ Content/ Process Model	Lukas et al.’s Organizational Model
<i>External Circumstance</i>	<i>Field Theory</i>	<i>Situational Constraints</i>	<i>Organization – Environmental Motion</i>	<i>Context</i>	<i>Impetus to Transform</i>
<i>Power Distributions</i>	<i>Group Dynamics</i>	<i>Dependencies of Power</i>	<i>Intraorganizational Individuals’ Motion</i>		<i>Context/Process</i>
			<i>Control Changes</i>		
<i>Organizational Harmony</i>	<i>Group Dynamics</i>	<i>Interests</i>	<i>Intraorganizational Components’ Movements</i>		<i>Integration to Bridge Traditional Intra-organizational Boundaries / Alignment to Achieve Consistency</i>
<i>Organizational Capacity</i>		<i>Organizational Capacity</i>	<i>Change Strategist</i>		
			<i>Change Implementer</i>		
					<i>(continued)</i>

Table 3 (continued) – Deriving Core Elements of Change Management from Overlap in Theoretical Models

Common Themes / Core Elements of Change Management	Lewin's Change Management Models	Hinings and Greenwood's Model of Change Dynamics	Kanter et al.'s "Big Three" Model	Pettigrew's Context/ Content/ Process Model	Lukas et al.'s Organizational Model
<i>Nature of Change to be Implemented</i>	<i>Action Research</i>		<i>Identity Change (Organizational identity vis-à-vis external environment) / Coordination Change (Organizational structural makeup)</i>	<i>Content</i>	
<i>Process for Change</i>	<i>Action Research</i>			<i>Process (Operational activities to materialize change)</i>	
<i>Miscellaneous</i>		<i>Interpretive Schemes</i>			<i>Improvement Initiatives That Engage Staff</i>

Mapping Healthcare Organizational Change Management Models against Core Elements of Theoretical Models

After understanding the context of change management theory, existing models in healthcare practice can be understood in the context of this framework. The Canadian Health Services Research Foundation's (CHSRF) Evidence-Informed Change Management Approach, Canada Health Infoway's Change Management Framework, the National Health Service (NHS) Change Management Guidelines, and the Institute for Healthcare Improvement's (IHI) Triple Aims Model all offer practical change management frameworks utilized in healthcare, and yet an analysis of their core components reveals that none offer a truly comprehensive approach to change management as developed in the literature.

CHSRF's Evidence-Informed Change Management Approach cites all of the core elements of change management except organizational harmony. Within the planning stage of the approach, change leaders are encouraged to consider the context, dynamics, and readiness for change. Context, according to the approach, entails the environmental factors inciting change (i.e., environmental circumstances). Dynamics of change involve the nature of change in addition to the process required to see change through. Moreover, in looking at the dynamics of change, the approach encourages change leaders to consider power dynamics within the organization as well as factors necessary to

generate buy-in. Readiness for change deals with an organization's capacity for change. This includes having the necessary resources to successfully achieve change.

Canada Health Infoway's Change Management Framework suggests steps that should be taken, as opposed to elements for consideration, when managing change. As a result, the framework only indirectly cites power dynamics, organizational harmony, and process for change. The framework's Governance and Leadership step alludes to the importance of buy-in from senior figures (power dynamics) and alignment of priorities and objects within the organization (organizational harmony). Workflow Analysis and Integration, as described in the framework, considers the importance of having a detailed process for change that integrates well into current organizational procedures.

Similar to Canada Health Infoway's Change Management Framework, the NHS Change Management Guidelines suggest steps that should be taken, as opposed to elements for consideration, when managing change. The framework cites the importance of the nature of change, the process of change, organizational capacity, and power dynamics. In Step 1 of the framework, the NHS emphasizes the importance of understanding where one wants to go with change and why this changed state is desirable (i.e., the nature of change). In Step 2, Analyse and Design, change leaders are encouraged to consider the process of change through the preparation of a delivery strategy. Organizational capacity and power dynamics are emphasized in Step 3 of the model, Gain Commitment. This step entails securing the endorsement of senior management through resource commitment. Ensuring that senior management signs off on a change initiative and allocates resources towards that initiative will greatly improve the chances for success of a change initiative. Moreover, securing commitment from the most influential figures within an organization (i.e., considering power dynamics) will greatly minimize resistance.

