ASSESSING POLICY CAPACITY: A MIXED-METHODS STUDY OF HEALTH POLICY MAKING IN NOVA SCOTIA

by

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DEDICATION

Pragmatically, to those who find something here to use.

Spiritually, to those less interested in drawing than connecting the dots.

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ABSTRACT

Introduction: Health policies need to be changed to better address health system challenges. However, these changes require many factors in order to succeed. Collectively, these factors are referred to as policy capacity. While important, policy capacity is vaguely defined, limiting its usefulness to policy makers and researchers. A recent conceptual framework breaks policy capacity into nine sub-capacities. Greater clarity of these sub-capacities would improve how policy capacity is understood and applied. This research describes the operationalization of this conceptual framework to create the Health Policy Capacity Assessment Tool (HPCAT).

Methods: The HPCAT was created using a sequential explanatory mixed-methods design. First, an online Delphi survey was conducted with provincial health policy experts to validate sub-capacities and clarify their meaning. These were arranged within the framework and rated to identify the best items for the HPCAT. Next, the HPCAT was used to analyze two cases studies of recent provincial health policy changes. Finally, findings from the case studies were compared and synthesized to refine the HPCAT.

Results: Seventeen policy experts completed the Delphi survey, producing a HPCAT with 40 factors unevenly distributed across the nine sub-capacities. Guided by the HPCAT, interviews with 22 key informants described how policy capacity was manifested in the two case studies. These findings led to the HPCAT V2 , which contains 47 factors spread across 12 sub-capacities. A new skill type – integrative competencies – was identified, representing the ability to support and integrate the other three skill types.

Conclusion: Building on an existing conceptual framework, the HPCAT V2 provides guidance to those interested in understanding and applying the different factors which comprise policy capacity. Future research can explore the usefulness of the HPCAT V2 in different policy environments and how it might inform policy planning.

LIST OF ABBREVIATIONS USED

CFPT	Collaborative Family Practice Team
DEECD	Department of Education and Early Childhood Development
DHW	Department of Health and Wellness
HPCAT	Health Policy Capacity Assessment Tool
NSHA	Nova Scotia Health Authority
NP	Nurse Practitioner
PHC	Primary Health Care
SC	Sub-Capacity
SMHC	School Mental Health Clinician

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CHAPTER 1. INTRODUCTION AND METHODS

1.1. **Before You Get Started**

1.1.1. Overview of Chapters

Chapter 1 consists of a general introduction to the important ideas that this dissertation addresses, particularly policy capacity. It then provides a general description of the methods used to answer research questions (further detail is provided in the successive chapters).

Chapter 2 describes an online Delphi study conducted with policy experts in Nova Scotia to identify and rate factors and indicators associated with policy capacity.

Chapter 3 presents the findings of two policy case studies that were analyzed using the health policy capacity assessment tool (HPCAT) resulting from the Delphi study.

Chapter 4 describes how the policy capacity assessment tool was refined using data from the case studies.

Chapter 5 is a general discussion of some of the key findings and implications of this dissertation. It also acknowledges strengths and limitations as well as future research opportunities.

References include all works cited throughout this document.

Appendices are listed at the end of the document.

1.1.2. Style Notes

Manuscript format

Chapters 2-4 are separate manuscripts prepared from this research for publication in specific journals, as noted at the outset of each chapter. Accordingly, these chapters are intended to be read as stand-alone documents. Some repetition, particularly of the conceptual framework guiding this research, will be apparent.

Grammar

Throughout this work, I use double quotes (“/”) to signify direct quotes or emphasized terms from related work.

Participant quotes are also noted in quotes, followed by the participant identification number for each case in brackets ([/]). *NP* refers to key informants from the Nurse Practitioner case; *SMHC* refers to the School Mental Health Clinician case.

I use *italics* to denote a specific use of a word or to reference Latin terms (e.g., *status quo, passim*).

I alternate between using “I” in the introduction and discussion, as these were written last and represent my own explanations, and “we” in the intervening chapters as these are prepared as manuscripts and thus reflect the contributions of my co-authors. The introduction and discussion are not bound by formatting and word count requirements of journals and are written to be read only as bookends to this dissertation; hopefully they come across as slightly more personal – and enjoyable to read – as a result.

Reference style note

This manuscript follows the *American Psychological Association* (6th ed.) reference format. A complete list of references can be found at the end of this document.

1.2. **Background**

There are many challenges to improving health systems around the world. For one, large burdens on health systems have shifted from acute to chronic diseases (e.g., cardiovascular disease, cancer, diabetes, mental health), which are not curable but instead must be appropriately managed over the long-term (World Health Organization, 2018). There is also an established body of literature on the social and structural determinants of health indicating that health problems cannot be successfully resolved without considering the effects of other facets of society (Mantoura & Morrison, 2016; Mikkonen & Raphael, 2010). Acknowledging the role of social and structural determinants requires the provision of health services outside of hospitals and doctors' offices.

This also raises a second challenge: addressing problems requires policy makers to build on the legacy of their existing health system. The *Canada Health Act* and its precursors were developed to ensure that Canadians could receive "medically necessary" services, which were largely delivered by physicians and/or in hospitals (The Government of Canada, 1985, p.3). Today, there is increasing recognition that chronic conditions are best prevented and managed through strong community-based resources and robust primary health care networks (World Health Organization, 2008, 2019). Information systems, financing, workforce planning, and other "health system building blocks" are critical for (re)designing a health system that effectively meets modern population health needs including health promotion and disease prevention (World Health Organization, 2007).

Finally, the public provision of health services also becomes a political question. Working with limited resources, policy makers must decide what services should be provided, what work to prioritize, and how to identify and balance trade-offs. Health is arguably distinct from other public policy topics because it is both highly technical and very personal in that it can literally mean the difference between life and death (Forest & Helms, 2017). Different values have implications for how resources are prioritized

(Abelson, Allin, Grignon, Pasic, & Walli-Attaei, 2017; Vélez, Wilson, Abelson, Lavis, & Paraje, 2019).

1.2.1. Making better health policies

Health policies are how governments and their partners implement actions intended to improve the health of people in their jurisdiction (de Leeuw, Clavier, & Breton, 2014). Policies[i] represent the ways in which decision-makers prioritize issues and solutions, and can provide coherence and clarity in addressing large and complex problems.

To deal with the first issue noted above – burdens our health system is ill-equipped to effectively address – research and analysis can be used by policy makers to better understand issues and produce more effective, efficient, and equitable policies (Lavis et al., 2002; Oxman, Lavis, Lewin, & Fretheim, 2009). Evidence-informed decision-making includes researchers better tailoring their work so it can be more easily used by policy makers, as well as establishing better links between these two camps (Baumbusch et al., 2008; Boyko, 2015; Ellen et al., 2013, 2014; Lavis, Lomas, Hamid, & Sewankambo, 2006). Theoretically, this supports better policy analysis by supporting governments to ask better questions and formulate better responses (Hanney, Gonzalez-Block, Buxton, & Kogan, 2003; Howlett, 2009, 2015). This approach lends itself well to rational models of policy making such as the "stages" heuristic of the policy process (e.g., agenda setting, policy development, decision making, implementation, evaluation) (Wu, Ramesh, Howlett, & Fritzen, 2018), with the role of evidence varying across stages (Fafard, 2008).

However, there are many criticisms of this approach. The progression of policy ideas may be a long and winding road, and identifying opportunities to identify and integrate the best available evidence may be difficult. It may not be possible to acquire large amounts of good information on short political timeframes (Wu, Ramesh, Howlett, et al., 2018). Policy makers may be unable to effectively use evidence because of a lack of skills or infrastructure (Ellen et al., 2013; Peirson, Ciliska, Dobbins, & Mowat, 2012), or believe that it is irrelevant or insufficient for informing complex questions (Macintyre, Chalmers, Horton, & Smith, 2001; Petticrew, Whitehead, Macintyre, Graham, & Egan, 2004; P. M. Wilson et al., 2017). If evidence is used, it may only be to confirm existing

beliefs (Burchett, Mayhew, Lavis, & Dobrow, 2012; Wathen, Sibbald, Jack, & Macmillan, 2011), justify decisions which have already been taken (Amara, Ouimet, & Landry, 2004; Weible, 2008), or to deflect blame for unpopular decisions (Weiss, 1979). A reliance on evidence and rational decision-making also assumes a shared purpose for action or standard for assessing options (Wu, Ramesh, Howlett, et al., 2018) and ignores the struggle over ideas and values inherent to resource allocation (Brownson, Royer, Ewing, & McBride, 2006; de Leeuw et al., 2014; Hegger et al., 2016; Nutley, Walter, & Davies, 2007; Parkhurst, 2017).

These criticisms explain why evidence alone is unlikely to resolve the values and trade-offs at play and provide clear answers in light of existing policy legacies. Here, other models of policy and decision-making process can offer insight into how to achieve better health policies.

Clues from policy heuristics

A simplified description of other models for policy making alludes to factors other than evidence required for policy success. The second challenge – that of policy legacies – represents the existing edifice on which future policies are built. These legacies constrain available options; larger deviations from the *status quo* are more difficult as they require more resources, including political capital to secure buy-in from stakeholders. Further, the longer policies remain in place, the more likely they are to become institutionalized; other decisions are built on top of them, thus making them harder to alter. As a result, changes to these legacies may be in the form of policy "patches," which attempt to address emerging problems without replacing existing policy designs (Howlett and Rayner 2013). This often leads to *incremental* policy change, as it represents a politically and bureaucratically feasible compromise instead of a more disruptive change (Wilson, 2000; Wu et al., 2018). Incremental change requires the ability to understand the current state of affairs and the kinds of solutions that are considered acceptable by stakeholders, as well as the ability to negotiate changes successfully.

Like incremental change, the Garbage Can model of policy also explains why substantial change is unlikely to occur. In this model, policy making consists of going through the "garbage can" of previously discarded options which may now be useful (Cohen, March, & Olsen, 1972). A feature of this model is that it often produces a "satisfycing" or "good enough" option that meets whatever goals had been set by decision-making groups at that time (Wu, Ramesh, Howlett, et al., 2018). In this case, policy making requires pragmatism exercised through knowledge of the policy process.

The challenge of values and the trade-offs between policy options may be better reflected in other heuristics. The "juggling" metaphor of simultaneously attending to multiple factors (e.g., political strategy, ongoing evaluation, gathering information, working with stakeholders) suggests that highly-valued elements of the policy process are less likely to be dropped (de Leeuw et al., 2014, p.6). Similarly, the Advocacy Coalition Framework argues that policies can be studied by examining the different values that groups hold and their underlying assumptions about how policy can be realized (Sabatier, 1988; Sabatier & Weible, 2007). The Multiple Streams approach also suggests that identifying a "window of opportunity" is also indicative of values (i.e., what is important enough to be considered a problem, and what is important enough to warrant political capital) (Kingdon, 2003). The role of values in these heuristics suggests that key interests need to be understood in order to develop acceptable, and therefore successful, policies.

Policy heuristics can provide more useful explanations when combined (van Gestel, Denis, Ferlie, & McDermott, 2018). Drawing on the evidence above, the substrate for policy success includes good evidence, an awareness of the current policy landscape, an appreciation for minimizing disruption, the ability to work with stakeholders, knowledge of the policy process, and understanding the interests of key policy actors. While this list is by no means comprehensive, scholars refer to the group of capabilities required for policy success as *policy capacity*. Therefore, in order to better integrate and apply these findings to produce more successful policy, a better understanding of policy capacity is required.

1.2.2. Policy Capacity

At its core, policy capacity refers to the ability to create "good" public policy (Anderson, 1996; Painter & Pierre, 2005). However, this simple definition does not withstand much scrutiny, as judging policy as good or bad can be highly partisan and subjective, not least because policy success can be defined in different ways (McConnell, 2010). Alternatively, some argue that a mark of good policy, and therefore of policy capacity, is a departure from the *status quo* (Gleeson, Legge, & O'Neill, 2009). In this definition, policy capacity is the ability to make proactive, cross-cutting, and strategic choices required to successfully deviate from business-as-usual, while a lack of capacity leads to reactive and myopic decisions (Gleeson et al., 2009; Peters, 1996). Accordingly, it is a critical part of modern governments' ability to "steer" society in the desired direction (Parsons, 2004, *passim*; Woo, Ramesh, & Howlett, 2015).

In this way, policy capacity is both an indicator of a high-performing government and a determinant of it (Craft & Howlett, 2013, p.14), providing the "necessary means for enabling sophisticated policy deliberations, designs, and implementation" (Bali & Ramesh, 2018, p.5). The success of a government is linked to the extent its policies succeed, making policy capacity integral to the success of governments (Howlett & Ramesh, 2014). It should come as no surprise then that policy capacity is critical to health system reform (Denis et al., 2015; Forest, Denis, Brown, & Helms, 2015).

Pinning down Policy Capacity

Given its importance as a concept for the success of policy, governments, and health reform, it is perhaps unsurprising that there is no standard definition of policy capacity. In its efforts to strengthen policy capacity, the Canadian government describes it as "a loose concept which covers the whole gamut of issues associated with the government's arrangements to review, formulate and implement policies within its jurisdiction," including "the nature and quality of the resources available […] and the practices and procedures by which these resources are mobilized and used" (Fellegi, 1996, p.1). All-encompassing definitions such as this have been criticized as nebulous and lacking

operational usefulness (Craft & Howlett, 2013; Denis et al., 2015; Williams & McNutt, 2013). Without a shared understanding of policy capacity, the conflation of too many ideas reduces analytical value (Lodhi, 2018) and "[t]he failure to properly define capacity breads [sic] the failure to properly understand and improve capacity" (Saguin, Tan, & Goyal, 2018, p.2). Indeed, some argue that the definition of policy capacity is so vast it risks becoming meaningless (Fafard, 2015b; Lodhi, 2018).

How, then, can policy capacity be understood? Some, such as Painter and Pierre (2005, p.2), describe it as "the ability to marshal the necessary resources to make intelligent collective choices about and set strategic directions for the allocation of scarce resources to public ends." Others describe policy capacity as essentially the government's ability to make informed decisions (Polidano, 2000). In both cases, policy capacity as enhanced decision making is separate from policy implementation, and thus may more accurately be described as *policy analytical capacity* (Howlett, 2009, 2015).

If policy capacity is about making good policy, then policy capacity must be more than just making good choices. In addition to decisional analysis, policy capacity also includes the practical or *soft* skills of policy making such as negotiation, communication, and a knowledge of the policy process (Denis et al., 2015; Williams & McNutt, 2013). This mix of analytical skills and practical policy-making abilities was used in Canada in the late 1990s as the federal government sought to enhance their ability to make better policy decisions, including both advanced research and analysis skills as well as managing relationships, communication, and program design (Anderson, 1996; Fellegi, 1996).

Policy capacity also pertains to both the ability of individuals and the organizations in which they work (Denis et al., 2015; Gleeson et al., 2009). The fit between the advising functions of policy analysts and the qualities of the organization they seek to advise (e.g., ideological climate/receptivity) influences the extent to which policy reflects advice (Howlett & Lindquist, 2004). More recent work acknowledges that capacity also exists at the system level, including societal features like rule of law and public trust, as well as how organizations work together (Howlett & Ramesh, 2016; Wu,

Ramesh, & Howlett, 2015). Contrary to earlier work focused solely on the policy capacity of central, national governments (Polidano, 2000), the role of actors external to government must also be considered when assessing policy capacity.[ii]

Perhaps in an effort to consolidate the disparate literature on this important topic, Wu, Ramesh, and Howlett (2015) developed a conceptual framework for policy capacity which helps organize the different elements of policy capacity scattered in the literature. They acknowledge that policy capacity exists at three resource levels – individual, organizational, and systemic – and is comprised of three competencies or skills: analytical, operational, and political.[iii] This is depicted as a three-by-three matrix, where the intersection of competencies and resource levels results in nine distinct types of policy capacity, or policy *sub-capacities* (see Table 1.1).

Table 1.1 Descriptions of policy sub-capacities.

Competency	**Sub-capacity**	**Description**
Analytical	1. Policy analytical	Staff ability to access, acquire, and apply different kinds of knowledge, and the skills to process, analyze, and apply this information across the policy process
	2. Organizational Information	Effective information and policy analysis system, such as architecture for collecting and disseminating information in an accessible and digestible form
	3. Knowledge System	State of a system's institutions and opportunities for knowledge generation, mobilization, and use
Operational	4. Managerial Expertise	Ability to perform key managerial functions, such as planning, staffing, budgeting and directing, as well as a high degree of leadership and communication ability
	5. Administrative Resource	Funding and staffing levels, as well as the nature of intra- and inter-agency communication, consultation, and coordination.
	6. Accountability and Responsibility System	Clear rule of law and transparent adjudicative system, as well as broader systems of training, recruitment, and competency promotion
Political	7. Policy Acumen	Understanding of the needs and positions of different stakeholders and possessing keen judgement of political feasibility and desirability

Competency	Sub-capacity	Description
	8. Organizational Political	Good working relationships between operations and direction-setting, as well as facilitating communication with public and building coalitions
	9. Political Economy	Adequate fiscal resources as well as public sense of legitimacy and trust placed in system, such as through an active civil society and freedom to debate issues

Note. Row colours reflect competencies at the resource levels of individuals (1,4,7), organizations, (2,5,8), and the policy system (3,6,9). Descriptions adapted from Wu et al. (2015) and Howlett and Ramesh (2016).

This framework has been used by others to delve deeper into specific sub-capacities, from engaging actors to fill out system-level knowledge gaps in monitoring climate activity (Hsu, 2015) to elaborating on the political abilities required for "deep" reform (Pal & Clark, 2015). Others have added additional considerations to the framework, such as the link between modes of governance and "critical" sub-capacities (Howlett & Ramesh, 2016), or argued that other areas should be considered part of policy capacity (e.g., legal skills: see Brans, Schram, & Smismans, 2018). The framework was used as the basis for a book compiling more studies of policy capacity (Wu, Howlett, & Ramesh, 2018), such as how it can be used to understand philanthropic organizations in municipal policy initiatives (Pill, 2018) or to study trajectories of internet policy across countries (Belyaeva, 2018).

1.2.3. Assessing Policy Capacity: Attempts and Implications

This framework has provided clarity to a complex concept, offering a way for researchers and policy makers to discuss like ideas and perhaps make explicit links with current policy activities. There have been some efforts to use the conceptual framework as the basis for assessing policy capacity, presumably with the aim of identifying and remedying weaknesses. These range from simple three-point scorecards to identify whether sub-capacities are sufficient or governments need to "build [them] from scratch" (Wu, Ramesh, Howlett, & Fritzen, 2018, p.148), to questionnaires for policy personnel to complete in order to understand capacity at the individual, organizational,

and systemic resource levels (Ramesh, Howlett, & Saguin, 2016; Ramesh, Saguin, Howlett, & Wu, 2016). The framework has also been used to arrange governance indicators (Hartley & Zhang, 2018), showcasing how the framework provides a conceptual basis for assessing governance.

However, there are a few limitations to these efforts. The measures described above have been constructed based solely on past literature and have not undergone peer review. It is therefore unclear whether they adequately capture policy-making nuances or are equally relevant across different policy sub-systems. Item development, while arranged within the nine sub-capacities, has not been transparent or systematic, which means that useful factors could be missed. Differences in descriptions of the sub-capacities have also been observed. Additionally, self-assessment tools, while relatively simple to complete and inexpensive to administer, are also susceptible to response biases.

This presents an opportunity for the development of a policy capacity assessment tool that has been developed more systematically and transparently and has also been tested in policy settings. A better way to assess policy capacity would be useful to health policy makers and researchers by providing more transparency as to how assessments are constructed, as well as being grounded in the experiences of policy makers and able to capture nuances and differences between policy settings. The conceptual framework of Wu et al. (2015) can serve as a strong foundation for building a tool to assess the different dimensions of policy capacity and help policy makers and researchers better understand the relationship between policy capacity and policy success. The insight gained might then be used to improve the likelihood of future health policy success.

1.2.4. Objectives

This research had three objectives. First, I wanted to adapt the conceptual framework for policy capacity into an assessment tool. Second, I wanted to use this tool

to examine policy capacity in the context of health policy change. My third objective was to refine the tool based on its performance.

1.3. **Methods**

A sequential explanatory mixed methods approach was used to answer these objectives (Fetters, Curry, & Creswell, 2013; Ivankova, Creswell, & Stick, 2006). First, I conducted an online Delphi study where health policy experts selected the best factors and indicators of policy capacity to create a preliminary health policy capacity assessment tool (HPCAT). I then used the tool to analyze two recent health policy changes in the province of Nova Scotia, Canada. The case studies allowed us to confirm items identified in the Delphi study as well as identify new items. Table 1.2 presents an overview of phase methods, while figure 1.1 depicts the sequential explanatory approach.

The remainder of this section is an overview of the two phases of this research. Additional description of methods are included in the associated chapters.

Table 1.2 Overview of study phases.

Study Phase	**Objective(s)**	**Data Collection Methods**	**Analysis Methods**
1. Delphi Method	a) Adapt an existing policy capacity framework for use in health policy	a) open-ended questions (to gather framework factors and indicators) b) 7-point semantic scales of item attributes	a) narrative summary b) descriptive statistics
2. Case Studies and Tool Refinement	a) Test usefulness of adapted framework at examining policy capacity b) Refine the adapted framework	a) interviews b) policy document review	a) directed content analysis/pattern matching c) cross-case analysis d) thematic analysis

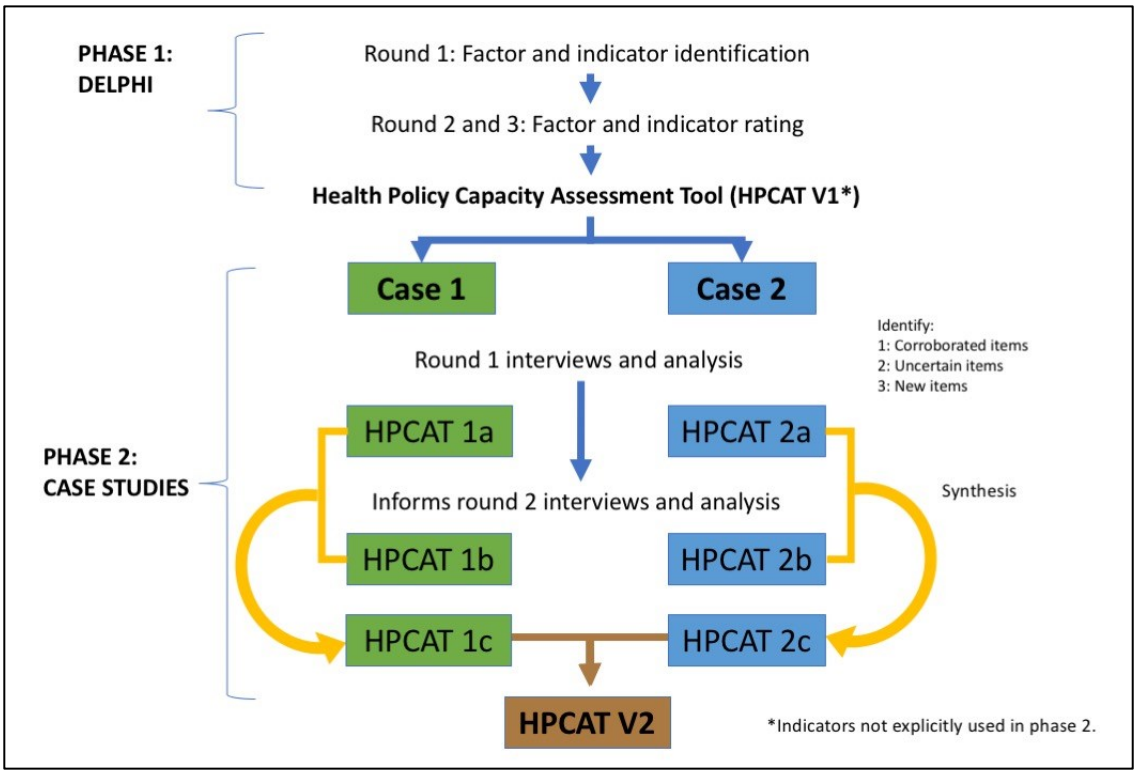

Figure 1.1. Overview of mixed methods approach to health policy capacity assessment tool refinement.
Note. HPCAT: Health Policy Capacity Assessment Tool.

1.3.1. Phase 1: Delphi Survey

To turn the conceptual framework for policy capacity into an assessment tool, the Delphi method was used to gather and organize the insights of health policy experts. The Delphi method is a research strategy for gathering the input of experts about a given issue: experts contribute their thoughts, review others' contributions, and have the opportunity to revise their input through progressive rounds of questions (Dalkey & Helmer, 1963; Linstone & Turoff, 2002). Participants are given a fixed period of time to anonymously respond to a survey where they rank items. These answers are synthesized and used to construct a new survey, which is then returned to the group; this provides experts the opportunity to see what their peers have contributed and allows them to anonymously revise their responses around a given issue (Dalkey &

Helmer, 1963; de Meyrick, 2003). This cycle of expert input, researcher synthesis, and expert review facilitates the identification of both group consensus and divergent views.

Recruitment and Participant Selection

Expertise of participants is paramount to a successful Delphi, requiring thoughtful selection of participants (Day & Bobeva, 2005; de Meyrick, 2003; Hsu & Sandford, 2007). One recruitment strategy thought to be effective at identifying experts in the field of health policy was targeted personal invitations via peer recommendation (R. Gilbert, personal communication, April 19, 2017, in reference to Spurr et al., 2016). The perspectives and experiences of those inside the development process and the policy-making environment is recommended for assessing policy (Gleeson et al., 2009). Both personal connections and systematic invitations to Nova Scotian health system executives were used to elicit peer recommendations. A large pool was sought to mitigate participant attrition between rounds while still maintaining recommended Delphi sample sizes (Liyanage et al., 2016; Okoli & Pawlowski, 2004).

Potential participants identified through peer recommendation were sent a study information sheet explaining the research and their responsibilities as participants to support their informed commitment (de Meyrick, 2003; Linstone & Turoff, 2002). Those responding to our invitation had to meet two additional eligibility criteria. First, participants required at least 10 years' experience in health policy in order to increase the likelihood that participants have first-hand experience of an entire policy cycle (Sabatier, 2007). Second, they had to have been involved in some form of health policy development, implementation, or evaluation in the past 12 months; this was to ensure their perspectives were relevant to current health system and policy contexts, which are constantly in flux (Parkhurst, 2017; Tuohy, 2012). Those screened in were asked to provide demographic information (e.g., policy experience, years in public service, formal training/education).

At survey launch, participants were sent an email with a link directing them to a web-based survey tool (*Opinio*; Object Planet, Norway). Participants were given two weeks to complete each Delphi round and were notified in advance when the survey

would be launched in an effort to increase participation (e.g., time to complete it could be entered into their schedules). Reminders were automatically sent to participants who had not completed the survey after seven and 10 days. Only participants who had participated in earlier rounds were included in successive rounds.

Delphi content

In the first round of the Delphi survey, participants created a list of factors and indicators important for policy success, then rated the clarity of the nine policy sub-capacities (see appendix A). This order was used to prevent biasing participants into offering factors based on the sub-capacities. Participants were asked to identify up to fifteen *factors* (i.e., concepts) that were linked to policy success, then to give *indicators* for these factors (i.e., ways to assess factors). Throughout this dissertation, factors and indicators are collectively referred to as framework *items.*

Next, participants were presented with the policy capacity framework (Wu et al., 2015) and the definitions of the nine framework sub-capacities, and were asked to rate them for importance and clarity as well as to suggest changes. Results were compiled, summarized to reduce duplication, and thematically sorted by two reviewers. These themes were compared to the descriptions of the nine policy sub-capacities provided by Wu et al. (2015) in order to sort the factors and their attendant indicators into the most appropriate sub-capacity (e.g., distributing items within a theme to the most appropriate resource level).

In the second survey round, participants were presented with the factors and indicators from the previous round and asked to rate these items using a seven-point semantic scale, which balances ease of use, quickness, and precision of response (Colman, Morris, & Preston, 1997; Preston & Colman, 2000). Factors were rated on clarity (i.e., is the item easy to understand?) and relevance (i.e., is the item an appropriate measure of the item it is nested within?). Indicators were rated on clarity, relevance, and feasibility (i.e., can this data be collected without undue inconvenience by someone in your position?). These rating categories have been used in similar Delphi studies developing tools for health research or policy (Day & Bobeva, 2005; Li et al.,

2014; Spurr, Dechman, Lackie, & Gilbert, 2016; Yam et al., 2012). For each rating, participants were also provided a text box for sharing concerns or suggestions for each item (Powell et al., 2015).

There is no universal agreement for consensus scores in a Delphi (de Meyrick, 2003; Linstone & Turoff, 2002). The consensus criteria used to determine if an item was "accepted" was ⩾70% of respondents rating it 5/7 or higher on all relevant scales (Liyanage et al., 2016; Spurr et al., 2016; Yam et al., 2012).[iv] Conversely, items which scored less than 5 on all subscales by ≥70% of respondents were "rejected". Open text boxes for each item enabled respondents to offer suggestions for improvement (Yam et al., 2012), so that "mixed" items (i.e., those where not all ratings were rated as acceptable) could be edited and recirculated for review in future rounds. All suggestions for an item were considered and synthesized in order to improve item clarity or precision. Mean item scores were not used as they are not reflective of consensus, which is the objective of the Delphi method.

This process produced highly rated items for the first version of the Health Policy Capacity Assessment Tool (HPCAT V1). Figure 1.2 depicts data collection and analysis across rounds.

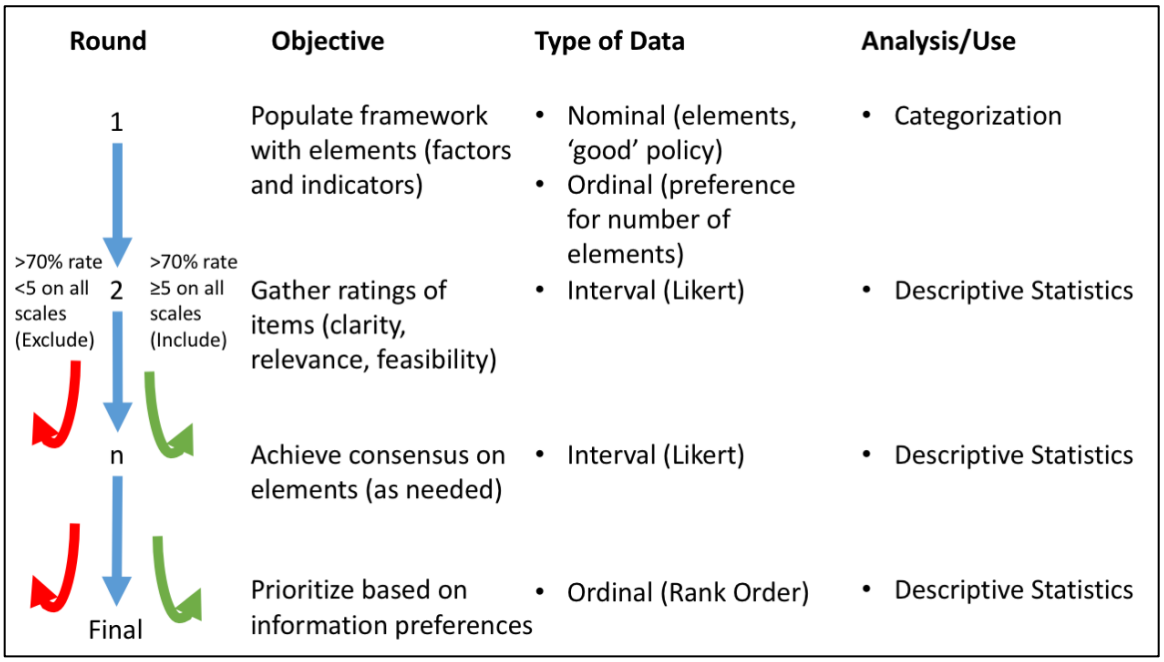

Figure 1.2. Data collection across Delphi rounds.

1.3.2. Phase 2: Case Studies

The objectives of the second phase were to test the ability of the HPCAT to explain health policy changes in Nova Scotia and refine the tool based on how it performed. This took the form of multiple case studies (Baxter & Jack, 2008; Yin, 2003, 2009). More description is provided in chapter 3**.**

A case study is an event, decision, organization, process, or other real-world phenomenon that is explored in-depth to generate insight as to how or why it occurred (Yin, 2003). Case studies are particularly useful for making sense of complex systems like health services (Agyepong & Adjei, 2008; Bradley et al., 1999; de Leeuw et al., 2014; El-Jardali & Fadlallah, 2015), which are generally in a state of flux and involve numerous interests (Tuohy, 2012; Yin, 1999). When the number of potential interactions between variables of interest surpass potential data points, case studies provide a structure around which to test ideas about the nature of the case (Yin, 1999, 2009).

A particularly noteworthy example of how case studies have been used to understand complex health policy issues is *Paradigm Freeze,* a pan-Canadian comparative analysis of health reform efforts (Lazar, Lavis, Forest, & Church, 2013a). Focusing on the period of 1990-2003, Lazar and colleagues attempted to identify factors that led to, or quashed, reform in six health policy areas. Rather than shy away from the preponderance of independent variables, case study is a particularly useful method for making sense of complex health issues that pose the most vexing challenges to health researchers and policy makers.

Policy Case Selection

In order to test the usefulness and generalizability of the HPCAT across different kinds of policy issues, two policy areas – mental health and addictions and primary health care – were identified at the outset. These two areas were chosen because, unlike more traditional health services which are concerned with acute care and occur predominantly in hospital settings, there is a distinct focus on health promotion, disease

and disability prevention, and delivering care outside of hospitals. Both are relatively newer areas of health service planning in Nova Scotia (compared to more established branches of health service delivery, such as perioperative and emergency care), and thus were thought to be more likely to offer good cases for studying policy change. Further, both have recently received provincial and national attention (Canadian Foundation for Healthcare Improvement, 2012; Mental Health and Addictions Strategy Advisory Committee, 2012; Nova Scotia Provincial Government, 2012), which also increased the likelihood that they would yield rich data.

Case selection criteria was used to ensure the chosen cases within these two areas were data-rich and provided opportunities for generalization (Yin, 1999). Our selection criteria were: a) recently implemented (i.e., past three-to-five years) to ensure it was still a relevant issue to current policy makers and that access to relevant data was more possible; b) provincial in scope to ensure richness (i.e., not specific to a single organization or institution); and c) codified (i.e., formal) policies rather than implied changes or non-decisions (Hardee, Feranil, Boezwinkle, & Clark, 2004).

Potential cases were identified through discussions with senior policy makers in these areas; options were compared against our selection criteria by conducting preliminary interviews and document review. Careful definition of the case is key to a successful case study, so this work helped us to lay out the boundaries from the outset (Yin, 1999).

Data Collection

Initial key informants and documents were identified with the help of the senior decision makers who assisted in case selection; snowball sampling was used after this point. The interview guide was based on the HPCAT V1. Key informants were asked about each of the nine sub-capacities in relation to the policy case; HPCAT factors were used as prompts when appropriate to the conversation content. Additional questions were posed to develop case descriptions (e.g., history of the policy) and identify other sources of information (e.g., key documents, potential informants). This was used to

help solidify case boundaries, identify major influences, and establish a timeline of key events (Lavis, 2013).

Drawing on policy maker knowledge to identify knowledgeable participants for interviewing helped ensure that interviewees possessed sound knowledge of the policy case, improving the trustworthiness of analysis (Elo et al., 2014). Interviews continued until saturation of factors was achieved; criteria for saturation was that no new factors emerged in two subsequent interviews. Initial impressions of interviews were recorded following the interview to aid in ongoing conceptual analysis. All interviews were audio recorded and transcribed verbatim.

Document analysis was also used to identify instances of policy capacity and build case descriptions. Documents were identified through interviews, and included reports and Hansard records from the provincial legislature as well as media reports and internal policy memos (Lavis, 2013).

Case Study Analysis

Data collection and analyses were iterative, meaning they informed each other to test emerging ideas as case conceptualization progressed (Drisko & Maschi, 2015; Lazar, Forest, Lavis, & Church, 2013). For example, a decision log was used to note reflections during the analysis process and identify data that did not neatly fit within the HPCAT, which was then explored in further data collection. This "constant comparative" method enables researchers to constantly be on the lookout for emerging links and developments between data collection and analysis (Fram, 2013; Lavis, 2013) and also supports the triangulation of findings across multiple data sources (Yin, 2009).

Case study data was coded both deductively (i.e., top-down, coded to relevant HPCAT sub-capacities) and inductively (i.e., bottom-up, coded thematically) (Drisko & Maschi, 2015). This is important for testing the HPCAT, as the usefulness of the framework for understanding policy change can be tested while simultaneously permitting new ideas to emerge, which allows further refinement (Drisko & Maschi, 2015). The strategy of comparing data to an established analytic framework (i.e., the HPCAT) has been described as "pattern matching" (Yin, 2009) or "directed content

analysis" (Hsieh & Shannon, 2005). A subset of initial interviews were coded by a secondary coder, and discrepancies in coding – and associated sub-capacity conceptualization – were discussed and used to refine the codebook.

Inductive analysis of quotes coded to each sub-capacity was performed at two time points. After the first six interviews in each case, major themes were identified which served to guide subsequent data collection (e.g., to identify contradictory evidence or pursue other lines of inquiry). This process was completed again after data collection was completed, and the findings from these two thematic analyses were compared to generate a final version of case themes and associated supporting quotes.

This analysis enabled the identification of factors which did not clearly fit into the nine sub-capacities. This served as a way to search for divergence (i.e., where the current HPCAT did not capture all relevant data), which is an important element of case study analysis by prompting the search for alternative explanations (Drisko & Maschi, 2015; Yin, 2009). This process helps the researcher to understand the data, review interpretations, refine the framework, and enhance generalizability.

In order to get a better sense of the data and generate a case narrative, data was "played with" (e.g., arranged into matrices or chronological order) throughout collection and analysis (Yin, 2009). A matrix table was used to link themes with supporting quotations (Drisko & Maschi, 2015). All data was organized, coded, and analyzed in *NVivo 11* (QSR International; Burlington, MA).

Cross-Case Analysis

Cross-case analysis was used after each case had been individual analyzed to systematically compare factors across cases. Matrix tables were used to organize findings and compare them systematically across cases (Yin, 2009), where independent variables for each case (e.g., framework factors) were placed within a table and then systematically compared to identify similarities and differences. Looking between the different contexts of the cases allows for *theoretical* replication, where contrasting results may be observed for anticipated reasons (e.g., differences in framework sub-

capacities between cases) (Yin, 2009). This process creates a clear link between case study data and interpretations of findings.

Tool Refinement

Throughout the case study phase, a decision log was kept to record how the HPCAT V1 evolved, including when items were expanded, collapsed, split, and/or moved to another sub-capacity. As the HPCAT V1 was used to identify policy capacity factors in each case, it was noted when factors were confirmed or new factors were identified (i.e., those not included in the HPCAT V1). This led to each case having its own version of the HPCAT V1, as some variation in factors was observed between cases. Following individual case analysis, the two HPCAT V1 versions were synthesized following sorting rules to create a refined version, the HPCAT V2. This process involved combining similar factors, rearranging items (e.g., combining or dividing), and noting where factors did not neatly fit within the nine sub-capacities of the HPCAT V1.