IHI's Triple Aim Framework presents a change management model that is unique in its direct reference to patient engagement. While most change management models are developed very generally, without any specific end goal, the Triple Aims Model was developed specifically with improvement of patient experience in mind. As a result, this model deviates from other models as it devolves some change-related decision-making authority to patients. Despite this deviation, the model still considers several of the core change management elements, including environmental circumstance, organizational harmony, organizational capacity, and power dynamics.

The Triple Aim Framework's consideration of overall population health promotion represents its account of environmental factors. As the model's end goal is to improve patient experience, population health outcomes and behaviours are the environmental factors that may incite change. For instance, if increasing numbers of the population are aging and suffering from cardiovascular disease, change must be undertaken to accommodate this reality.

Organizational harmony is captured in the System Integration domain of the model, which ensures that the strategy and operations of healthcare suppliers are informed by the needs of the populations they serve. Likewise, organizational capacity is of utmost importance for change, and the Triple Aims Model takes this element into consideration in its cost control domain. This domain seeks to curtail expenditure to ensure services can be maintained with continuity. Financial incapacity of a health system and the potential concomitant user fees or delayed service may severely compromise patient experience.

Lastly, the model's Individuals and Families domain speaks well to the power dynamics element of change management. The Individuals and Families domain emphasizes the importance of developing

strong relationships between physicians and patients and their families, and of providing patients an avenue to become involved in the planning of their healthcare. As this model’s end goal is to improve patient experience of care, the patient’s role is tantamount to senior management in other models: that is, they must provide input and buy into whatever approach is taken to improve experience. Without patient input, health providers may be misguided and thereby waste resources in their attempts to improve patient experience.

While the change management literature offers several theoretical approaches from which core elements of change management can be derived, the organizational approaches demonstrate how these theories are applied. In looking at the four organizational change management approaches, we find that the most common (cited by at least three of the four organizations) of the six core elements are organizational capacity, power dynamics, and process for change (see Table 4). This means that, in practice, change leaders must ensure that they have resources (financial, human, and otherwise), in addition to a general appreciation of the need for change, buy-in from senior officials in the organization, and a clear outline of how the change will transpire in order to improve their likelihood of successfully achieving change. These three elements of change management (organizational capacity, power dynamics, and process for change) therefore represent the most crucial components of change management.

Table 4 - Comparison of Organizational Change Management Approaches with Core Elements of Change Management Derived from Academic Literature

Core Elements of Change Management	CHSRF’s Evidence-Informed Change Management Approach	Canada Health Infoway’s Change Management Framework	National Health Service (NHS) Change Management Guidelines	Institute for Healthcare Improvement’s Triple Aim Model
Environmental Circumstance	✓	✗	✗	✓
Organizational Harmony	✗	✓	✗	✓
Organizational Capacity	✓	✗	✓	✓
Power Dynamics	✓	✓	✓	✓
Nature of Change	✓	✗	✓	✗
Process for Change	✓	✓	✓	✗

Change Management Models in Healthcare Research

While several articles exist that discuss change management in the health context, many of these articles do not offer a structured framework for managing change initiatives; rather, they present factors that should be considered for change management. For instance, within health information technology, while no literature was found that outlined the exact steps for successful management of information technology change, articles were found that emphasize important components of a change management initiative. For instance, Kay emphasizes the importance of usability (i.e., user friendliness) as opposed to functionality during the development of new information technologies for the health sector [31]. Of the articles that do apply a model to their change management initiatives, the majority relate to psychiatry and nursing practice.

Within psychiatry, one article, by Tobin and Wells, discusses the issue of implementing change in leadership and management to ultimately improve patient care in Australia and New Zealand [32]. The change management model used in this article to structure the change effort aligns with Hinings and Greenwood's model of change dynamics [32]. In their analysis of how the change initiative should be undertaken, Tobin and Wells outline situational constraints, such as a newly enacted mental health policy intended to achieve improved quality and effectiveness of service delivery. Tobin and Wells go on to describe interpretive schemes and interests through a discussion of psychiatrist-management relations and areas of tension. Dependencies of power, which include how psychiatrists can influence management and power dynamics between clinicians and non-clinical managers, are outlined. This is followed by a discussion of how management can exercise effective leadership and the importance of effective training for management. While Tobin and Wells do not explicitly state their use of Hinings and Greenwood's model of change dynamics, their analysis of change management in psychiatry employs all of Hinings and Greenwood's change management principles, thereby validating its applicability in this area of clinical practice.