1.3.3. Ensuring Trustworthiness of Data

Multiple strategies were used maintain the trustworthiness of study findings (i.e., transparency between data and interpretation of findings) (see Table 1.3) (Elo et al., 2014; Mays & Pope, 2000; Sandelowski & Barroso, 2003). Data confirmability (i.e., construct validity) was abetted by the triangulation of different data sources (e.g., documents, interviews). This helps to limit the effect of any biases a single data source may have (e.g., verbal reports may experience recall bias or inaccurate articulation) (Yin, 2009). These "converging lines of inquiry" help ensure accurate interpretations of observed phenomenon (Yin, 2009). Analytical decisions logs and tables linking themes with participant quotes provide a chain of evidence between data and conclusions (Yin, 2009). This provides a way to track transparency across the coding process, allowing others to observe the link between data interpretation and conclusions (Lavis, 2013).

Table 1.3. Mitigation strategies for ensuring trustworthy data.

Data Quality Issue	**Definition**	**Phase 1 Mitigation Strategies**	**Phase 2 Mitigation Strategies**
Confirmability (construct validity)	Operational measures of constructs being studied	• Established consensus criteria • Multiple rounds	• Triangulation • Chain of evidence
Credibility (internal validity)	Establish a relationship between two conditions	• Expert perspective	• Pattern matching • Rival explanations • Reflexivity log
Transferability (external validity)	Generalizability of findings	• Range of perspectives • Information preferences	• Replication logic (Cross-case synthesis)
Dependability (reliability)	Repeatability of the operations of the study	• Careful selection of expert participants	• Case study protocol • Develop case study database

Note. Parentheses indicate 'quantitative' equivalents of qualitative trustworthiness terms (Lincoln & Guba, 1985).

Credibility (i.e., internal validity) of case study data was enhanced by applying the HPCAT V1 in the same way to each case (i.e., pattern matching), which is referred to as "literal replication" (Yin, 2009. p.138). Pattern matching also serves as a way to test for rival explanations; examples where patterns do not match might suggest that alternative explanations also lead to results, resulting in refinement to the HPCAT V1. A reflexivity log was also used to track progression in thinking and create a chain of analytical decisions. Rival explanations allow the researcher to test the limits of their case explanations and identify other factors that contribute to the nature of the case (Yin, 2009); these may include factors not captured by the HPCAT V1 that influence the policy cases, as well as "critical capacities" that overpower the effects of any other factors (present or absent) (Howlett & Ramesh, 2016; Lazar, Forest, et al., 2013). Occurrences where data did not neatly fit into the HPCAT V1 were noted in a reflexivity log as a way to explore alternative explanations of the case (Yin, 2009).

The transferability (i.e., external validity) of the HPCAT V1 was tested using cross-case synthesis; word tables and replication logic helped to create a HPCAT V2, which is useful across different contexts (Yin, 2009). Findings from case studies are often relevant to other circumstances, and taking steps to protect against bias improves the chances to generalizations being drawn from the case theory rather than the specific inputs/outputs of the case in question (Gerring, 2007; Yin, 1999).

The dependability (i.e., reliability) of findings was protected by keeping a case study database of transcripts, notes, documents, and evolving case narratives and conceptualizations (Yin, 2009).

1.3.4. Summary and Roadmap

When I first conceived of this research, the conceptual framework of Wu et al. (2015) had just recently been published. While scholarship using this framework has been published in the intervening years, my original goal of this research – to validate this framework and turn it into a practical tool for assessing policy capacity in its entirety – remained untested. This sequential mixed-methods research enables the systematic and transparent identification of factors comprising the nine sub-capacities of the conceptual framework, and tests them against real-world examples of policy change. Drawing on both quantitative and qualitative methods, this research builds on the conceptual framework to produce a tool that can be used by both researchers and policy makers to better understand policy capacity.

Over the next three chapters, I will discuss how the initial version of the HPCAT was developed using the Delphi method (chapter 2), then describe how it was used to analyze two case studies (chapter 3). In chapter 4, I describe the process I used to refine the HPCAT using data from the case studies, and how I identified some limitations with the HPCAT V1 that are addressed in the HPCAT V2. Chapter 5 discusses the implications of this research, including how the HPCAT V2 might be used to better understand policy capacity and enable policy success.

1.4. **Endnotes**

[i] I use the "big P" sense of policy, in that these are strategic policy which predominantly deal with major issues, as opposed to operational policies which focus on minor or functional issues (Dunn, 2008).

[ii] Still others see policy capacity not as skills or resources, but as a "mode" of policy making based on past decisions and interactions between policy and market actors (Karo & Kattel, 2014, 2016). This conceptualization suggests that policy capacity cannot simply be altered to meet new challenges, as it evolves based on how policy actors respond to change and innovation, finance economic growth, and choose to implement the resulting policies.

[iii] Wu et al. (2015) present their framework to introduce a special issue of the journal *Policy and Society*, where each subsequent article is focused on one of the nine sub-capacities. However, the terms and definitions of each occasionally vary (e.g., operational capacity is initially presented as managerial capacity).

[iv] A cut-off higher than the median possible score was used to increase the likelihood that only highly rated items were included in the tool.

CHAPTER 2. DELPHI STUDY

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Statement of manuscript contribution: LL conceived of the study with input from JC, PM, and KF. LL analyzed the data and drafted the manuscript. JC, PM, and KF contributed to revising the manuscript. All authors read and approved the final manuscript.

2.1. **Abstract**

Policy capacity represents the ability of governments and their partners to gather and use the resources required for policy success. While the breadth of the term has been criticized for lacking operational usefulness, the conceptual framework proposed by Wu, Ramesh, and Howlett (2015, *Policy and Society*) breaks policy capacity into nine sub-capacities. Building upon this framework, we conducted a Delphi survey with health policy experts to validate these sub-capacities and construct an assessment tool. Seventeen participants completed three survey rounds. The resulting Health Policy Capacity Assessment Tool provides preliminary guidance and transparency for evaluating this important concept.

2.2. **Introduction**

For over two decades, Canadian policy makers have wondered how to better advance the public good in light of the increasing complexity of public problems, technological change, and a more informed and demanding public. In 1995, policy capacity was one of nine task force areas recommended by the Canadian government to determine how to improve services to the public (Anderson, 1996; Fellegi et al., 1996). Given both its breadth and place of importance, scholars have argued that enhanced policy capacity is required to advance areas such as climate change, transportation, sustainable development, and health reform.

A high level of policy capacity can be thought of as the ability of policy makers to *get it right*, in that it is expected to reduce the risk of policy failure and improve the likelihood of arriving at successful policy solutions (Howlett 2009; Painter and Pierre 2005; Wellstead and Stedman 2010). This pertains both to adapting existing policies so they are robust in the face of challenges, as well as for effecting policies which transcend the *status quo* (i.e., "good" policy which achieves improved societal outcomes) (Gleeson et al., 2009; Peters, 1996). Policy capacity is "a significant determinant and indicator of a high-performing government" and thus crucial to effective governance and policy reform efforts (Craft & Howlett 2013, p.14).

Yet what policy capacity exactly *is* remains contested. Peters (1996) highlighted many elements for consideration (e.g., informed analysis, coordination across areas, strategic direction) but stopped short of providing a solid definition. Based on his work with a federal panel, Anderson (1996) contended that policy capacity reflects the ability of the state to perform several broad policy functions, including theoretical research, policy analysis, and communications. Painter and Pierre (2005, p.2) describe it as "the ability to mobilize the necessary resources to make intelligent collective choice about and set strategic directions for the allocation of scarce resources to public ends," and position it alongside administrative and state capacities to represent overall governing capacity.

More recent explanations see policy capacity as more than just the ability to formulate options. Rather than define policy capacity based on functions, Gleeson, Legge, and O'Neill (2009) argue that policy capacity essentially comprises two areas: individual capacities (e.g., knowledge and experience, practical policymaking skills, and personal attributes) and organizational capacities (e.g., access to evidence, personnel management, interdepartmental coordination and networking, leadership). Denis et al. (2015) arrived at a similar conclusion, although they focus more on capacity as a mixture of individual policy analysis and political know-how. Thus, despite recognition of its importance and calls for its enhancement, policy capacity remains poorly articulated, stunting operational definition and therefore its utility to systematically enhance policy making (Craft & Howlett, 2013; Denis et al., 2015).

The inchoate nature of policy capacity is reflected in the methods with which it is studied: namely, through the sense of policy makers. Bakvis (2000) contends the best sources for understanding policy are the upper echelons of public service. Mirzoev, Green, and Van Kalliecharan also interviewed "key policy actors" in their study of the policy capacity of the Tajikistan Ministry of Health, but also drew on documents and "observations of policy events" using a conceptual framework they derived from the literature (2015, p.175). While interviews with senior officials were the predominant source of data in documents from an international review of policy capacity, case studies of policy episodes or units, surveys, focus groups, and training needs analyses were also used (Gleeson et al., 2009). So while there is some direction for *where* to look for information on assessing policy capacity, *what* to look for remains an important gap in the literature.

An exception is the conceptual framework advanced by Wu, Ramesh, and Howlett (2015; 2018). This framework offers a comprehensive and multifaceted conceptualization of policy capacity by presenting it as nine interrelated types of policy capacities that exist at the intersection of resource level (i.e., individual, organizational, system) and competency type (i.e., analytical, managerial/operational, political) (see figure 2.1).[i] We refer to these nine types as *sub*-capacities (SCs), as they comprise the

larger concept of policy capacity. Thus, policy capacity ranges from the ability of policy analysts to acquire and use knowledge in the policy process ("individual analytical capacity") (Howlett 2009; Howlett 2015) to the legitimacy that policy institutions have in society ("political economic capacity") (Woo et al., 2015). The inclusion of system-level capacity distinguishes it from other work, as it acknowledges the roles of multiple political actors within and outside government in the policy process (Holley and Shearing 2017), and thus that capacity is a collective function shared across a policy subsystem (Hughes, Gleeson, Legge, & Lin, 2015). The framework introduces a special issue, where the successive nine articles individually address each sub-capacity (Wu et al., 2015), and later became the basis for a book (Wu, Howlett, et al., 2018), where it facilitates both a shared understanding of policy capacity and lays out a blueprint for how it might be comprehensively assessed.

		Competency Area		
		Analytical	**Operational/Managerial**	**Political**
Resource Level	**Individual**	**SC1: Policy Analytical**	**SC4: Managerial Expertise**	**SC7: Policy Acumen**
	Organization	**SC2: Organizational Information**	**SC5: Administrative Resource**	**SC8: Organizational Political**
	System	**SC3: Knowledge System**	**SC6: Accountability and Responsibility System**	**SC9: Political-Economic System**

Figure 2.1. Conceptual framework of policy sub-capacities.
Note. Adapted from Wu et al., 2015, and Howlett and Ramesh, 2016.

While this conceptual framework brings clarity to policy capacity, there remains a gap in its operability: of the nine articles in the special issue that this framework introduces (each focusing on one of the nine sub-capacities), seven are purely

conceptual. As an example of organizational information capacity, Pattyn and Brans (2015) used boolean logic to identify the factors which were necessary, but not sufficient, for organizations seeking to "institutionalisze high quality policy evaluations" (183). Hughes et al. (2015) studied the "accountability and responsibility system" across three Australian health authorities, as well as their relationships with their central government, yet relied on secondary data analysis of interviews, offering little guidance for how others might study this topic. Further, neither paper posits how their sub-capacity of study might interact with others to influence the overall policy capacity related to their policy issue of choice, or – in Hughes et al.'s case, and of interest to Canadian policy making – how the devolution of power and responsibility to provincial governments interact with national policy direction.[ii]

While some of the articles in the policy capacity book offer guidance in measurement (Dunlop, 2018; Fobe, Pattyn, Brans, & Aubin, 2018; Olejniczak, Sliwowski, & Trzcinski, 2018), only two examined all nine sub-capacities. Bettini and Head (2018) applied the framework to "empirical material from a number of studies" (p.292) to explain policy responses to drought in Australian cities. Hartley and Zhang (2018) analyzed the overlap between the framework and popular governance indicators, and note 23 "sub-components" within the nine sub-capacities (e.g., administrative resource capacity consists of a) funding and staffing and b) levels of intra- and inter-agency communication, consultation, and coordination). However, it is not clear where these sub-components originated. The authors also note the challenge of placing indicators within the framework depending on how they are framed (e.g., education of policy personnel could indicate both individual ability and the state of a system's educational institutions).

While this conceptual framework provides a thoughtful way to understand policy capacity, further work is required to determine its usefulness in assessing policy capacity across policy jurisdictions, particularly as a practical tool for policy makers and scholars to assess and compare policy capacity in different cases. We sought to enhance the operability of Wu et al.'s (2015) framework by using it to develop a tool for more clearly

assessing policy capacity. This tool would then enable both a shared understanding of *a posteriori* factors which contribute to policy success as well as a strategic assessment of *a priori* factors needed for future policy action. As such, the purpose of our research was to first ensure that the framework was accepted by policy experts, and then to develop measures for each sub-capacity to operationalize the framework. Our objectives were to a) determine the clarity and importance of the sub-capacities in an existing conceptual framework for policy capacity, as well as b) identify factors and indicators that could be used to assess capacity strength/presence.

2.3. **Data and Methods**

We used the Delphi method to gather feedback from health policy experts on components of Wu et al.'s (2015) conceptual framework of policy capacity. The Delphi method is a multi-round process for developing expert consensus where experts anonymously provide answers to questions, and then are given the opportunity to see how other experts responded and revise their answers accordingly (Dalkey & Helmer, 1963; Linstone & Turoff, 2002). At the end of each round, responses are synthesized and used to inform the next round of questions. In this way, the panel moves towards a consensus, while still providing opportunity for identifying and exploring unpopular responses.

2.3.1. Sampling

We identified health policy experts through a peer recommendation process. Twenty-nine individuals were individually contacted by members of the research team; these individuals represented the senior leadership teams of Nova Scotia's two health authorities (CEOs, vice presidents), as well as some senior leaders from the Nova Scotia Department of Health and Wellness, senior health services researchers, and senior staff of the provincial health research funder. In most cases, at least one member of the research team had personally worked with these individuals. They were asked to recommend health policy experts, defined as "people with considerable knowledge in this area whose judgement you value and respect on health policy topics, even if it

doesn't always align with yours." These *experts* were then contacted via email with an explanation of the study and a link to complete a screening survey; individuals were eligible to participate if they a) had at least 10 years of experience working in policy, and b) had been involved in policy work in the past 12 months. These criteria were to establish some minimum criteria for policy expertise. Eligible participants then provided demographic characteristics, such as their areas and years of experience.

For each round, eligible participants were sent an initial invitation, plus reminders at seven and ten days. Participants had 14 days to complete the survey, and were able to save their progress and resume later. In between rounds there was an approximately three-week period for cleaning and analyzing survey data used to create the next survey.

All participants who completed the first round were invited to participate in successive rounds. The inaugural survey was piloted with two junior policy personnel for clarity and simplicity. The survey was conducting using *Opinio* software (ObjectPlanet; Oslo, Norway).

2.3.2. Delphi content

Exposure to the framework may have biased or otherwise shaped participant responses. To avoid this, we first asked a) What factors are important to policy success, and b) What indicators could help identify the presence/degree of these factors? (see Appendix A for questions). We opted to ask about what factors are important to policy success (broadly defined), given that policy capacity is seen as "a necessary pre-condition for policy success" (Wu et al., 2015, p. 166) and linked to "superior policy outputs and outcomes" (ibid: 170, citing Fukuyama 2013; Fellegi 1996). This allowed us to avoid drawing on a potentially narrow participant definitions of what policy capacity is or is not, and better construct a tool consistent with a comprehensive description of policy capacity.

Participants were asked to list up to 15 factors, and then provide indicators for assessing the presence or degree of these factors (factors and indicators are collectively referred to as *items*). Respondents were then introduced to the conceptual framework,

and asked to rate each sub-capacity on *importance* to policy success and *clarity* of description.[iii] In addition to rating, participants had the ability to comment on sub-capacity description. Responses were included for analysis if at least two of the above four questions were completed; the same rating for each question was considered an invalid response.

To identify overlap and create a parsimonious list, two reviewers independently sorted factors identified by participants into themes (e.g., communication, engagement, system supports, resources, process characteristics). Reviewers met to discuss thematic organization and ensure that all factors provided were reflected in these themes while removing any duplicate factors. Participant comments and associated indicators were used to clarify factor meaning, wording, and organization. Synthesis of items was mutually exclusive and collectively exhaustive, although fine differences which might reflect potential nuance important to policy experts were left separate.

Using the descriptions of the nine sub-capacities provided by Wu et al. (2015), the synthesized factors and their indicators were sorted into the most appropriate of the nine sub-capacities. Given that participants were asked to list factors of policy success, some items were not clearly worded to reflect capacity. In these cases, they were reworded (e.g., "time" as a factor of policy success was changed to "sufficient time to perform required work"). In cases where a sub-capacity did not have factors or indicators that reflected all parts of the description approved by participants, associated items were generated by the first author. The final organization of items was reviewed by additional authors for clarity and conceptual distinctiveness (JC, PM). These items (factors and associated indicators) were the basis of round two.

Item characteristics were assessed in the second and third rounds using a seven-point semantic scale; participants were asked to indicate where an item rated between "1. not _____ at all" and "7. critically/completely _____" (e.g., "not important at all" to "critically important"). Factors were rated based on importance (i.e., how necessary is the factor to policy success?) and clarity (i.e., how understandable is the factor?). Indicators were rated on relevance (i.e., how applicable is the indicator to assessing the

factor?) and feasibility (i.e., how possible is it to acquire the information needed for this indicator?) as well as clarity.

To ensure only highly-rated items were included in the final tool, items required a score of at least 5/7 to be "acceptable" (i.e., included in the tool). Items received one of three different ratings: acceptable (i.e., ≥70% of respondents rated item ≥5/7 on all characteristics); rejected (i.e., ≥70% of respondents rated item ≤4/7 on all characteristics); or mixed (i.e., not clearly accepted or rejected). Mixed items were revised using participant feedback and subjected to another round of review; if a mixed item did not have feedback on how it could be strengthened, it was rejected. Additionally, if a factor was accepted but did not have any accepted indicators, it was removed from further rating.

Participant responses were downloaded from *Opinio* as a .csv file and re-coded in SPSS version 24 for Macintosh. This data was then exported to Microsoft Excel, where conditional formatting was used to visually identify rejected and mixed items.

2.4. **Results**

Data collection occurred over a six-month period (October 2017 – March 2018). Of the 29 individuals whom we asked for expert recommendations, 25 responded. A list of 76 experts was produced, which included multiple recommendations for the same person as well as by an expert who declined to participate but recommended a colleague. Their expertise reflected experience in government, health care delivery, academia, law, and health care professional organizations as health care practitioners, analysts, researchers, executives, and consultants. Participants had developed policy expertise from working in a variety of health areas (e.g., primary care, continuing care, mental health, healthy public policy, women's health, pharmaceutical services) as well as other policy areas (e.g., education, community services, corrections, indigenous affairs, military and veterans' affairs, corporate social responsibility, economic development). Our sample included advisors, analysts, a board chair, directors,

executives, a lawyer, managers, and university professors, as well as a recent retiree. Figure 2.2 describes the flow of participants throughout the study.

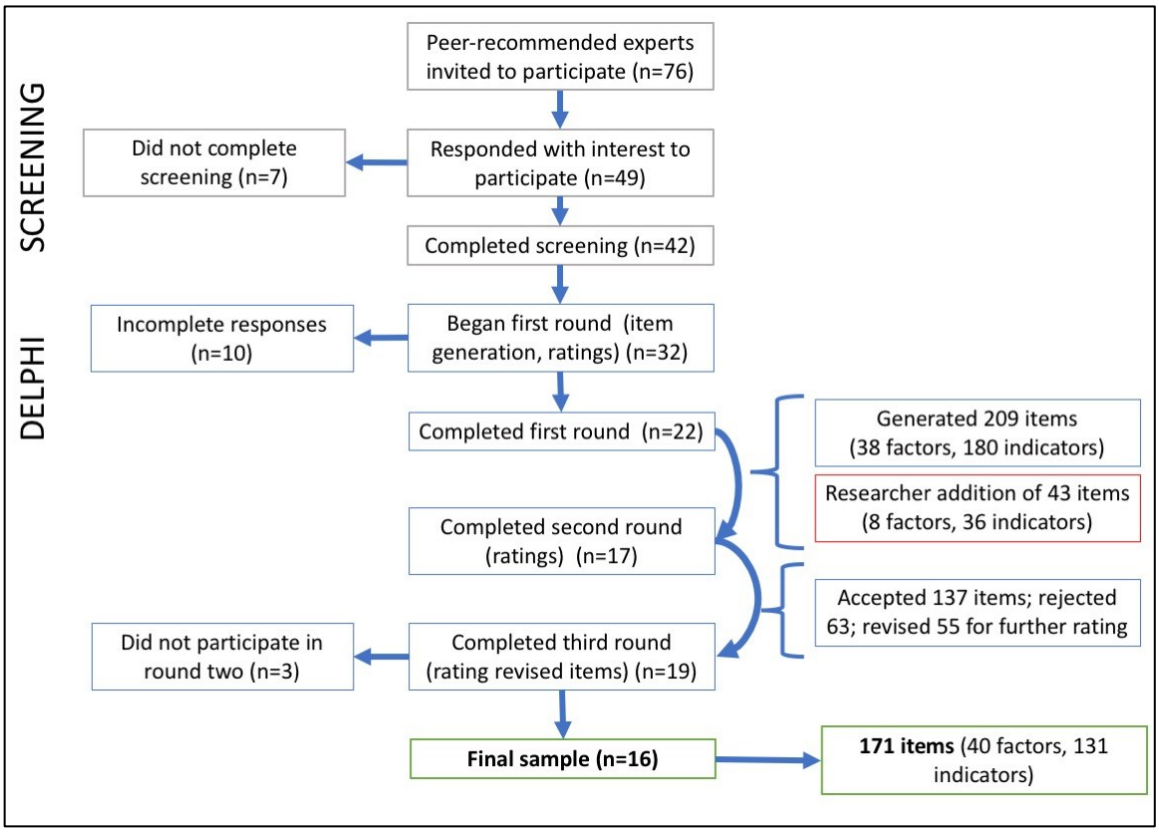

Figure 2.2 Participant flow through Delphi.

While 42 participants completed screening, only 32 began the first round. Of these, 22 participants completed in the first round, with 16 completing all three (see table 2.1 for characteristics). The only significant difference ($p<0.05$) between those who only completed screening and those who completed the first round was those who only completed screening had less experience in policy development (10.5 [SD: 5.2] years compared to 17.3 [SD: 9.8] years). The only significant difference across rounds was that there were no individuals currently working in government who participated in the final round.

Table 2.1. Participant characteristics.

Characteristic	Screened but didn't complete Round One	Round One (n=22)	Round Three (n=16)
Average experience in current role (years)	6.7	6.6	7.5
Average policy experience (years)	16.1	18.5	18.6

Following the first round, all nine sub-capacities were rated highly in terms of importance to policy success (i.e., 87% of participants sub-capacity ratings were "very" or "critically important"; mean = 4.18/5). While sub-capacity clarity ratings were high (i.e., 76% of ratings were "very clear"; mean = 3.68/4), two sub-capacity descriptions received some 'unclear' ratings (1.7%) and were revised based on participant feedback (see table 2).

Table 2.2. Revised sub-capacity description.

Sub-capacity	**Original description**	**Participant comments**	**Revised description**
SC3: Knowledge System	State of a system's institutions and opportunities for knowledge generation, mobilization, and use.	"Capacity to fund and partner in research to inform public policy" "State of a systems institutions is unclear to me"	System-level mechanisms for knowledge generation, translation, and application between different organizations and political actors
SC6: Accountability and Responsibility System	Clear rule of law and transparent adjudicative system, as well as broader systems of training, recruitment, and competency promotion.	"This does not make clear what we mean by accountability" "'Clear rule of law' in a policy context may need some further explanation" "How best to determine that the system used helps establish a culture of public policy adherence vs micro management" "Mixes in HR concepts"	Accountability, Responsibility, and **Coordination** system: *The nature of system-level accountability, consultation, and coordination with partners, as well as clear and transparent decision-making and conflict resolution processes*

The independent sorting process (described above) placed factors into broad thematic categories (e.g., political will, human resources, alignment with existing priorities). These categories were then grouped into thematic clusters (e.g., stakeholder

engagement, executive support, implementation capacity), at which point factors and indicators were compared and collapsed to be mutually exclusive. Participant comments were also used to refine wording to better reflect the nuances of policy making.[iv] This resulted in 209 items (38 factors and 180 indicators).

These factors, along with their associated indicators, were then sorted into the nine sub-capacities of the Wu et al. (2015) framework. Items were cross-referenced with the sub-capacity descriptions; not all description components were reflected in the factors, so 43 items (8 factors, 36 indicators) were generated by the first author to reflect all elements of the approved sub-capacity descriptions (e.g., internal information sharing, organizational learning processes). The final list from this first round contained 252 items (46 factors, 206 indicators).

In round two, 17 participants rated 136 items as acceptable (i.e., ≥70% of respondents rated item ≥5/7 on all characteristics) and rejected 63 items (predominantly indicators because of low 'feasibility'). Fifty-five items (five factors, 58 indicators) were revised for round three, including one factor and its four indicators that were accidentally missing from round two. The revision process involved clarifying and/or reorganizing items based on participant feedback and further refining items to achieve clarity and parsimony.

While 19 individuals participated in round three, data was only used from those who participated in both rounds one and two (n=16). Of the revised items from round two, 2/3 factors and 31/52 indicators were approved, resulting in a final framework of 171 items (40 factors and 131 indicators; see Appendix B). Another round was not pursued due to both a lack of participant feedback about how to strengthen the outstanding items and a concern of participant attrition. Table 2.3 contains related concepts and number of factors and indicators within each sub-capacity; Table 2.4 describes example factors and indicators for each sub-capacity.

Table 2.3. Overview of final items within each sub-capacity.

Sub-Capacity	**Key Concepts**	**# Factors**	**# Indicators**
SC1. Policy Analytical	*Need for policy; finding and applying evidence; analysis of policy impacts; equitable and sustainable policies*	6	16
SC2. Organizational Informational	*Organizational information acquisition and learning; policy action guidance; performance monitoring*	5	25
SC3. Knowledge System	*Knowledge sharing and exchange; partnerships for enhancing policy action*	2	4
SC4. Managerial Expertise	*Leadership; Project management*; *Characteristics of group responsible for policy action*	4	12
SC5. Administrative Resource	*Organizational culture; funding; material and infrastructure; human resources*	5	15
SC6. Accountability, Responsibility, and Coordination System	*Governance; coordination between partners; accountability*	4	19
SC7. Political Acumen	*Policy making process; Understanding stakeholders; Timing; Alignment with other factors*	5	17
SC8. Organizational Political	*Consultation; Stakeholder engagement; Incorporating feedback; Communication; Executive support, transparency*	7	23
SC9. Political Economy	*Political will; public support*	2	0

Table 2.4. Example factors and indicators.

Sub-Capacity	**Example Factor**	**Example indicator**
SC1. Policy Analytical	Identification and appraisal of different sources of good-quality evidence relevant to policy action (e.g., external consultation, jurisdictional scan, grey literature)	Policy action personnel can critically appraise and synthesize multiple kinds of evidence
SC2. Organizational Informational	Performance monitoring throughout policy action and across policy process	Plan or process is used for collecting and addressing data (e.g., feedback loops)

Sub-Capacity	Example Factor	Example indicator
SC3. Knowledge System	External system or network for sharing and receiving information, including online or electronic opportunities	Formal role or position for identifying and sharing best practices and/or translating relevant knowledge
SC4. Managerial Expertise	Capable and effective policy lead(s)	Has appropriate skill set and leadership competencies (e.g., chairing meetings, project management, etc.)
SC5. Administrative Resource	Availability of skilled personnel assigned to policy action	Personnel assigned for policy action is sufficient, including partnerships with academia and student placements
SC6. Accountability, Responsibility, and Coordination System	Governance and approval process for policy decisions	Clear authority, decision-making, and accountability details documented
SC7. Political Acumen	Understanding and balancing stakeholder needs	Policy personnel are able to appraise and synthesize multiple stakeholder perspectives
SC8. Organizational Political	Clear, effective, and sufficient communication of decisions to those needing to know	Personnel responsible for carrying out policy action know about it in advance and understand the rationale for why it was needed
SC9. Political Economy	Political will, public advocacy	*[no indicators approved]*

2.5. **Discussion**

Our multi-round survey of health policy experts confirmed the policy sub-capacities outlined by Wu et al. (2015), building on this and other relevant work (Mirzoev et al., 2015) by offering examples of what constitutes different components of policy capacity. We first describe the factors and indicators identified in each competency group, then provide example of how the tool can be used by policy makers to enhance strategic policy development before noting some limitations.

2.5.1. Sub-Capacity Findings

Analytical Competencies (SC1-3)

The analytical factors identified by participants align with many conceptualizations of policy capacity as knowledge, analytic skills, and evidence-informed policy (Denis et al. 2015). A policy organization's ability to make intelligent decisions is a function of their ability to identify, appraise, and integrate the best available evidence from a variety of sources. This ability is a product of both the skills of individual policy practitioners (SC1), as well as the organization's ability to support information acquisition (e.g., information management, support services) and monitor policy development and evaluation (SC2). These two sub-capacities were well-populated with factors concerning good evidence use (e.g., identification, appraisal, analysis, and application), as well as organizational supports for conducting clear policy work (e.g., project charter, evidence acquisition supports, international information sharing processes). These findings are consistent with other appraisals of analytical capacity (e.g., learning from past failures, anticipating unintended consequences, clear direction from government to guide work) (Howlett, 2009, 2015; Ramesh, Howlett, et al., 2016), recognizing that the activities of individual analysts are supported by an environment that supports or "demands" research.

At the system level (SC3), knowledge-sharing systems or networks, as well as partnerships with knowledge-producing bodies (e.g., academia) were identified by our panel as well as within the broader policy capacity literature. While this resource level

was less developed, there are initiatives that the Nova Scotia health policy community is pursuing to strengthen capacity in this area, such as the Integrated Health Research and Innovation Strategy and the Maritime SPOR (Strategic Patient-Oriented Research) Support Unit, both of which are meant to better coordinate and support interactions between the policy and health research communities.

Our respondents also identified equity and sustainability considerations as factors linked to policy success. While considerations for equity (Hankivsky et al., 2014; Public Health Agency of Canada, 2015) and sustainability (Jacobs, 2016) in policy are not new, they have not been discussed as a component of policy capacity. These factors may actually be desired outcomes of policies in the same way that effectiveness or cost-effectiveness are outcomes associated with policy success, where some outcomes may be prioritized over others to determine what "success" looks like (McConnell, 2010). If equity and sustainability are sought-after policy objectives, then a more specialized tool may have distinctive factors for identifying capacity for achieving these objectives.

Operational Competencies (SC4-6)

Operational expertise (SC4; alternatively referred to as *managerial* expertise; Howlett and Ramesh 2015) reflects some of the "soft" skills integral to successful policy work. The ability of individuals to manage the process of policy work (e.g., experience, policy know-how) and the characteristics of individuals (e.g., team dynamics, personability) shape the outcome of policy just as much as the information the work is based on. These have been described as the "practical skills of policy making" (Gleeson, Legge, and O'Neill 2009, p.6), and also refer to the management of policy work (Anderson, 1996).

At the organizational level (SC5), this also includes effective human resource support, such as the ability to bring individuals with appropriate skillsets into policy work, as well as recruitment and retention efforts (Anderson, 1996; Bakvis, 2000; Fellegi et al., 1996; Gleeson et al., 2009). However, a factor which emerged and has not been identified in the policy capacity literature is tools to guide and inform policy work (e.g., project charter). This may reflect a greater current awareness for these kinds of support

tools and best practices that a former generation of policy experts eschewed for personal experience and intuition.

System-level operational capacity (SC6) had the most items of the three levels of managerial capacity, in contrast to the other two competency areas where the system level was the least populated. This included factors such as accountability, coordination, governance and approval processes, and transparency of decision processes. While the importance of coordinating between departments and working with the external policy community have been noted (Denis et al., 2015; Fellegi et al., 1996; Gleeson et al., 2009), responses suggest that greater clarity of partner engagement, shared accountabilities, and decisional processes helps strengthen policy capacity. Working with partners depends highly on relationships, which are rooted in individuals; strengthening these factors, particularly in light of uncertain human resources, may require adding more formal mechanisms and resources to manage and support these interactions (Babiak & Thibault, 2009). For instance, the guiding documents recommended by participants may be useful at making plain what Wildridge and colleagues refer to as critical success factors, such as a common vision, consistent communication, and accountability (2004).

Political Competencies (SC7-9)

These competencies refer to how policy work is situated in the broader socio-political context and affects stakeholders; while analytical and managerial competencies are arguably not contextual, political competencies make work meaningful to the local policy environment. This type of competency may be the most important for policy success, particularly as this is the competency type used for strategic/long-term issues and horizontal coordination – areas of weakness in Canadian policy (Anderson, 1996).

At the individual level (SC7), "political acumen" includes a sensitivity to the political dimension of policy options, the ability to determine readiness of effected populations, how the policy aligns with greater political objectives (i.e., policy coherence; Parsons 2004), considering stakeholder needs, and discerning "windows of opportunity" (i.e., judging the present conditions are likely to support an idea that

would not have been tenable in the past). While Gleeson and colleagues (2009) refer to the role of personal skills like creativity, judgement, and intuition, respondents gave a bit more clarity as to the areas in which these skills could be brought to bear. There is unlikely to be a definitive answer or threshold for how ready a group is for policy change, or how a stakeholder's needs might be met based on a given policy decision, which is where intuition and sound judgement are valuable.

At the organizational level (SC8), factors such as stakeholder engagement, consultation, communication of decisions, and executive support were identified. The importance of communication and consultation have been noted (Gleeson et al., 2009), and more deliberative modes of policy making have been advocated for as a way of drawing on local knowledge needed for innovative policy solutions (Parsons, 2004). A policy organization's ability to successfully canvas and incorporate feedback from stakeholders and the polity is important for policy success (McIntosh & Forest, 2010). Executive support for enhancing overall policy capacity has been noted (Anderson, 1996; Fellegi et al., 1996; Forest & Helms, 2017; Gleeson et al., 2009), and was reflected in participant responses through clear responsibility, authority, and guidance for advancing policy change.

The "legitimation capacity" (SC9) of a policy system, encompassing public trust in the political, social, economic, and security domains for which government is accountable (e.g., rule of law), was the least-developed sub-capacity of our tool despite Woo et al. (2015) claiming it to be the most crucial sub-capacity. While a number of factors were put forward (e.g., system stability, public trust), only two received acceptable ratings: political will and public support groups. However, neither of these had any indicators approved, so our tool does not offer any guidance on how these might be appraised. Based on Woo and colleagues' (2015) description, strong legitimation capacity means that people have a high level of trust in the ability of policy makers to address their needs; this faith in a social order produces social regularities conducive to policy making (Weber, 1964). Our respondents' approval of only two factors may demonstrate the relative stability and strength (and therefore invisibility) of

Nova Scotia's legitimation capacity. When compared to jurisdictions with weaker democratic institutions where related factors of this sub-capacity are less developed or stable (e.g., economic insecurity, inability of the state to protect citizens from violence or extortion), the effect of legitimation capacity on overall policy capacity would be more tangible and thus likely to be reflected in the responses of policy makers.

Yet the overall trust in the system may be felt acutely in a health policy context, where the recent perception of crisis in response to a lack of access to physicians and primary care services in Nova Scotia undermines both public and health care provider trust in policy responses (Crowe, 2019; Fierlbeck, 2019). Public dissatisfaction with provincial health services is likely to make future reform even more difficult, as policy organizations have lost the political capital to facilitate health reform (i.e., faith in the system enables system change). This capacity is also likely to be more important at the implementation phase, although a paucity of financial resources to support good policy work (in coordination with SC5) can also stymy policy development.

2.5.2. Implications for Assessing Policy Capacity

This tool provides guidance for civil servants and policy researchers to assess policy capacity. For researchers, it serves to clarify what is meant by policy capacity by building on the definitions and conceptual framework advanced by Wu et al. (2015). It could also be used as a lens for comparative policy analysis, as the tool enhances transparency for the criteria by which we make judgements around the degree of policy capacity in each of these sub-capacity areas. For practitioners, we see four potential uses for this tool based on the scope and purpose of assessment (Figure 2.3). From an evaluation perspective, this tool could enhance a policy organization's knowledge base of its strengths and weaknesses (i.e., building an inferential case for certain sub-capacities via process tracing; George and Bennett, 2005). From a planning perspective, it can support more strategic investments to maximize desired returns. These perspectives can be synergistic, where findings from the evaluative approach can be tested in future policy development.

Scope of assessment	Evaluation (retrospective)	Planning (prospective)
Specific	1. Why did the policy produce observed results?	3. How can we improve chances of a policy succeeding?
General	2. Why have we been seeing observed results within a policy area?	4. How can we enhance the likelihood of producing successful policies?

Figure 2.3. Two-by-two matrix of questions to guide potential uses for assessing policy capacity.

To demonstrate how the tool could be used to assess policy capacity, we present the example of planning for a major policy initiative with the intention of achieving a platform commitment (e.g., a provincial cost-sharing program for orphan drugs; see box three in Figure 2.3). Using the sub-capacity descriptions and items in the tool, a team could assess a) which of the nine sub-capacities are likely to be critical for policy success (Appendix C), and b) to what extent their policy system has capacity in each of these areas (Appendix B).

Policy makers may choose to identify critical capacities to optimize resource use rather than perform a comprehensive assessment. Using Appendix C, the team might identify that the technical ability to identify which orphan drugs should be covered in order to maximize the use of resources (SC1: policy analytical capacity) is critical to success, and thus that it must be strong to achieve success. Using the tool (Appendix B), the team would examine the factors they deem most relevant (e.g., identifying and appraising relevant evidence on which to base program funding criteria), starting with the indicators associated with each factor to determine whether they have the capacity required (e.g., appropriate training for collecting and analyzing data, access to evidence support services, critical appraisal and synthesis skills). Data to assess the indicators could be obtained from interviews, document analysis, or even comparative policy analysis to understand relative policy capacity, as well as the assessment team's personal experience and appraisal. The appraisal of relevant sub-capacities can then be

used to inform long-term planning of this platform commitment (e.g., requesting a new position or dedicated time to manage partner coordination for the program), increasing the likelihood of success.