Within nursing practice, several articles discuss the implementation of evidence-based practice into patient care [33, 34]. The change management theorist most commonly cited in these articles is Kurt Lewin. For instance, Gerrish et al. employ Lewin's action research model to investigate nurses' knowledge of risk assessment regarding pressure damage to patients within a large acute hospital [33]. In their study, Gerrish et al. review research evidence to identify current best practice with reference to pressure damage; they then appraise knowledge and practice among nursing staff in the acute care centre, and develop a change strategy in collaboration with management and clinicians [33]. As suggested by the action research model, the process undertaken by Gerrish et al. was iterative and took into account the input of all participants when planning the change strategy.

Sutherland uses Lewin's 3-Step Model as a framework for introducing barcoded medication technology at a large psychiatric facility in Newfoundland [35]. In the unfreezing stage, Sutherland identifies the change focus and communicates with all stakeholders, including nurses, managers, and administrators, to solicit input, create a sense of security and trust in the change process, and to make frontline workers feel empowered. Throughout the moving stage, Sutherland identifies the teams (e.g., information technology, pharmacy, clinical information services, nursing, management) that will require sustained efforts to ensure the success of the change process. Moreover, according to Sutherland, nursing staff in particular should be actively involved in the change process to foster a sense of ownership and thereby mitigate resistance. Lastly, in the refreezing stage, support services must be provided to staff, including nurses, until all users are comfortable with the change.

Prokosch and Ganslandt employ all of Lewin's change management models (i.e., field theory, group dynamics, action research, and the 3-step model) to successfully introduce a cost unit accounting system in a German teaching hospital [34]. The purpose of this undertaking was to ensure accurate documentation of costs associated with patient care periods. Following Lewin's field theory, the change initiators identified aspects of the hospital environment that represented driving and restraining forces for change. This was accomplished through analyzing the pre-change documentation situation from varying viewpoints (e.g., from the economic view of administrators, surgical teams, and IT). Group dynamics were then analyzed to identify necessary actions to obtain support of senior hospital officials (e.g., board of directors, administrators, medical and nursing directors), as well as workers and staff that might act as change opponents. Understanding group dynamics allowed change initiators to host workshops aimed at informing all stakeholders of the need for change (i.e., creating the feeling of necessity), and to give them a chance to contribute to the planning of the change initiative. Lastly, the 3-step model was used to implement the change initiative. This entailed an unfreezing stage, where workshops were carried out to inform nursing staff about the requirement of a new documentation approach; a move stage, where the new documentation concept was set in production and all teams were given the necessary supports to accommodate the change; and lastly, the refreezing stage, where feedback opportunities were given to ensure that concerns were addressed [34]. This case study presents a comprehensive and well-structured example of Lewin's change management theories and their ability to usher in change in healthcare organizations.

The lack of a robust body of literature to assess the applicability of change management models in healthcare organizations presents an excellent opportunity for further research. With current political discourse emphasizing a need for change in the health system, researchers must look to provide evidence for best approaches to successfully achieve change.

Applying Change Management Processes to Canadian Healthcare

As drawn from CHSRF's Evidence-Informed Change Management Approach, the process of change involves three stages: planning, implementing, and sustaining [27]. Successful navigation of this process, however, necessitates supporting managers and healthcare professionals to change their behaviours in specific or desirable manners [27]. This, in turn, requires effective leadership which can communicate vision, understand the organization's political culture, and carefully align desired changes with existing perceived needs within the organization [27]. The following section discusses the process of change, applying the literature to Canadian healthcare managers.