The variety of factors and indicators for policy capacity are meant to be viewed collectively and give tool users the flexibility to select items that work best for enhancing understanding of capacity for a given policy issue. Similarly, there is likely to be overlap or synergies between sub-capacities. For example, the ability to engage stakeholders (SC8) enables the collection of information which can be used to inform decisions (SC2). Policy is an iterative process; more questions may be raised in the process of assessing policy capacity, understanding the solution, and (re-)framing the problem (Rittel & Webber, 1973). Tool users may find that the items provided do not align with their understanding of the policy, and should use their judgement to borrow or create their own factors or indicators to better support their assessment.

Assessment results allow tool users to select which sub-capacities they might want to strengthen. At the individual level, this might involve hiring people with the necessary competencies, developing the abilities of current personnel, or redeploying individuals so their abilities are brought to bear on a given policy issue. At the organizational level, enhancing capacity might look like shoring up resources in key areas like data analysis or stakeholder engagement, while system-level improvements would deepen relationships with policy partners. In the context of a publicly-funded health system, these enhancements should be aligned with current health system priorities in order to receive the political aegis required for resources and attention.

We note that policy capacity is not a tank that can be filled up and used with the turn of a tap. While capacity may exist in a latent form (e.g., highly qualified personnel, supportive organizational environments, good working relationships between organizations), critical sub-capacities will vary depending on the policy at-hand, and various decisions are required to deploy capacity in optimal ways. These points confront what Wellstead and colleagues (2018: 1241) refer to as “functionalist assumptions”; policy making does not abide by causal mechanisms. Despite the observation that some

factors are more important in certain policy types (Lazar & Church, 2013), individual judgement is required in ambiguous and uncertain policy environments. The art of policy making comes in part from understanding how myriad factors interact. This tool can be used as a companion to honed judgement for advocating how policy success can be more achieved.

Policy capacity doesn't guarantee success. As one participant commented: *"*The urgent often crowds out the important.*"* Future research could consider how capacity can be bolstered to adjust to time-sensitive policy demands as well as build reserves for long-term planning, which might mitigate the harmful (i.e., "crisis mode") political short-termism that is common in public policy environments (Caney, 2016). Supporting long-term planning in government is a long-standing and politically-charged challenge (Anderson, 1996; Denis et al., 2015; Howlett, 2009) that is often undermined by short-term incentives (Legge & Gleeson, 2015).

2.5.3. Limitations

There are two technical limitations to our work. First, how we interpreted and organized participants' responses may have been different from what was intended by the participants. Some of the factors identified were external to a policy organization's capacity (e.g., timing, size of province in terms of local political influence). By reframing these in terms of capacity (e.g., ability to prioritize efforts based on timing pressures and identify relevant opportunities, understanding the effect of local political influence), we may have lost some of the nuance that participants intended.

Second, it is possible some participants misinterpreted the meaning of some wording in the survey; despite providing the definition in the survey, the response of some participants suggested confusion. For example, participants may have thought the "feasibility" of assessing indicators referred to the feasibility of achievement, as opposed to feasibility of accurate measurement.[v] Respondents were given the opportunity to rate the indicator low on "relevance" if it wasn't a good indicator for the factor, so there is the potential that many indicators were removed because of a misunderstanding with rating criteria. Similarly, there is also the potential that asking

participants to offer factors that improve the likelihood of policy success may be separate from policy capacity, as was mentioned earlier in the case of equitable and sustainable policies (perhaps themselves measures of success rather than ingredients).

The actual assessment of policy factors and indicators using this tool will involve assessor judgement. Some participants questioned the usefulness of 'checkbox' assessment (e.g., factor presence or absence), yet also noted the subjective judgement required for a more descriptive appraisal of factor quality; what is deemed effective, appropriate, or successful depends on the appraiser's perspective. While general wording was sought to make the tool more flexible across settings and policy stages (e.g., development, evaluation), the lack of specificity concerned some respondents, and we were unable to resolve this tension within the scope of this research.

Our sampling frame may limit generalizability. Nova Scotia is a small province (fewer than a million people) where interpersonal relationships may play a more prominent role in policy making than in more populated jurisdictions, where larger governance structures may infer more procedural policy making and thus influence policy capacity. Moreover, Nova Scotia recently transitioned to a single provincial health authority (2015) and then reorganized their provincial health ministry (2016), which may again influence what factors respondents associate with successful health policies. Also, notwithstanding our experts have experience in other policy areas, our focus on *health* policy also may have downplayed the importance of other factors more relevant to central policy makers, such as the idea of policy coherence (Parsons, 2004), and therefore make this tool less applicable in other policy areas. A larger sample size would be a strength.

Finally, the logic linking framework components (i.e., that indicators denote factors, which themselves represent sub-capacities, which constitutes policy capacity) remains untested. The indicators presented in the tool may be insufficient to demonstrate the strength of sub-capacities to relevant parties.

2.6. **Conclusion**

Policy capacity is critical for successfully bringing about major policy change. We developed a tool for systematically and transparently assessing policy capacity by expanding on an existing conceptual framework (Wu et al., 2015). Based on a Delphi survey conducted with provincial health policy experts, we derived 171 items representing 40 factors and 131 indicators which expand on the nine policy sub-capacities within framework. While other tools have been developed for assessing individual capacity (Ramesh, Howlett, et al., 2016), to our knowledge, this is the first such tool for assessing policy capacity across multiple resource levels and competency areas. Our tool could be used by public sector administrators, health policy researchers, and practitioners to improve clarity and understanding of policy capacity, and also to evaluate the level of policy capacity in or across units engaged in similar policy work.

We tried to develop a tool that balances depth and scope for assessing the different dimensions of policy capacity, making it useful to both researchers searching for dimensions to study a single sub-capacity deeply, and policy makers searching for a simple means to understand overall policy capacity of an area. All items have been highly rated by policy experts for being important to policy success, clear, and feasible to assess. An experienced policy practitioner will have greater insight into both their areas of familiarity as well as their local context, and might thus appraise sub-capacities using additional factors and indicators as appropriate. Users are encouraged to use their judgement to determine which items are most relevant for their purposes, and identify and test new factors and indicators that suit their needs and context.

Policy capacity remains a theoretical concept, with the assumption that greater capacity leads to greater policy success (although how success is defined is not always clear; McConnell 2010). Further research (e.g., testing it across different kinds of policies, weighting or prioritizing elements most relevant to a given policy, exploring scoring options to facilitate comparisons across policy systems) will make the tool more robust.

In the next chapter, the tool will be used to analyze recent province-wide policy changes, and test the underlying theory or logic model of this approach. Insights derived will give direction for future efforts requiring a great degree of policy capacity.

2.7. **Endnotes**

[i] This framework appears to rebrand the three capacities Martin Painter and Jon Pierre (2005) put forward in their model of governance capacity, with policy capacity expanding in meaning to replace their concept of governance capacity. The three capacities of the former model (policy, administrative, and state) align with the three competency areas of the more recent conceptual framework (analytical, operational/managerial, and political) (Wu et al. 2015). In both cases, all three are dependent on the others and reflect a shared importance for successful policy work rather than a hierarchy of concepts necessary for successful policy work.

[ii] To our knowledge, Hughes et al. (2015) and the dissertation of Cameron (2019) are the only attempts to assess policy capacity at the sub-national level. This is relevant to Canada given the devolution of legislative power to provincial and territorial governments (e.g., healthcare). Differences between provinces and territories (e.g., population, resources) affect policy capacity, yet have similar legal and political expectations to use policy to enhance the public good. Further, how provincial/territorial policy capacity is affected by their scope of legislative responsibilities (e.g., role in providing security and economic stability; Woo, Ramesh, and Howlett 2015) or their relationship with federal factors (e.g., ideological differences between provincial and federal governments) remains unclear.

[iii] The labels presented with the framework were adapted from both the original articles (Wu et al., 2015) and a related article (Ramesh & Howlett, 2016).

[iv] Examples include changing 'library services' to 'evidence acquisition services', as there are "*not many bricks-and-mortar libraries left in government*" and coming up with "*a better word for desirability that brings in the need for balancing values and achieving public good? (desirable for whom)*".

[v] For example, an indicator for "characteristics of policy group", "appropriate number of policy personnel with a PhD" was rated poorly on feasibility, yet it would be relatively simple to identify whether individuals involved with a policy had this training. However, what might be considered an 'appropriate' number is highly subjective – a point which was raised more than once.

CHAPTER 3. CASE STUDIES

The work in Chapter 3 is prepared for submission as: Lawrence, L., McGrath, P., Fierlbeck, K., and Curran, J. "Examining health policy change through the lens of policy capacity: Multiple case studies in Nova Scotia, Canada." *International Journal of Health Policy and Management.*

Statement of manuscript contribution: LL conceived of the study with input from JC, PM, and KF. LL collected and analyzed the data with input from PM. LL drafted the manuscript, and JC, PM, and KF contributed revisions.

Abstract

Background: Health policy change is complex and influenced by many factors. One way of understanding policy change is through policy capacity, which refers to the mobilization and deployment of resources from government and its partners (e.g., expertise, funding, coordination, political will). A recent conceptual framework describes policy capacity as nine interrelated sub-capacities (Wu et al., 2015, *Policy and Society)*. Applying the framework in its entirety would enhance understanding of how the nine sub-capacities relate to actual policy change.

Methods: We analyzed two policy case studies in Nova Scotia, Canada in the areas of primary health care (nurse practitioners) and mental health (school mental health clinicians). Interviews with policy makers were guided by the policy capacity conceptual framework. Transcripts and related documents were analyzed using the framework to create case narratives describing the role of the nine policy sub-capacities on policy change; cross-case analysis compared findings.

Results: In both cases, the policy capacity conceptual framework identified key timepoints where specific "critical" sub-capacities strongly influenced policy progression. Cross-case analysis identified key differences influencing progress between cases (e.g., shared motivation, partner coordination), as well as tensions which needed to be addressed and resolved.

Conclusions: The policy capacity conceptual framework can be used to understand how sub-capacities influence policy change over time. By identifying critical capacities and tensions, it

might be used by researchers and policy makers to understand past policies and inform future plans.

Keywords (3-6): Policy Capacity; Policy Analysis; Decision-Making; School Mental Health; Nurse Practitioners; Health Policy

Implications for Policy Makers

- A conceptual framework for policy capacity can be a useful tool for understanding the different factors that contribute to health policy changes.
- All policy sub-capacities are important, but they play different roles throughout policy development and implementation. Gaps in critical capacities may stall progress, even when other sub-capacities are highly developed.
- Effort is required to develop and sustain a shared understanding of policy objectives and attainment strategies between partner organizations. Assuming agreement can lead to implementation challenges.

Implications for Public

Reforming health policy is notoriously difficult. Even when there is strong support for new ways of doing things, changing the existing system requires many resources (e.g., time, effort, funding, coordination). Collectively, these resources are referred to as “policy capacity.” Recently, a framework for better defining policy capacity was developed. Our research used this framework to study two recent policy changes in the province of Nova Scotia, Canada. We found that the framework explained how different events and groups led to policy decisions, as well as how these decisions were carried out. This framework can be a useful tool for anyone wanting to understand the many factors that influence policy making. In our two cases, it also identified the role the public can play in influencing policy decisions.

3.1. **Background**

Health care systems in developing countries face mounting challenges, including a more informed and demanding public, the rapid change of technology, high costs of adopting new health innovations, and the need to address social and structural determinants of health. Additionally, there is the growing recognition that many modern health systems are ill-designed to promote health and prevent and manage chronic disease. Dramatic changes in the *status quo* are needed to address these challenges, resulting in calls for health reform (Denis, Usher, Preval, & Côté-Boileau, 2018; Forest & Denis, 2012; Forest & Martin, 2018; Health Council of Canada, 2013). Health reform in developing countries has included changes in funding and remuneration, governance, service delivery, and program content programs (Lazar, Lavis, Forest, & Church, 2013b). For example, changing health governance arrangements to achieve greater efficiency and responsiveness to local needs has been attempted in many western democracies (Barnett et al., 2009; Greer, Wismar, & Figueras, 2016; Lomas, 1997; Marchildon et al., 2016; Peckham, Exworthy, Powell, & Greener, 2005). Given the magnitude of these changes, they are considerably difficult to execute, and thus require substantial policy capacity (Forest et al., 2015).

Policy capacity refers to the ability of policy makers, including both government and their partners, to mobilize the necessary resources to develop, implement, and refine policies in order to achieve success (Painter & Pierre, 2005; Wellstead & Stedman, 2010). Its importance is noted in other areas requiring substantial policy change, such as climate change (Craft & Howlett, 2013) and oceans governance (Vince & Nursey-Bray, 2016). Yet despite its importance, the breadth and complexity of the policy process has meant that the theorization of policy capacity has been nebulous and poorly articulated, limiting both its study and enhancement (Denis et al., 2015).

A recent conceptual framework for policy capacity offers clarity by dividing policy capacity into nine sub-capacities arranged in a 3x3 matrix along the axes of resource levels (individual, organizational, system) and competency types (analytical, operational, political) (Wu et al., 2015; Wu, Ramesh, & Howlett, 2018) (see Figure 3.1). Capacity can thus vary across these nine sub-capacities, with some being “critical” to success depending on the issue

(Howlett & Ramesh, 2016), enabling a more precise exploration of policy capacity. This nested model also recognizes the interaction of resources levels (e.g., individual activities form organizational stances, but organizational capacity influences individual's competencies/abilities), suggesting that capacity (or lack thereof) in one area can influence others.

		Competency Area		
		Analytical	Operational/Managerial	Political
Resource Level	Individual	SC1: Policy Analytical	SC4: Managerial Expertise	SC7: Policy Acumen
	Organization	SC2: Organizational Information	SC5: Administrative Resource	SC8: Organizational Political
	System	SC3: Knowledge System	SC6: Accountability and Responsibility System	SC9: Political-Economic System

Figure 3.1. Policy capacity conceptual framework.
Note. Adapted from Wu et al., 2015, and Howlett and Ramesh, 2016.

Despite the conceptual contribution of this framework, there has been limited research applying it to study policy change, particularly at the sub-national level. This gap could help explain how policies under regional jurisdiction are shaped by local capacity (e.g., in Canada, many policy issues – health, education, and other social services – are under the purview of provincial governments). The objective of this research was to explain how recent health policy changes occurred in a Canadian province using the policy capacity framework. This study is part of a larger research project to develop a policy capacity assessment tool for understanding health policy change (Lawrence, McGrath, Fierlbeck, & Curran, 2020). Policy case studies were used as a means to refine the tool for assessing policy capacity.

3.1.1. Health Policy Context in Nova Scotia, Canada

Nova Scotia is the largest Atlantic province, with a population of slightly less than 1M people; about one third live in the urban area around the Halifax harbour, the province's major urban centre. In 2015, legislation came into effect to amalgamate the province's nine district health authorities into a single provincial Nova Scotia Health Authority (NSHA), which undertook the standardization of provincial health services.[i]

The following year, the Nova Scotia Department of Health and Wellness (DHW) went through an organizational transformation to better reflect its new legislated responsibilities *vis à vis* the NSHA; DHW would be responsible for strategic policy, funding, and accountability, while the NSHA would be responsible for the governance, management, and provision of health services and for implementing the strategic direction set out by DHW. These two organizations are the main actors in Nova Scotia's health policy subsystem, and coordinate with health profession negotiation and licensing bodies, other government departments, and the Izaak Walton Killam Health Centre (IWK), a specialized care facility for women and children which services Atlantic Canada.

We tested the conceptual framework for policy capacity to understand two recent policy changes in Nova Scotia: a) the introduction of Nurse Practitioners (NPs) as part of the province's new model of collaborative primary health care (PHC), and b) the introduction of School Mental Health Clinicians (SMHCs) as part of a provincial *SchoolsPlus* education support program.

3.2. **Methods**

We used multiple case studies to examine how the policy capacity framework can help understand similarities and differences between two provincial policy changes (Yin, 2009). Case study methods provide a structure around which to test ideas about the nature of the case, particularly when the number and potential interactions between variables of interest surpass potential data points (Yin, 1999, 2009), such as in the case of health reform (Lazar, Lavis, et al., 2013b; Vélez et al., 2019). Case study measurement error was minimized following the tactics

outlined by Dinour, Kwan, and Freudenberg (2017). This included strategies to enhance credibility (e.g., multiple sources of evidence, a case database, and giving informants the opportunity to review case descriptions), dependability (e.g., using the policy capacity framework to perform pattern matching), transferability (e.g., examining similarities and differences between cases and situating these within the framework), and dependability (e.g., using an interview guide, *a priori* coding framework, and case study database).

3.2.1. Case Selection

In order to compare and contrast the usefulness of policy capacity at explaining policy change, the author chose two policy subsystems (Weible, 2008) to compare: Primary Health Care (PHC), and mental health and addictions. These were chosen because they were both priority areas for policy makers in the province at the time. They also represented a shift away from traditional (i.e., biomedical, hospital-based) care, which increased the likelihood they would be 'rich' cases for demonstrating how policy capacity was required to deviate from the *status quo*.

Our case selection criteria was: a) recently implemented (past 3-5 years) to ensure it was still a relevant issue to current policy makers and that there was likely sufficient data available; b) provincial scope to ensure richness (i.e., not specific to a single organization or institution); and c) codified (i.e., formal) policies rather than implied (Hardee et al., 2004). These criteria ensure cases meet 'theoretical' considerations (i.e., robustness of case to present important information that can lead to generalizability of case theory for useful knowledge) (Yin, 1999).

In collaboration with senior health decision-makers in Nova Scotia, the lead author identified a number of potential cases that might fit the above criteria, then conducted preliminary context interviews and document analysis to determine the depth and breadth of the issues. Potential cases were ruled out if they were operational or regional policies (e.g., a new kind of restraint for patients exhibiting harmful behaviours in mental health treatment settings, a memorandum of agreement with a service provider to offer addiction support services), came from professional organizations rather than policy organizations (e.g., the *Choosing Wisely* campaign for doctors to support their patients reduce the overconsumption of

medical resources), or reflected conceptual shifts without clear policy actions to analyze (e.g., the provision of mental health services in PHC settings).

After this preliminary investigation phase, two cases were selected: 1) the provincial introduction of NPs in PHC settings through a collaborative family practice team (CFPT) model; and 2) the introduction of SMHCs into school settings as part of the *Schools Plus* program. Cases were bounded through the interview process to ensure relevant details contributing to their development were captured. The purpose of these interviews was to understand the policy capacity factors influencing policy development, implementation, and evaluation, and corroborate the items in a tool for assessing policy capacity originating from earlier research (Lawrence et al., 2020).

3.2.2. Sampling

Key informants were identified during case selection conversations with senior health policy makers. This peer recommendation (i.e., snowball) approach was used throughout to identify other participants with relevant experience and insight of the policies. Investigator discretion was used to gather representation from a variety of organizations and roles (e.g., if a participant recommended two individuals, and one of them held a similar position in their organization as the participant, the other recommendation was contacted first).

3.2.3. Data Collection

Key informants were contacted via email and notified they had been recommended to speak to the case, and were invited to participate in an audio-recorded interview (60- 90 minutes) to discuss the different factors that influenced the policy. All participants signed an informed consent form, or provided verbal consent if an in-person interview was not possible (see Appendix D). Data was collected using semi-structured interviews based on the conceptual framework of policy capacity (Wu et al., 2015) (see Appendix E for the interview guide); sub-capacity factors from an earlier study were used to operationalize the framework (Lawrence et al., 2020). Initially, questions about each of the nine sub-capacity areas were asked, although in later interviews, questions became more focused based on participant interest and the sub-capacities requiring further exploration. The principal investigator conducted all interviews.

Six interviews were completed for each case, then analyzed together to identify areas for further exploration. The second set of interviews was more targeted to inquire about items of the policy capacity framework that were not identified in the first round and concepts discussed by other informants. Saturation was achieved when no new factors were identified. Informants were asked to note any relevant documents to the policy at the end of the interview if they had not already done so. Audio recordings were transcribed verbatim, stored on a password-protected and encrypted flash drive and analyzed on a password-protected program (*NVivo 11*, QSR International; Burlington, MA).

3.2.4. Analytical Approach

Each set of interviews followed the same process. The first round of coding was deductive; while relevant information (e.g., case background, key informant experience) was coded to facilitate later retrieval, the focus of deductive coding was to identify instances of the nine sub-capacities of the framework using the descriptions from earlier research (Lawrence et al., 2020). Four interviews were coded by a second reviewer in this way; these codes were then compared, and differences were discussed and resolved in order to refine a code book.

The coding results were then summarized by sub-capacity (e.g., all instances of individual analytical capacity [SC1] were combined), analyzed inductively to identify themes and issues. This analysis led to re-organizing framework factors (e.g., mutually exclusive groupings) for each policy, enabling more focused questioning in the second set of interviews. The above process was then repeated (without the second coder) in the second round of interviews.

Data were arranged in tables to facilitate constant comparison; this enabled us to identify emerging links and developments between data collection and analysis (Fram, 2013; Lavis, 2013) and to support the triangulation of findings across multiple data sources (Yin, 2009). This analysis led to the identification of relevant factors and issues in each sub-capacity, creating an evidence chain for the major themes of each case. Documents were examined to identify contextual and historical data and relevant excerpts as well as to triangulate findings from interviews. The documents were reviewed for indicators of sub-capacities and used in the case study database during analysis to corroborate themes and findings.

To avoid contamination (i.e., seeing themes from one case in the other), analytical work was done on separate days, and cross-case analysis was only conducted once cases had been analyzed independently. Once case narratives were written, they were shared with participants in order to solicit feedback and correct inaccuracies.

3.3. **Results**

We interviewed 11 people for each case; quotes from participants are indicated by their identification number in brackets (e.g., [6]). We report generally on their roles and experiences to preserve the anonymity (see Table 3.1). While early recommendations for informants yielded keen participants, later recommendations were less effective as individuals were either difficult to contact or declined as they felt they weren't able to speak to the policy case, particularly for the case of SMHCs; this was interpreted as a sign of saturation. Interviews ranged from 53 to 99 minutes (average = 68 minutes).

Table 3.1. Data sources for each case.

Data sources	**Nurse Practitioner**	**School Mental Health Clinician**
Informant Perspectives		
Provincial Government	3	7
Heath authorities[1]	9	5
Stakeholders[2]	3	0
Multiple	3	1
Total interviews (n)	11	10[3]
Documents		
Public[4]	11	13
Internal	3	5
Total	14	18

Notes. 1. Includes the IWK Health Centre and the Nova Scotia Health Authority. 2. Stakeholders included professional organizations (e.g., Doctors Nova Scotia, College of Registered Nurses of Nova Scotia) and Dalhousie University) 3. One interview involved two individuals. 4. Public documents refer to those which are freely accessible online (e.g., program reports, legislation, Hansard transcripts). The results of a group consultation with physicians is not publicly available but would be shared if requested.

During their involvement with the policy cases, informants acted as coordinators, managers, special advisors, communications advisors, clinical leads, consultants, and executives (e.g., directors, executive directors, deputy ministers). In these roles they contributed to how

the policies were developed and framed as well as supported their implementation and refinement. Some were able to speak from multiple perspectives as they had worked in different organizations over the course of the policy.

Documents reviewed included public strategy documents, legislation, evaluation and engagement reports, presentations, terms of reference, and human resource guidance documents. We begin with a description of the two cases, then use a policy capacity lens to explore them.

3.3.1. Case 1: Nurse Practitioners in Primary Health Care

In September 2016, the Government of Nova Scotia announced $3.6M in funding to hire NPs and family practice nurses as part of Collaborative Family Practice Teams (CFPTs). The CFPT model was meant to address all dimensions of a strong PHC system (e.g., access, continuity, coordination, and comprehensiveness) by ensuring that communities had access to the most appropriate health care provider (e.g., family physician, social worker) (Nova Scotia Health Authority, 2017). One implication of this approach was leveraging the scopes of practice of different health care providers to ensure patients could access an appropriate health care provider (i.e., "the right person giving the right care in the right place at the right time" [06]). For example, activities typically performed by family physicians in Nova Scotia (e.g., routine check-ups, vaccinations) could be performed by other health care providers (e.g., NPs, family practice nurses) to free up time so family physicians "can work at the top of their scope" [04] (i.e., spend more time seeing patients that only they had the expertise to treat). Theoretically, this would mean quicker access to appropriate care, better outcomes for patients, and more efficient delivery of health services (i.e., the "Triple Aim"; Bergevin et al., 2016).[ii]

NPs are registered nurses with advanced training and thus a broader scope of practice (e.g., they can refer patients to specialists and prescribe certain medications). Nova Scotia had first systematically introduced NPs in PHC settings thanks to pilot funding from the federal primary care innovation funding from 2000-2002 (Martin-Misener, McNab, Sketris, & Edwards, 2004). Prior to the 2016 funding, there were 46 NP full-time equivalent positions in Nova Scotia, but these were funded "generally in crisis situations" [02] like access to care in rural areas.

Part of the reason for this is the challenge of integrating NPs into the existing health system as collaborative practitioners. For example, most family physicians in Nova Scotia during this time were paid on a fee-for-service basis (i.e., they must directly provide an approved service to patients in order to bill the province). Under fee-for-service remuneration, physicians were unable to bill the province for consulting with NPs unless they were seeing the patient as well, which reduced the gains of NPs practicing autonomously. Throughout the 2000s, work was done to revise physician remuneration to support collaborative practice, such as introducing alternative payment plans into the 2008 physician master agreement. Decoupling treatment and reimbursement removed the financial incentive to provide direct care to every patient in a practice while also meaning they would still be paid to consult and collaborate with NPs, who could see patients on their own. Yet the funding for these new positions did not align with budgeting practices of Nova Scotia's nine district health authorities, which were predominantly hospital-based. Many Nova Scotian-trained NPs were unable to find jobs in PHC and as a result either found positions in other speciality areas or outside the province.

In the late 2000s there was a growing recognition that accessing PHC services could be difficult, raising awareness for the need to enhance PHC services. For example, access to the few family physicians available in some rural areas might be exacerbated because they also worked shifts in rural emergency departments; providing 24-hour access meant physicians were unable to see patients at their family practice the following day. In response, the province introduced a new model of service – Collaborative Emergency Centres – to provide both emergency and PHC services (Hayden et al., 2015; Stylus Consulting, 2014). The Nova Scotia Department of Health and Wellness (DHW) also engaged in physician resource planning and found that current efforts would not cover the growing demand for family physicians in the coming years (e.g., due to both retirements of physicians in hard-to-recruit areas and the growing health needs of an aging population). This helped prepare the ground for other models of delivering PHC services.

When the provincial government announced funding for NP and family practice nurse positions in PHC in 2016, they were building on a growing awareness and evidence of collaborative practice and the benefits of NPs (Donald et al., 2010). NPs had begun to be

introduced to rural communities where there had been difficulty recruiting a family physician. While some communities were initially uncertain about receiving an NP when they had historically had a physician, many advocated for their value once they had received their services. However, this meant that, even if they were collaborating remotely, NPs appeared to be practicing independently.[iii] This flew counter to the messaging of collaborative, team-based PHC that the new Nova Scotia Health Authority (NSHA) was trying to spread, and also raised the concerns from family physicians. There were instances of family physicians publishing opinion pieces in the local newspaper "[…] saying about how we're trying to replace doctors with nurse practitioners" [08] or worrying "[…] if an NP came in and the government thought they were cheaper that it would impact their salaries" [06].

The formation of the NSHA led to better understanding of health needs across the former nine district health authorities by enhanced data collection and analysis and valuing evidence-informed decision-making. Strong leadership helped guide the nascent PHC team through a period of political and public scrutiny, even as they tried to standardize hiring processes from the former district health authorities and build up their administrative workforce.

The Nova Scotia Department of Health and Wellness (DHW) underwent a re-organization in 2016 to enable greater complementarity between their functions and that of NSHA which resulted in a staff exodus as DHW devolved PHC delivery roles to NSHA. This led to a lacuna in policy direction and a reduced awareness of NSHA's activities, particularly around whether the CFPTs receiving new resources were improving patient attachment. This may explain why "you had the Premier's office kind of reaching in [to the NSHA], to an extent that you don't typically see […] [b]ecause usually [the NSHA is] protected to a degree by the department. You don't have the political class kind of reaching in at that operational level" [11]. The political attention was linked to a provincial registry tracking requests for a family practice, which was set up around the same time as the 2016 funding announcement. The growing list regularly made headlines and shifted the focus from comprehensive care to access; if NPs weren't actually enabling more patients to be seen, then the strategy was at risk of being labeled a failure, threatening future investment in the CFPT approach.

Early efforts to integrate NPs into PHC settings were also stymied by other factors. NPs who had practiced elsewhere were required by the provincial nursing college to undergo competency assessment and, potentially, further training; the college's priority of licensing safe, qualified providers delayed the hiring of these positions, which in some cases slowed the government's priority of expedited access to PHC services. Attention was also paid to hiring NPs who had a high degree of resiliency as well as clinical competency so they could act as ambassadors in these new settings. It was also time-consuming to integrate NPs and other NSHA-paid employees into different practice settings across the province while drafting agreements to accommodate different governance approaches.

With no formalized PHC system to build on, the nascent NSHA was tasked with designing a governance framework and setting up agreements balancing practice-specific needs with provincial priorities and standards, such as ensuring their staff had access to necessary equipment and information systems. This has also involved strengthening existing clinical supports, such as designing new roles – health service leads – to coordinate with managers to ensure support needs were understood, develop materials for new managers to help them hire team members, and work with practices to understand these new roles and transition patients to their care. Communication both within the organization and coordination with partners has been a persistent challenge.

The government's priority remains on increasing access to PHC services, and the NSHA continues to advocate for the attention and resources to support the new workforce. While it is too soon to determine definitively if the roll-out of CFPTs has achieved the intended results, one participant described it as a success because "[…] we've broken the convention of you only need to see this type of person [i.e., a family physician] for your healthcare." [09]

Figure 3.2 describes key milestones of the NP case; Table 3.2 describes issues identified relative to each framework sub-capacity along with supporting participant quotes.

Figure 3.2. Timeline of milestones in development of Nurse Practitioners (NPs) in Nova Scotia.

Table 3.2. Key issues by sub-capacity for the case of Nurse Practitioners.

Sub-Capacity	Key Issues and Quotes
Policy Analysis	**(Re)Examining assumptions and communicating information**: Informants noted both reaching out to contacts in other jurisdictions and elevating key analyses as important for informing change. The attitude of re-examining your beliefs and looking at the evidence was prevalent. *"At the individual level, it took a couple of key people who really could understand data and make suggestions. It also… Yeah, it really took a few key people that were able to pull the data together and make it sing."* [03] *"And I mean I've been here almost 6 years, and every day there's things that come up that make me challenge my thinking. It's not that I don't know the answer but I'm challenging myself to think, wow, is that assumption that we've always made still really the right assumption, is it accurate, is it based on best evidence? And that tends to be our first questions? Like why are we doing what we're doing? And I think that's what everybody, no matter what hat you're wearing, that's important to do."* [06]

Sub-Capacity	Key Issues and Quotes
Organizational Analytical	**Building a rationale for a PHC *system*:** The political impetus for strengthening PHC was to address the pressures felt by the acute care sector. To do this, a shift needed to occur to understand community needs and coordinate the independent practices providing most of the PHC services. Scientific evidence provided a rationale for NSHA to commit to a collaborative approach, and review how information was collected, shared, and used to enhance planning and achieve intended outcomes. However, their focus on introducing collaborative teams meant the NSHA was not immediately able to fill the gap in policy direction and coordination left by the reorganization of DHW and the loss of the PHC branch. A lack of internal communication risked damaging relationships with partners. *"Because primary healthcare, primary care is not a system as you know. Primary care has been very organic in its development and yeah, people can argue it's a system—a system that's perfectly designed to achieve the outcomes that it is, right? But the whole push here from healthcare, the health policy people at the Department of Health and Wellness was, how do we actually start to build a primary healthcare system? How do we start to build an accountability measures, expectations, consistent metrics? Those were the kinds of policy talk in the department shops around advancing this. And the impetus from the programs that were incessantly over budget and needing more, like acute care budgets in emergency departments, how do we get people out of emergency departments?"* [09] *"So all of those pieces are interwoven in a very deliberate approach with the research community which ultimately… Because quality drives research, and research drives…and both drive practice. And that's just part of who we are."* [05] *"And then I'm calling a colleague at Health on the Physician Services side [and they're] going, oh yeah, don't worry about our internal politics. I'll see what I can do to prevent those phone calls from coming over. And I said, yeah, because if you want to poison the well, to get somebody angry like that and basically make an accusation that the doctors are being greedy, and they're holding up their project. Well, keep doing that and you'll see this thing fall apart."* [11]

Knowledge System	**Building the case for collaborative PHC:** Research on PHC and pilot projects in Nova Scotia demonstrated the value of NPs, and colleagues from these pilots had moved into senior leadership roles across the health system. Yet there was still some debate over what the future of PHC should look like: some partners appeared to not buy in to decisions guiding current service delivery, and distrust between actors confounded information sharing. *"[…] and one of the challenges was, there was a definite need for primary care services. The challenge was that, not everyone agreed that the solution was NPs, right?"* [10] *"And I think all of these research organizations are influential. And there is what I would say a long and winding path that connects all of that to the evolution of the nurse practitioner role in NS."* [01] *"And I'm going, but we're two years in. These are facts on the ground right now. These are things that have been sold, people have gotten their head around their understanding of Doctors Nova Scotia's involvement, and then we're going to second guess this at this late stage in the game?"* [11] *"…the same mentality is pervasive out there – if Health wants it, don't give it to them […] when we talk about resetting that relationship, it's one thing to set that at the executive level. But if that doesn't trickle down and be part of the culture of the respective organizations, then that level of cooperation is meaningless."* [11] **Shifting rhetoric around NPs:** While NPs were initially presented as a vital member of collaborative PHC, the political need to improve access, and their capability to practice autonomously in areas without family physicians, shifted how they were presented, both undermining the NSHA's collaborative rhetoric and arousing physician suspicions. *"[The government] has always been very supportive. But what's happened is the purpose of teams has changed because of the number of people who don't have primary care providers. And I totally understand that, right. What is your number one issue? Do you care about comprehensiveness when there's people that don't have primary care?"* [03] *"In terms of a transparency, I don't want to say we weren't being transparent, but we were purposely staying away from some of the, you know, what I would call the linear math of X number of new people equals X number of people getting access. We started to stay away from that just because, and kind of message it differently to say you know, they're enhancing access. And I know that when you look at what's in the literature around collaborative family*

Sub-Capacity	Key Issues and Quotes
	practice teams, the idea is that where you see the benefit of teams, is that they're able to provide comprehensive care to people, and they provide better access for the patients of the practice. They're not really a solution to increasing access for unattached patients. They're really a solution to enabling same day, next day care or appointments, and maybe some urgent care appointments and some evening and weekend access, right? That's where there's a lot of valuing in adding, not just nurse practitioners, but other providers too." [08] *"So, I think when you think about all of the attributes of primary care, you need to have access, you need to have comprehensiveness, you need coordination, you need continuity—when we start to value one of those dimensions over the other, it's a clear indication we have a supply and demand issue. So, I think in a perfect world, things might look a little bit different, but in terms of innovative ways to try to provide access in some communities where that's been a challenge, I think we've done the best that we can in working with all members of our workforce, but in particular, probably disproportionately relying NPs to do some of that work."* [07]
Operational Expertise	**Managing policies and people under pressure:** The ability to "see the big picture from a system lens" [07] and be able to manage relationships with partners were key, as was being able to provide stability while maintaining flexibility as issues emerged. Receiving priority funding also required the ability to deliver results quickly while under pressure. *"When we were asked to take on the 3.6 [million], it was very quick. So it happened over a matter of weeks where it was like, "Okay, you're getting the money. You need to implement this money." And it was like I want to say maybe August, September with an expectation that it was implemented before March. Like it was crazy town. Crazy town. So going from developing an expression of interest… So from the analysis piece was, well, how are we going to do this?"* [04] *"So I have people in the health authority I don't get along with all that well. And when I was at the university, I had a couple of conversations about that, you know. I could just lose it on this, right. And I know it's personal. I don't think we actually fundamentally disagree. But I can't handle emotionally that language directed at me. So that's where you have to try to act as a grownup and… Right? But that's important*." [02] *"It is a real balance. And a lot of this really comes down to people because organizations are people. And sometimes I think we overlook that, sometimes." [11]*

Administrative Resource	**Supporting workforce to succeed:** As a new organization, NSHA had an immense undertaking to standardize the hiring practices of the former district health authorities and support both new administrative and clinical staff, and also do it as quickly as possible. This tension between fast and good also influenced the college of registered nurses, who were perceived to be slowing down the process while ensuring these new positions had the required competencies. *"We can't just set up the workforce and expect it to just function perfectly, right? […] And I think with the focus on access, I mean, when you speak about the access pull or the demand, I think sometimes we lose sight of what we need to support the workforce to function optimally, to then tackle some of the bigger policy issues. And if we don't, yeah, put those supports in place, we're not going to I guess, probably achieve the full outcomes of what we intended with the policy driver or the investment." [07]* *"We tend to be throwing bodies in place, but then people get here and it's not clear what their role is. I think that's dangerous because I think you can bring people on that are rather enthusiastic, but they'll lose that enthusiasm if they're not drawn on, or feel like they're involved in any meaningful way." [11]* *"Even sometimes when you have money and you have a policy, if you don't have, what would it be here—if you don't have individual, like you don't actually have people to do the work, right, or qualified people to do the work, if you have a human resource issue, then that will still be a barrier, right? […] So, they do that to HR all the time too. They're like oh, we're going to create 200 more positions, but they don't create the corresponding HR people to support on-boarding of those positions. So, it's yeah, in the world of health human resources, those are kind of some of the things that sometimes the policy folks forget about. Like, yeah, you're going to think there're more bodies, but then those bodies will then—or IT* [information technology] *would be no different. They need access to IT; they need access to whatever. So, they have a trickle effect, if you will."* [10] *"The mandate of the College [*of registered nurses*] is public safety, it's not filling a job. And our mandate is to ensure that when that person is in that job, that patient sitting in front of them is going to get the best, safest care. So if it takes 2 weeks, great. If it takes 2 months, great. If it takes 6 years, we can't help that. […] Sometimes the push and pull comes from people who want them on the ground running yesterday. And we've had some pushback from people, like, 'Do you really need to do this?' And we stand firm and say yeah, we really need to do this, it has to be. So you know, whether that's a barrier, I don't know. But some people probably think it is, right."* [06]

Sub-Capacity	Key Issues and Quotes
Accountability, Coordination, and Responsibility system	**Coordinating with different priorities:** A key challenge of this work was that different organizations had different priorities. Additionally, there was no clear leadership, in part because the funding for NPs coincided with the DHW undergoing a reorganization so *"there was nobody there to make a decision."* [03] "*It's a turf war. Yeah, it is, and you get the sense that people want to build an empire because it all comes down to people, right? And sometimes it's becoming more about somebody's ego than it is necessarily about the benefit of the full system. Because heaven forbid that you share some of your work, that you can't just claim a hundred percent ownership of."* [11] *"When you get to the details though, it's important to sort of understand that each group has their own…not agenda but their own like goals, their own objectives that they're looking to accomplish related to a particular partnership, right."* [05] *"And I think one of the difficulties of that is it strengthened it on the management side, right, because those positions came over to the health authority. It cleaned out the house in Health and Wellness. So that primary care as a unit vanished. […] There's no question the focus has moved the health authority in that territory. The role of Health and Wellness is smaller. It's supposed to be policy and accountability. But they have… They're still filling their positions in the information branch and their ability to collect data – which is supposed to be their job. And their policy people, there's a couple. But they've got policy vacancies, and they're just filling them now. So that kind of a 5 year… In that 5 year period, this whole shift has occurred. And responsibility the size of that enterprise grew way beyond just the transfer of positions."* [02]