Preparing for Change

This stage consists of facilitating the mental preparation necessary to achieve successful change [10]. It is important that the decision maker understands the reason for the change and the importance of the change from a personal, organizational, or political point of view. To begin the preparation for change, the environment of an organization must be analyzed fully. This includes the political forces and influences that may affect the performance of the organization, as well as the economic influences that determine the financial capabilities of the organization [10]. Furthermore, social trends and technological innovations must be examined in order to establish new approaches and tackle novel problems. There are various other factors to consider as well, such as ecological factors and legislative requirements [10]. These factors must be analyzed to identify which ones are helpful to the

organization and which may impede progress. They must also be used to determine the readiness and capability of the individuals and groups that will be required to support the change.

Healthcare organizations generally consist of health workers (including healthcare professionals and staff) and decision makers (including management and policy makers) [36]. This striation represents distinct interests that must be taken into account in the change process. In light of this, change leaders should have a clear understanding of the organization's objectives and the strategic context from the perspective of each stratum. This understanding will improve change leaders' ability to effectively communicate the need for change. Change initiatives require both bottom-up commitment from healthcare professionals and also top-down commitment from senior managers and policy makers [36].

The initial stage of change involves the development of a common picture and understanding of the current situation, most effectively accomplished through a process map [37]. For example, from the perspective of healthcare professionals seeking to improve patient experience, this may involve a process map outlining a patient's journey through the system. This step should be undertaken collectively by healthcare professionals and should reflect the system's realities as opposed to theoretical ideals. These process mapping activities may alter perceptions and foster new perspectives as stakeholders are able to realize the complexity of each other's tasks [37]. Teams gain an immense amount of value from a common understanding of the problems and difficulties within the system. A powerful technique to achieve this is holding unstructured interviews with patients and staff, which can help build the process map and determine problem areas. Other techniques could include observation, detailed questionnaires, and audit and analysis of routine data [37]. This process of skillful facilitation allows all members of the team to voice their understanding of why a problem occurs.

Another critical component of preparing for change in the Canadian health system is introducing cultural change. Culture entails the behaviours and beliefs of the current system and is an important factor in the effectiveness of an organization. The current system is in many cases traditional and uses a highly prescriptive approach to healthcare, instead of one that places the patient at the centre of service delivery models [38]. Changing this cultural norm would require a redesign of health service settings to engage patients directly to help them meet personal health and wellness goals, and a redistribution of power from health providers towards health consumers [38]. Cultural change strategies must target the structural, process, and contextual dimensions of the system [39]. They must take into account the nature of the culture to be changed, the direction of the change, and the alignment between culture and the broader environment. While creating and implementing these strategies, change leaders must be mindful of the possible barriers that serve to attenuate purposeful change, such as organizational inertia or resistance [39].

For health policymakers in Canada, the context of change involves improving the effectiveness and efficiency of the country's healthcare system through its government. Policies are often embedded in the institutional heritage, making it hard to start from a blank slate when it comes to policy design. Change is initiated not by governments themselves, but through external pressure from stakeholders [40]. Furthermore, organizational autonomy in policy implementation may result in policy effects that deviate from the intent of policymakers [40]. Policymakers should be cognizant of these potential outcomes and exercise diligence in communicating their vision of change.

One of the keys to successful change is strong leadership. Effective change leaders are able to frame the change in terms of results for the organization as a whole as well as the effect on individuals [41]. Change leaders must maximize every opportunity to engage with others to legitimize necessary

change and encourage challenges and provide support. They must foster and create an environment that allows people to experiment with new ways of operating. Change leaders must also lead by example and embody the changes they wish to implement with every word and action. Thus, they must be dedicated to making change a reality [41].

Implementing Change

The implementation phase involves the execution of processes and activities to actualize change. The difficulty in implementing change arises because altering well-established patterns of care is difficult, even though doctors may be aware of the evidence and are willing to change [42]. A key challenge for both policymakers and healthcare professionals in this area is to create a professional culture in which health professionals seek to provide patients with the highest quality of care [42]. Canadian federalism places healthcare administration under the purview of the provinces, which can make coordination to improve the overall effectiveness of healthcare in Canada extremely difficult.

In terms of healthcare professionals, “multifaceted tailored” approaches have been found to be the most effective at changing knowledge, attitudes, and practices within a healthcare organization [43]. These approaches must be targeted towards groups and not individuals. Implementation is not an individual endeavour, but involves a team of individuals who prepare and work through the implementation process. This team may be composed of key stakeholders and others who have a vested interest in improving the outcomes for patient care [43].