Sub-Capacity	Key Issues and Quotes
Political Acumen	**Understanding change and readiness**: Determining where PHC was in its evolution, and tailoring work to its current state, was important for generating change in a way that enabled buy-in. This also meant delivering political announceables to shore up political support. *"I'm a big believer in you know, you can't just expect a practitioner who's gotten his or her way for 30 years, and suddenly, one day wake up and practice completely differently. So, change is something that happens over time […] you're trying to help people see the value of a very awesome educated practitioner, and sometimes that takes a little longer."* [10] *"[…] there's a readiness out there I think, for the role, both from a community perspective as well as, kind of a healthcare provider perspective. It's getting to become a more well-known role, and I think certainly, yeah, that would be an enabling factor when people are looking for access to primary care, and it's a viable alternative that's out there."* [07] *"I think one of the challenges sometimes in the bureaucracy I think of Health and Wellness in particular where there's a lot of policy turn and whatever, sometimes you say actually this is a moment to let's just do it. Like we may not be perfectly ready but…"* [02]

Sub-Capacity	Key Issues and Quotes
Organizational Political	**Strategic communication:** The NSHA judged the pending shift towards collaborative care would require engagement, but DHW was hesitant as they felt unprepared for a backlash. NSHA persisted to build awareness of the model and the NP role. This also meant leveraging patient trust in their family physician to introduce them to NPs. *"I know it sounds bad, but we were trying to fly it under the radar a bit. Oh, I shouldn't say that. We had permission from our organization [NSHA] to do it, but not so much from government […] But then, government did not want that engagement to happen because of whatever—who knows? Don't know, above my pay grade, right? But there was I'm sure, a lot of things going on that they had concerns about. You know, how are people going to react to the sessions and what does this mean? And so, we weren't technically allowed to do it, so that's why. But we said, well we have to go out and tell people what we're doing. […] And because they were going well, then government was kind of okay with that. But they were happening."* [08] *"[…] it's more of an art than it is a science, if that makes any sense. […] I guess at the end of the day, as I mentioned at the beginning, it's like, it's that balancing act from the communications standpoint of the rub between family physicians and nurse practitioners."* [08]

Political Economy	**Support for PHC, pressure for results:** The 2015 provincial election saw PHC as a platform issue, but the subsequent reorganization of DHW meant it wasn't there to mediate interest from central government into NSHA's activities, and government was also skeptical of investing in administrative positions to support the new clinicians. *"And they have a business case, and they know their numbers, and they're… Yeah, they were part of an election platform issue. I can't ever imaging that happening 50 years ago – that primary care would be a platform issue. Never."* [02] *"You don't have the political class kind of reaching in at that operational level."* [11] *"I would say the political dimension, and this, and I'm sure you've heard from my colleagues, has been huge, and probably even bigger than any of us even would have anticipated, I think, when we kind of embarked on the next steps of this journey. I would say, obviously having the platform commitment of everyone having a family doctor, has impacted us."* [07] **Uncertainty over NPs:** Both physicians and the public were skeptical: physicians for fear of replacement, and the public because they were unfamiliar with NPs and felt they were getting a sub-standard replacement for a doctor. However, with exposure there was a demand from both groups for more NPs as their value was made apparent. *"And so, there's like this constant rub of physicians feel like we're you know—and that's just a general statement, right? Because some of them feel like maybe we're trying to replace them, because occasionally we'll get one; I know of at least one instance where a family physician has actually applied for a nurse practitioner role because they have said, well, they're salaried, they've got all these benefits, they get all this vacation, they've got a pension, they've got sick leave and we don't have any of that. And so, maybe actually it's not worth it to be a doctor, I should be a nurse practitioner, right? So, people making maybe just a bit of a political statement by—but in saying that, there are lots of physicians who are with NPs and think they're amazing. So, I think it depends on your experience and your understanding, but I also don't think it's particularly helpful when the NPs are out there really trying to beat the drum as an autonomous provider. But I get where they're coming from saying, we can do this and we are highly trained professionals, and we are a solution to the access."* [08]

Sub-Capacity	Key Issues and Quotes
	"I think once those sites got in and they started speaking the praises of what they were doing because quite frankly, from a capacity point-of-view—program capacity, demand capacity in primary care, you now had another provider in your practice that was fully funded, that could do some different things. Things that sometimes either a physician wasn't good at or it wasn't their area of expertise, or could really use the added support in their practice, or whatever. I think that sentiment started to grow, the why don't I have one? Why did so-and-so get one and why didn't I get one?" [09] *"So we went to the community meeting, and right away the leader gets hold of my ear as I'm the doctor, and says, 'You know, these nurse practitioners, we didn't know what they were like. But she is great. Do not touch her. You cannot move her. I know she's only here 3 days but that's great.' And so you know, our CEO said, 'Yeah, well, a year ago that would have been a very different conversation – How dare you send the nurse down here.'"* [02]

3.3.2. Case 2: School Mental Health Clinicians in the *SchoolsPlus* Program

The *SchoolsPlus* program began in 2008, in part as a response to a provincial commission (the *Nunn Commission*) examining how systemic conditions, particularly in regards to the youth criminal justice system, had contributed to the recent actions of a young offender (Nunn, 2006). This inquiry informed the province's *Child and Youth Strategy* (Government of Nova Scotia, 2007), which – like the Nunn commission – also recommended better interdepartmental coordination and collaboration in order to better serve the needs of children and youth and their families. Schools were noted as important sites of integrated service delivery; as places children, youth, and their families already frequented, it would enable better access to support student success (e.g., sharing information about community services, providing referrals, creating comprehensive service plans for students and their families). The *SchoolsPlus* program also facilitated referrals to community services, strengthening ties with community agencies. By 2011, it had expanded to all school boards across the province.

In 2012, the province's mental health and addictions strategy announced that mental health clinicians would be placed in *SchoolsPlus* "hub" schools to enable early identification and treatment. These school mental health clinicians (SMHCs) are licensed, master-prepared clinicians trained in both mental health and addictions as well as children and their families. The funds for the first round of clinicians came from the DHW, although the Department of Education and Early Childhood Development (DEECD) later decided to cover the cost of clinicians because of their value to education's priorities. The local district health authorities (regional precursors to the NSHA) managed clinicians throughout the province, while the IWK managed clinicians in the the Halifax Regional Municipality; different management bodies led to jurisdictional variation in SMHC implementation.

An evaluation of the initial roll-out of the SMHCs noted some successes, such as families who were benefiting from services they would not have ordinarily accessed (Crinean, Donelly, & LeBlanc, 2012). However, it also indicated confusion regarding the role and responsibilities of the SMHCs, including how they fit with other roles within the *SchoolsPlus* program (e.g., guidance counsellors), and the variation in their responsibilities across the province. An

advisory committee, co-chaired by representatives from both the NSHA and DEECD, was recommended and tasked with actioning these and other recommendations from the evaluation. As the SMHCs spread across the province, the advisory committee also organized semi-annual meetings with them and other *SchoolsPlus* staff to deliver shared training and address emerging concerns. The co-chairs made decisions together, and were committed to working together to ensure that perspectives from both education and health were heard as well as dedicated to resolving issues leading to better services for students and their families.

Representatives from education and health agreed on the importance of ensuring access to mental health supports for children earlier and delivering services in school settings because they're more accessible (i.e., approachable and familiar) to students and their families than community-based services. However, working across sectors was challenging. Data systems between education and health were incompatible, making it difficult for the two systems – along with other *SchoolsPlus* partners in the departments of Community Services and Justice – to share information and coordinate staff. Different information sharing standards (e.g., not honoring information sharing consent forms from other organizations) necessitated a shared informed consent form, although it took four years to get clearance required from partners' legal and privacy staff. Even once established, these guidelines remained topics of discussion at meetings, and took time to work their way through partners' policy approval processes.

There were also many practical issues that had to be resolved, ranging from how clinicians could best cover the needs of schools in their catchment areas to who would pay for their use of a school's photocopier.[iv] There were challenges communicating between parties and ensuring that everyone on the *SchoolsPlus* team – coordinators, teachers, guidance counsellors, and SMHCs – had chances to weigh in and be informed of changes. Additionally, while DEECD had good relationships with the school boards**,** principals had significant discretion how things worked in their schools and were thus important partners for ensuring SMHCs were adequately supported and integrated into their schools. Collecting data to inform delivery was also challenging given the variation of practices across district health authorities, although this improved when NSHA and IWK were able to provide a united voice for supporting clinicians and

advocating for systematic data use to inform service delivery. Throughout this process, policy makers were challenged by both resistance from schools unsure of these new services (e.g., guidance counsellors feeling threatened for their role) and supporting clinicians appropriately with limited resources while under political pressure to expand to other sites.

At the core of these issues were different visions for the SMHCs. On one hand, the NSHA and IWK saw their clinicians as limited, specialized resources for managing a large demand for mental health services. Their strategic planning was based on a tiered model of care, where individual client needs are addressed by clinicians working at the top of their scope of practice.[v] Practically, this meant that SMHCs were intended to provide services to individuals whose mental health problems had a moderate to severe levels of impairment. However, there were concerns that SMHCs were spending their time doing work that could be performed by other providers (e.g., guidance counsellor).

On the other hand, DEECD and the schools saw various unmet mental health needs and felt that SMHCs should be meeting these needs, particularly as DEECD had begun transferring funds to pay for SMHCs. Principals felt that if staff identified a student in need of mental health support, they should be able to see the SMHC. The presence of SMHCs, working alongside other *SchoolsPlus* team members, was thought to reduce stigma associated with mental health and addictions, and enable better relationships with community mental health supports such as referring for services and monitoring progress in the school setting.

This tension was confounded by a lack of policy direction from DHW around what SMHCs should do as they felt it should depend on the needs of the schools, leaving the health authorities and DEECD to "slug it out on the ground" [07]. As a result, there was substantial variation across health jurisdictions. However, the creation of one unified provincial health authority (i.e., the NSHA) gave them the authority needed to develop standards that would ensure similar services across the province; alignment with the IWK provided a unified voice, making it easier to present a provincial vision for SMHCs. Through "lots of discussion" [07], a document describing SHMCs roles and responsibilities provided clarity for what new hires and managers could expect (e.g., percent time on clinical service delivery for moderate-to-severe impairment, building capacity at schools, liaising with community supports).

Some assumed that SMHCs would reduce demand on mental health and addictions services by shifting the location of service delivery to schools. Instead, SMHCs were tapping into a "new" patient population: children and youth with needs between what schools could traditionally provide and the level provided by community services. While they expected this early identification and support would reduce future demand on the mental health system, in the short term this was seen by some in the health system as "depleting clinic staff" [06]. This attitude may have made SMCHs feel unsupported by their health system employer and colleagues, in addition to feeling like they were out of their depth in this new setting. Figure 3.3 describes key milestones of the SMHC case; Table 3.3 describes issues identified relative to each framework sub-capacity along with supporting participant quotes.

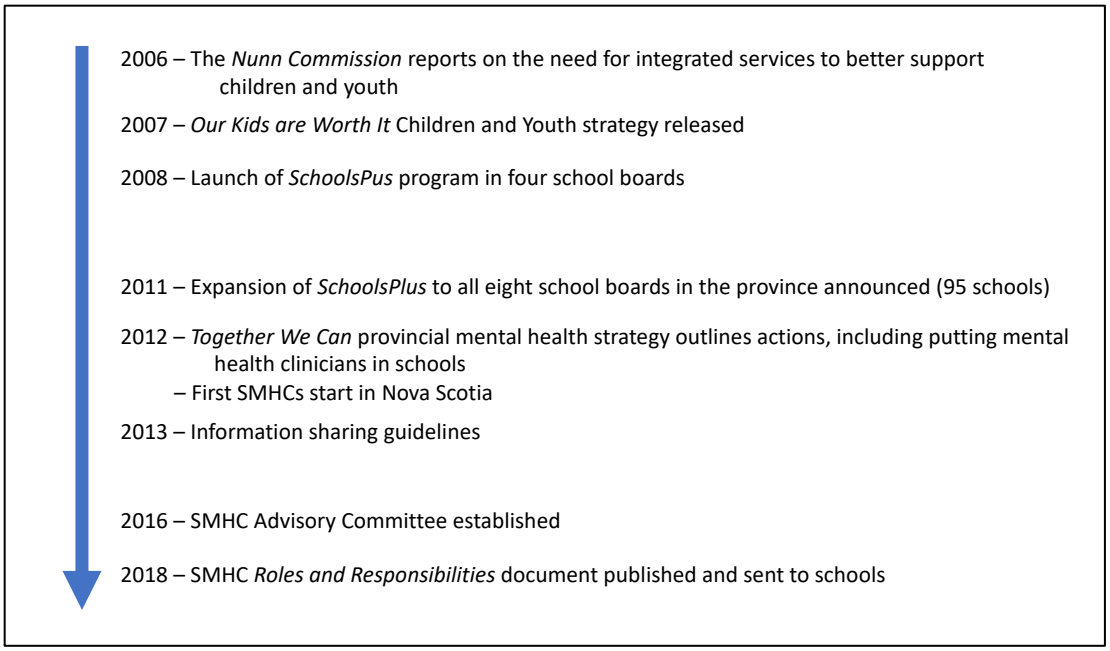

Figure 3.3. Timeline of milestones in development of School Mental Health Clinicians (SMHCs).

Table 3.3. Key issues by sub-capacity for the case of School Mental Health Clinicians.

Sub-Capacity	Key Issues and Quotes
Policy Analysis	**Analyzing options from different information sources**: Informants drew on a variety of sources to inform how they thought about the issue and what kind a successful policy response might look like. *"[F]rom a clinical standpoint, I understood the range of needs of young people, and how important it was to use our scarce resources wisely. That was a responsibility I felt quite keenly. […]I do understand—I don't know, probably from all the years of doing management stuff and administrative stuff, that in order to be a system, you can't just have 50 different ways of doing something and expect good outcomes.* [07] *"I needed to know what were the barriers and the obstacles that remained out there for others who were not at the place where I am. So* [that would be] *parents of children who were entering the school."* [06] *"…why reinvent wheels and why get it wrong the first time? […] And so I think by reviewing the literature and the evidence, we were able to see that the move is towards… You know, school mental health clinicians are perfectly positioned, is what I found in the literature, to deliver tier 3 level of services."* [05]

Sub-Capacity	Key Issues and Quotes
Organizational Analytical	**Informing activities with limited data:** Informants had to execute a provincial program quickly when existing data infrastructure was weak, requiring them to be resourceful and advocate for enhancing capabilities. Evidence on tiered health system planning helped legitimize how SMHCs should spend their time to meet both health and educational priorities. **"***So I also wanted to say I think research is really important. And I think, you know, it should be more utilized. And it's how do you make that part of what people are expected to do when they're doing the work in government? There's just a lot of other stuff that you have to do for government that… You know, you're forever filling out forms and doing this and that when you should be spending time, you know, getting to the heart of it. But then policy analysts do do that. And I just didn't work with many policy analysts during my time at the department. So I didn't kind of have that luxury. I think when you do have good information behind you, you can hatch things that are a little bit more developed*." [04] *"the whole monthly report and how it was designed was really built around a very good evaluation process that wanted to look at systems level outcomes, individual outcomes. You know, the authors designed an excellent logic model. So there was a fairly… This program had the benefit of fairly rich, I would say, evaluation design for that ongoing data. And our data has, I would say, even far more potential than we currently have the human resources to manage, right. There's tons of cross-tabulation that we could start to do on that*." [01] *"it should be, I think, an automatic that if you're going to create a policy, make sure you can collect the information. You know, that should be standard."* [02]

Knowledge System	**Shared understanding and the need to work together differently:** Growing awareness of mental health and the importance of early intervention paved the way for the program, as did the importance of working across sectors. *"I think just generally speaking, there was a very good understanding that mental health and addictions was a huge need. And I think that's across Education and it's across Health, all the…Community Services, Justice. More and more there was understanding that it was important. […] I think the political system and the health and education systems really had an understanding that there was huge need. So it wasn't a hard sell. Like they didn't have studies that they could quote from or whatever but we had, you know, it was more lived experience and it had face validity because they lived it all the time. So the system lived it, clinicians lived it. So we knew. And it wasn't hard to sell it to the powers that be because they were hearing it from all angles as well".* [05] *"Because* SchoolsPlus *is and was designed to be an interagency, collaborative initiative. The recognition that schools alone as institutions, education alone as an institution could not produce the provincial outcomes that we wanted to see. If we wanted to change the trajectory of children and youth and families, that we needed to be connected to Justice and Community Services. Everyone needed to be on the same page."* [06] **Achieving a common vision:** despite agreement on the importance of services for children and youth, the health and education sectors had fundamental differences. With better planning to achieve a common understanding, the strain on relationships might have been reduced. *"I think everybody bought into more resources for youth, right? So, there was buy-in to that. For which youth, for what purpose, and how services were offered and to whom, meaning to include family or not. There were various opinions about that. But buy-in, the notion, because there was a good evidence base that putting clinicians in schools would increase access. And everybody agreed, that was a good thing*." [07] *"I think that a lot of these things are just boiled down to the most simple kind of concept. Like of course, it's wonderful clinicians in schools, and sometimes I think the politics train leaves the station before the policy and procedure piece is in place. And so, we end up again with a concept or an idea that sounds great on paper, but has not been fully thought out in terms of operationalizing it. […] And then we end up having to do a lot of rework or there's a lot of damage done to relationships […] [with proper planning, the] implementation piece would be so much smoother, and there'd be so much less confusion and so much more consistency, and less, like I said, damage to relationships."* [10]

Sub-Capacity	Key Issues and Quotes
Operational Expertise	**Dedication to the cause:** Dedication to working hard and staying focused on the potential benefits kept informants engaged, but they also noted the challenge of meeting expectations that seemed divorced from the on-the-ground reality. *"You're just constantly moving because it's constantly revolving. Policy is one thing but putting it into practice, as I'm sure you know, is an entirely different thing."* [02] *"Managers are not as high up as other levels of leadership. But I just feel like in some ways, it does rest with management because if people are going to be motivated to perform their roles in certain ways and meet those higher-level goals, there has to be some recognition of the limitations on that, and just go back to like the clear expectations around that. And I don't think in our systems, expectations are very clearly communicated at all times."* [10] *"We talk about a lot of things, and we're great at planning. You know, implementation, not so much. Not so much. A lot of dusty reports out there. And so, that's actually one of the reasons I was brought into this group, was to try and nudge them along. So, part of, for me, policy and planning, a big piece of our role is to herd the cats, and nudge."* [09]