Areas for potential change implementation abound in the current system. For instance, the Canadian healthcare system currently operates in silos at the structural level as well as the care delivery level, representing a key target for improving outcomes in patient care [44]. Structurally, integration of care between health service providers is limited. For instance, care between acute care providers and community care providers is uncoordinated, leading to a build-up of alternative level of care patients. Alternative level of care (ALC) patients are those who occupy a bed in a hospital, but do not require the intensity of resources/services provided in this care setting [45]. ALC patients prevent acute care centres from seeing more patients, thereby exacerbating wait times. Currently in Canada, 14% of acute care beds are occupied by ALC patients [45]. Furthermore, coordination of care between rural health services and urban health centres is also limited. As a result, individuals living in rural areas have limited access to specialist services generally found in large health centres in urban areas. Notably, access to chronic disease care is limited for those living in rural areas [46].

At the care delivery level, healthcare providers currently place an emphasis on disease management for individual patients rather than population health and wellness [38] – a reactive approach to healthcare as opposed to a preventive approach. A population health approach has the potential to improve the efficiency of the overall health system [47]. However, change implementation is unlikely to be successful without effective communication and coordination across all aspects of the healthcare system.

Policy makers must abide by universally accepted principles, such as those contained in the Canada Health Act, to frame the necessary steps to improve the healthcare system. The principles of the Canada Health Act guarantee accessibility, portability, universality, comprehensiveness, and public administration [48]. Most changes in healthcare occur at the margin of the system, leaving intact its basic model of funding and core healthcare services [40]. There have been strong movements toward primary care reform in Canada, particularly in the provinces of Ontario, Quebec, and Alberta [40]. These innovations have primarily been focused on the implementation of multidisciplinary teams to

provide more comprehensive primary healthcare to communities [40]. More specifically, these efforts have focused directly on strengthening access to primary healthcare rather than improving integration of health services across the continuum of healthcare. Policy makers could expand these strategies beyond their host provinces to achieve consistency in the healthcare experience across provinces.

The costs of Canada's health systems are consuming nearly half of provincial tax revenues, while the demands for services continue to grow. Canada spends more on health services than most of its comparator countries, but reports lower levels of consumer satisfaction [38]. The current system costs are dominated by acute care hospital services, while chronic disease management has not been well developed [38]. Strategies to limit or contain costs of health services should work towards containing the expenditures of organizations that deliver health services. Policy makers could assist with integration efforts by introducing appropriate incentive structures for rewarding collaboration and care coordination among providers [38]. Financial incentives can be used to reward and motivate health professionals to improve efficiency.

Sustaining Change

The sustainability of change is in the endurance of new methods and performance levels in the organizational setting [49]. It is not only processes that change, but also the thinking and attitudes, which are permanently altered to create a renewed culture. The transformation should be able to withstand challenge and be amenable to further improvements in the future. The National Health Service (NHS) Institute in the United Kingdom has noted the phenomenon of the "improvement-evaporation effect," which demonstrates how the benefits reaped from new practices diminish over time, an effect of a lack of sustainability [49]. For example, an open-access endoscopy service developed in North West England used new referral forms and guidance to facilitate patient booking for this service. Although it initially thrived, the service was unable to achieve sustainability due to a lack of ownership from the wider team regarding who would continue the process once the forms ran out [50].

Sustainability is influenced by social convention. Ensuring that clinically led change is sustained over time is a challenge. The factors that influence the probability of changes being sustained in the long term are quite different from the factors that are necessary to prompt initial favourable conditions [51]. Some common practices that have been identified to increase sustainability include enthusiasm, reflexive practice, multiple levels of leadership, generation and use of evidence, and performance monitoring [51]. There is a gap in the literature around the nature of the challenges faced in trying to sustain and embed clinically led organizational innovations beyond initial implementation. Some of the challenges to achieving sustainability in the context of healthcare include a lack of prioritization, not having proper support networks throughout, and not being flexible or responsive to changing contexts [49]. In order to secure sustainability in the longer term, inertia must be overcome. Integration of services is also an important component of sustainability and embedding functions. A service that can be more readily integrated into wider clinical systems seems to have greater likelihood of sustainability [49], due in part to it being easier to secure stakeholder endorsement; it also makes these services difficult to abolish without significant knock-on effects for the rest of the system. One of the risks of becoming too integrated is that the change becomes a taken-for-granted part of the system, rather than a project that requires continued nurture and development. Sustainability, then, must be viewed as a continuum and not as a final steady state [49].

There is limited empirical evidence of the impact of innovation approaches thus far in the Canadian healthcare system. Policymakers should focus on finding evidence of the impact of transformative change on either population health outcomes or the productivity and efficiency of health systems in order to achieve sustainability. In the challenging organizational and policy context, leaders must undertake extensive political work to ensure that the broader notions of a service's value are acknowledged and accounted for by those in the decision-making process. There must be clear participation of both health practitioners and policy makers to support clinically-led service developments alongside clear central mandates. This will allow for both parties to secure influence in processes, most importantly resource-allocation decisions, ensuring the integration of evidence-based information into policy decisions. A network of clinical and managerial supporters helps plans to sustain provision, as well as the capacity to continue to adapt to current and foreseeable system conditions. Flexibility in the policy context must also focus on securing value and cost-effectiveness to determine which services to provide, or which services appeal to a particular audience. Once policymakers are provided with the necessary information, skills, and resources, this task becomes much easier to tackle. Sustaining and improving the healthcare system while respecting its core values is a challenge that must be addressed.

The desire to realize a patient-centred focus in Canada's healthcare system, one that shifts the balance of power from the health provider to the consumer, is monumental. It represents a new approach to healthcare in which consumers are equipped to take charge of managing their own health and wellness. In this emergent culture, health providers will focus on creating the environment and conditions for consumers to thrive, to be empowered, and to drive health system transformation. For this to take place, it is critical to improve the coordination of care across the continuum. Effective collaboration between providers is essential if transformation is to take place within and across all of Canada's health systems.

Sustainability can be considered as a moving goal, in which the task of maintaining change as a healthcare professional must be compatible with the need to respond to changing expectations and priorities from policy makers. This can be taken as the evidence of an adaptable patient-centred system that responds to changing needs and expectations and that values the importance of networks of support at political levels. Quality improvements in healthcare that are not sustained are simply a waste of resources and increase the resistance to later initiatives to improve care. In order to achieve sustainability, changes must become part of the organizational culture.

Opportunities for Future Research

There are many indications that the current efforts to educate and train health professionals and decision makers as leaders in change management are inadequate for the challenges faced by the Canadian health system. There must be a movement toward engendering a culture of change that is ongoing and evolving. This kind of transformational change requires a cultural shift made by the organization and its members. Given the sea change ahead, there are ample opportunities for new research that explores the validity of change management models and their application to the Canadian healthcare context.

While most organizations in the NHS have been analyzed using Lewin's Planned Change models, approaching change from a Canadian perspective presents an interesting opportunity to study the validity and ability of emergent change models to guide these organizations towards successful change. New research is needed to determine the change management approaches most appropriate

to healthcare in Canada. Furthermore, research into the nature of resistance to change in Canadian healthcare should be undertaken. The multi-jurisdictional nature of the Canadian system results in unique power dynamics, with different stakeholders resisting varying aspects of change for a multiplicity of reasons. This creates fertile ground for researchers, notably, with important applications to policy.

Further research can also explore the concept of leadership in the health sector, due to its pivotal role in the change management process. 'New' leadership skills – including managing influence and networking – as well as 'traditional' leadership attributes and skills will be required to make the shift toward a patient-centred paradigm. The complexities of leadership in large organizations like hospitals must balance the needs and resources of healthcare professionals, managers, and policy makers. The readiness and leadership capacity of Canadian healthcare leaders to embrace and implement change is a vital issue for further study.

Looking ahead, research on change management in healthcare should strive toward three objectives. The first is to identify the policy and regulatory factors that facilitate or impede the implementation of change in Canadian circumstances. Second, it is important to understand the contextual factors that affect the feasibility of offering incentives for changes in behaviour, and whether different forms of incentive can be used in different settings. Lastly, researchers should examine the conditions that are required to support sustainable change and mitigate the temporal side effects in an environment characterized by shifting priorities and changing demands. Robust research that accomplishes these aims will be a vital resource in effecting lasting change in Canadian healthcare.

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