Sub-Capacity	Key Issues and Quotes
Administrative Resource	**Creating role clarity**: With limited direction, the health authorities and DEECD had to negotiate between each other and the schools how to create clarity for clinicians while meeting different local needs. *"So of course we were immediately meeting with the districts, the district health authorities, their directors, and the school folks in how might it work. And that was the biggest challenge. Because you have two systems seeing this person, this role very differently. And so that was tricky. And in some areas, trickier than in other areas."* [04] *"[…]if we people are going to be motivated to perform their roles in certain ways and meet those higher-level goals, there has to be some recognition of the limitations on that, and just go back to like the clear expectations around that. And I don't think in our systems, expectations are very clearly communicated at all times. I think a lot of assumptions get made at a lot of different levels about what people know or don't know about things. And we just operate off those assumptions a lot of the time, and often they're incorrect."* [10] **Logistics of setting up a new role:** Informants were challenged with limited administrative resources as they tried to support clinicians adjust to new settings. Existing school policies also made it challenging to deliver services as planned (e.g., youth health centres as parent-free zones conflicted with providing space for families). Public perception of government "fat cat jobs" [04] meant there was limited appetite to hire support staff. *"I'm not sure that the right supports were put in place with the right people at the right time, for the right amount of time either, to ensure success."* [10] *"I think at the higher levels we aspire to all these things, and we make statements and we set goals with strategic plans to get us there. But then on the ground, sometimes we just don't have the support to do the things that we need to do to make those things actually happen in real life."* [10]

Accountability, Coordination, and Responsibility system	**Building trust to advance together:** Working in school settings exposed SMHCs to the challenges the education system faced, making them more willing to make concessions to meet their needs. There was strong leadership, particularly from the advisory committee co-chaired by NSHA and DEECD, and reaching agreement on operational procedures (e.g., information sharing, role clarification) facilitated collaboration despite taking considerable time. Health system reorganization enabled the new NSHA and IWK to better advocate for a shared, province-wide approach, but meant having to rebuild relationships and advance without direction from DHW. School principals had considerable discretion and thus had to be negotiated with as partners to ensure SMHCs were properly supported. *"I think many mental health folks don't realize what schools are actually dealing with on a day-to-day basis. So by having the mental health clinicians there, I think that's really helping to knowledge translate to the broader mental health clinic around what they really are. Like schools do not really get to say no, you don't meet our mandate. You know, your behaviours are too out of control, or your anxiety disorder or this or that, you don't meet our mandate. Or you're not interested in school enough so we're going to cancel you coming. For the most, they can't do that. Like every student has a right to an education. So when they don't get the support, like that's why they need the other service providers really helping them."* [01] *"We were still one Mental Health and Addictions working in collaboration with the IWK, and that was tricky too because IWK is a separate organization. But we did establish, thankfully—hopefully, it's still working—an org structure that had us working very closely together. Probably more closely together than ever before in the history of the province because IWK wasn't having to coordinate with the nine other organizations, it was just coordinating with one—NSHA. […] I think it shifted in a way that allowed us to finally have the power and the authority to say, now NSHA and IWK are going to have some agreement on how this thing should work, some of the basic principles. That gave us the tools. Before that, we didn't have them really."* [07] *"Trust building was huge. Health and Education and [Community Services] and Justice, we don't always play well in the sandbox together. There isn't always trust. And this is Nova Scotia: trust is person to person. It shouldn't be that way but it kind of is. So it was building trust between both management sides. And I don't know that we did a good job of that initially."* [03] *"I think when we talk about school mental health, I think there may be—and maybe I'm wrong about this, but there're vast differences between the education system and the healthcare system. And I'm not sure that people truly*

Sub-Capacity	Key Issues and Quotes
	understood the depth of those differences, or the significance of them. And that those differences, to be totally honest, at the policy level, not really at the implementation level or not at the people level, but at the policy level continue to create barriers to the successful implementation of school mental health and addictions." [10]
Political Acumen	**Propping open the window of opportunity**: Informants identified when to move quickly to maintain political attention and support to advance the work. This required informants to be an effective link between "what's happening on the ground" and senior decision makers, and effectively market messages to key stakeholders. *"And understanding that when the window is open, go through it. It may not be the door that you expected but when the window is open, go through the window. Go through the window. And it's up to you to figure out how you're going to get through. But the window is open, it's up to you to make the connections to either the outcomes that other people want to achieve and helping to shape what it is you want to do in a manner that's going to be responsive to them. And realizing that at some point you have to give up something."* [06]

Sub-Capacity	Key Issues and Quotes
Organizational Political	**Getting communication right:** Moving quickly came with a risk of not keeping partners informed. Ensuring that relevant parties were updated, and tailoring information to their needs, facilitated common understanding. *"So I don't think anyone intentionally doesn't want to communicate or share messages. But it's just if you're stretched very thin, sometimes that isn't…an oversight can happen. So it can make or break you, the communication, I believe*." [01] *"…you need to sell it to some degree. And also, it gives people an opportunity maybe to make a suggestion and make sense that you can put into your plan. Because sometimes, I mean, what you hear even in the health system right now, is the loss of local control. What they mean is, the loss of local input. Yeah. And so, it's a chance to be able to—and the other thing that people sometimes forget is when we talk about giving people the opportunity to vent or to say. It doesn't mean they make the decision, but it gives them the opportunity to make points."* [08] **Dealing with resistance:** Initially, many schools didn't think they needed support, and some staff felt threatened that the SMHC role would make them redundant. This required a slow, sustained process of building trust. *"You know, we would try to connect with the social workers who at that time were very threatened because here we were having additional social workers as part of the Schools Plus. And they were concerned about their own job security because they had been promised certain things in the past union-wise, negotiation that didn't materialize. So on the ground, while trying to support families, we really had to engage in relationship building."* [06] *"It's human nature to want to continue to do things the way you've been doing them and not embrace change. And some people just jump into change like it's nothing, and others will fight it tooth and nail. Some will fight it just because it wasn't their idea, you know."* [02]

Sub-Capacity	Key Issues and Quotes
Political Economy	**Managing political pressure**: There was support for *SchoolsPlus* across political parties, which led to significant investment. This meant both a mandate for change, as well as substantial pressure to achieve results quickly. *"But here through SchoolsPlus, we actually have the permission to create those changes. There's the expectation that we go in and we interrupt this educational system. And so I had been part of the educational system as a teacher, as an administrator, as a school psychologist. Like I had been part of education. But this time I was entering in differently. With the intention to interrupt and to disrupt a system that [the] Nunn [commission] has said is failing."* [06] *"And again, the pressure was that they wanted SchoolsPlus to be everywhere instantly […] you hit the ground running. [01]*

3.4. **Discussion**

The conceptual framework for policy capacity enabled systematic identification of how the nine sub-capacities were manifested in each case. Tables 3.4 and 3.5 describe how sub-capacities were manifested at major points along the policy process. Based on the case narratives, we then present a cross-case analysis of similarities and differences based on the three competency types of the policy capacity conceptual framework: analytical, operational, and political.

Table 3.4. Manifestations of policy capacity in Nurse Practitioner case

Timeline Item	**Manifestation of Policy Sub-Capacities**
Initial NP pilot (1999 – 2002)	SC3: Create local evidence demonstrating value of NPs SC6: Relationships built between actors who will hold senior positions in the future
Changes to physician master agreement (2008)	SC5: Alternative funding plans provided financial incentive for physicians to collaborate with NPs
Increasing recognition of interdisciplinary PHC and NPs (2002-2016)	SC3: Growing PHC research community provided evidence for interdisciplinary PHC and NPs SC8: Strategic and transparent engage with stakeholder to help them understand this new thing SC9: Public support/trust grows as NPs work in community settings
PHC on political agenda (2013, 2017)	SC9: System instability – elections put PHC on the agenda; political will and funding for hiring NPs
2015	SC2: formation of NSHA enabled comparison across former district health authorities
Evidence-informed decision making in PHC planning (2015-present)	SC1: Trained staff identify good evidence for building a business case for an investment in collaborative PHC, including physician resource planning showing need for other ways to improve access to PHC SC2: NSHA PHC leadership values and uses academic evidence and local data to define goals, and inform and stick to plans
Ensuring investment in NPs is successful (2017-present)	SC5: Support for CFPTs, including hiring and standardization; helping internal and external stakeholders understand and support NPs SC7: Savviness to demonstrate success at attaching patients, or risk losing investment

Table 3.5. Manifestations of policy capacity in School Mental Health Clinician case

Timeline Item	Manifestation of Policy Sub-Capacity
Provincial reports stating importance of better supporting youth and providing mental health services (2008-2012)	SC3: Created shared understanding of problem SC9: Political direction that this is what's wanted
Senior government committee on social issues (2009-2013)	SC3: Knowledge sharing between senior government executives SC6: Coordination between staff from different departments
Gradual improvement of information sharing between education and health (2012 – present)	SC3: Building capacity to share relevant data and evaluate services to inform planning SC6: Understanding and addressing gaps in interoperability between health and education; relative stability of leadership, vision and commitment to school mental health has kept work progressing
Continued funding, political attention (2012-present)	SC5: Resources to hire SMHCs SC7: Reporting on progress to continue funding rather than worry about getting everything right SC9: Political attention, expectation for growth
Info sharing guidelines (2013)	SC2: Guidance tools for how to perform work SC3: Enabled data sharing between partners SC6: Enabled consultation and clarified accountability with partners
Formation of NSHA (2015)	SC6: Moving from nine district health authorities to the NSHA allowed better coordination with IWK as well as enabling consistency and best practices provincially
SMHC Advisory Committee (2016)	SC3: Improved understanding and communication of issues from multiple perspectives, reduced confusion and shared decision-making authority and responsibility SC5: Forum for identifying how to better support SMHCs SC6: Enhanced consultation and coordination, shared leadership, addressing interoperability
Roles and responsibilities document (2018)	SC3: Enabled clarity and shared understanding of SMHCs SC6: Addressed interoperability issues

3.4.1. Analytical Competencies

Both cases displayed the importance of local need for generating support required to act. Notwithstanding the difference between scientific evidence used to support SMHCs embedded in schools services (minimal) and NPs as part of a

collaborative PHC models (plentiful), it was not until local evidence was brought to bear (e.g., a report on failing youth social services system; a human resource analysis and PHC emerging as an election issue), that action was taken. Different features of research support, such as its degree of alignment with political priorities and involvement of key users, makes it more likely to be used by policy makers (Kok, Gyapong, Wolffers, Ofori-Adjei, & Ruitenberg, 2016). This plurality of evidence sources, including clinical and administrative experience, input from colleagues in other jurisdictions, and public outcry, are useful inputs to help policy makers prioritize issues and resources (Fafard, 2015; Liverani, Hawkins, & Parkhurst, 2013; Parkhurst, 2017).

Discussing and circulating evidence within and across organizations helps build a shared understanding of how the policy issues are conceptualized and also gives a rationale for standing behind a policy. However, this can take substantial time to develop; while partner organizations might have a similar goal in mind (e.g., better PHC access), *how* they would like that achieved was a source of contention because of the costs and benefits of different options (Gleeson, Legge, O'Neill, & Pfeffer, 2011). Policy makers exhibited a willingness to advance on limited information and "course correct" [NP02] as needed, but this would require better data systems.

These analytical issues highlight three differences between the cases. First, there was little policy analysis capacity brought to bear in the case of the SMHCs compared to the work done by the NSHA and DHW for collaborative team-based care. This is likely a product of the complexity of the issue: successful collaborative care requires a number of changes throughout the health system, compared to the seemingly simple addition of SMHCs into schools. However, this led to a second difference: internal communication and coordination was more difficult for the NP case, as different units within organizations worked across each other and were not always privy to related work. The organizational structure of the SMHC project was much smaller, despite the fact that it bridged two sectors, and it appeared more effort was made to keep relevant parties informed. This was aided by a third difference: the imperative to work collaboratively in order to help students and their families, which enabled them to address challenging

issues and move forward together. While SMHCs were seen as the only way to offer mental health supports to students in schools, there was little shared imperative for family doctors to support collaborative practice teams and NPs as the best way to improve access to PHC.

Operational Competencies

Analysis of health policies and systems must consider how policies will work out in practice (Gilson, 2012). Both cases had challenges getting additional resources to best support and coordinate front-line service providers. However, leaders were successful at securing some additional resources, sometimes through creative means (e.g., "seconding" an analyst from another position rather than securing a net-new position). This 'stewardship' attitude was reflected in the importance taking a system lens to ensure that limited health resources were used effectively. The ability to negotiate with partners was critical in order to agree on shared accountabilities while respecting each others' mandates and jurisdictions. This was also important for working with local authorities where NPs and SMHCs actually practiced in order to meet local needs and strive for consistently-high quality of service. Both cases benefitted from the formation of the NSHA in that it enabled them to advocate for provincial standards and consistency to reduce regional disparities.

This process was supported by a second difference: strong co-leadership of the SMHC program by NSHA and DEECD. In contrast, the bulk of the work for implementing NPs fell to NSHA, and one of the key partners – family physician practices – are essentially independent entities with no coordinating body, so there was limited shared vision amongst PHC partners to move work forward. Yet a third difference necessitated shared leadership to effectively address the challenges of working across health and education sectors (Gibeau, Langley, Denis, & van Schendel, 2019). These tensions on fundamental issues (e.g., what kinds of services, who was eligible, legislation governing privacy and data sharing) were initially overshadowed by the excitement of providing access to mental health services to children and youth. Yet time to develop shared understanding and priorities is critical to effective intersectoral collaboration (Bullock,

Watson, & Goering, 2010; Wathen et al., 2011; Winters, Magalhaes, Kinsella, & Kothari, 2016).

Political competencies

To begin, both cases shared key political factors: political will and funding. It is arguable that without these two factors, any policy is unlikely to succeed. However, these boons are double-edged; with patronage and resources comes an expectation to see results within the political cycle. Canny actors recognized the "window of opportunity" and moved quickly to capitalize on it, such as by giving elected officials "announceables" to demonstrate progress for continued support (Fafard, 2015a). Both NP and SMHC positions were part of larger initiatives – collaborative PHC and *SchoolsPlus,* and as such were operational features of any idea which government had bought in to (and thus potentially more resilient to changes in political mood).

Both cases also experienced challenges tailoring their integration and support efforts to localized delivery sites. Informants described the importance of understanding (and managing) stakeholders expectations and modulating efforts based on their level of readiness for change (McIntosh & Forest, 2010). Readiness for both NPs and SMCHs gradually grew, but careful attention was paid to supporting early adopters and minimizing resources spent on resistors. Given the mixed support for both initiatives from both stakeholders and the public, informants described being strategic in their roll-out to ensure that feasibility was considered as well as achieving health equity.

However, the resistance to SMHCs was considerably less (from a few principals and guidance counsellors) compared to the skepticism NPs faced from family physicians and members of the public, particularly since family physicians were essentially recognized as the sole provider of PHC services. While attitudes changed after exposure, the public perception of a PHC access crisis made every decision circumspect, compared to the relative invisibility of SMHCs. Politically, resources for students was easy to sell to the public and politicians, and other than noting *SchoolPlus'* successes in speeches, there was limited politicization. There were two additional distinctions that enabled PHC to advance in this hostile political environment: the longstanding relationships of

PHC leaders (now dispersed throughout different health system partners) and a sensitivity to performing work in phase with PHC's "evolution" in the province [NP01, NP09]. This network of champion appeared able to coordinate, or at least advocate for enhanced PHC services, and do what they could to help build the case.

3.4.2. Tensions

Understanding tensions between different goals and their implications is a key issue in policy studies (health or otherwise) (Abelson et al., 2017; Denis et al., 2018; Forest & Martin, 2018; Gleeson et al., 2011). Our analysis also indicated some key tensions that informants faced. These tensions reflect diametric goals (i.e., as one is pursued, the other is eschewed), with the assumption that balancing these tensions incorporates the best of either approach. Two important tensions were between the intention or 'purity' of an idea and how it works in practice, and between taking time to make an idea better and seizing an opportunity.

The addition of NPs to collaborative PHC was meant to provide patients with comprehensive care; their scope of practice is complementary with family physicians, and enables practice patients to see them for appropriate issues (e.g., healthy lifestyle consultation, complex care coordination) in a timely way. However, because they are highly-trained providers who can practice autonomously, they were used to "stabilize" [NP07, NP08] primary care access in areas where family physicians were retiring and finding their replacement was challenging. This represents a tension between how the purpose of NPs is described in the literature the NSHA used to make a case for their investment, and the reduction in unattached patients that the Nova Scotia Government sought.

Similarly, NSHA/IWK sought to deploy SMHCs as strategic resources address to mild-to-moderate distress and connect more severe cases with community resources. In contrast, schools wanted to use SMHCs as on-hand resources for anything related to mental health; more time spent building local capacity or running group programs meant less time spent with higher-acuity patients who, if left unmanaged, would require

higher levels of service. This issue was partially resolved for SMHCs (the creation of the roles document stated that 75-85% of their time would be spent on mild-to-moderate service delivery, with the remaining time to support more universal services), but only after substantial advocacy to the schools. Ensuring that the necessary support is identified for achieving the vision set out by policy makers is also key, as navigating this tension iteratively reveals how reality differs from aspiration. It is unsurprising that there was agreement in theory about what these two roles would do but not in practice, because practice requires changes to the status quo, creating winners and losers.

The other key tension was between acting quickly to maintain political support and taking more time to refine policy (i.e., fast vs good). This tension could also be considered in terms of develop initial clarity through planning vs being flexible and responsive to emerging issues. Maintaining political attention has led to the scale-up of the program such that SMHCs are now available through all schools in the province, yet the rush to move things forward could lead to the policy failing to achieve its aims, such as through the confusion and variation in SMHC responsibility throughout the province. Similarly, the rush to launch CFPTs after the funding was announced was “crazy town” [SMHC04], challenging the ability of the NSHA to spread and support CFPTs appropriately. This risk of implementation failure has been seen in other health policy reforms (e.g., regionalization), where pundits conclude an initiative was ineffective when critical observers argue that weak implementation thwarted its ability to achieve the promised results (Dorland & Davis, 1996).

The gradients between fast and good are blurry. One informant described this tension with their SMHC colleagues around decisions to reduce potential risk while not losing sight that “with policy in particular, you’re looking to address the 80%” [SMHC10]. By this, they argued that policy should work well in most, rather than all, cases. Moving fast puts the onus on staff to identify the most pressing issues and satisfactorily resolve them, making this strategy vulnerable to human failure. This approach also reflects a broader systems perspective; other elements are at play, and getting bogged down in

details might cost losing out on other opportunities (or being capsized by something beyond their control).

Crucially, tensions are meant to be resolved, not dispelled; it is not a matter of which extreme is "right" but how trade-offs between them are considered and ultimately how effectively policy makers move towards their chosen end. How these important policy issues are addressed, and the appraisal of whether they're addressed correctly, is a question of value (Vélez et al., 2019). Is more value placed on short- vs long-term goals, or (more broadly speaking) a balanced budget compared to substantial investment (Caney, 2016)? Implementation failures are rife in policy, so further investment is no guarantee of proportional success. How decision makers discuss values, which are used by their judgement to resolve these tensions, is meaningful future research.

3.4.3. Implications

The conceptual framework highlights that it's not enough for capacity to exist within the system – it must be effectively deployed (Painter & Pierre, 2005). This can allude to what Howlett and Ramesh describe as "critical capacities"(Howlett & Ramesh, 2016). Our findings suggest that the *time* at which capacities are mobilized is critical in the evolution of a policy in order to overcome key points of resistance or seize opportunities. The timing represents microcosmic policy processes, where sub-capacity factors act as policy *inputs*, influencing *processes* and eventually *outcomes* (Saguin et al., 2018).

For example, individual-analytical capacities (SC1) were critical for the NP case in that they were able to present information from a health and human resource analysis to get key health system executives to realize they had to act on the dwindling supply of PHC providers. Once this buy-in was achieved, individual analytical ability became less important than the intra- and inter-organizational operational capacity (SC5 and 6, respectively) required to advance the work to meet political objectives. This also suggests that sub-capacities within a policy system can advance an item onto the

political agenda prior to the public demanding it in moments of crisis, and as such could be used as a way to mitigate risk.

The timing of sub-capacities also explains some of the interaction effects we observed between competencies. Policy decisions are informed based on how things are going (i.e., an iterative approach). This could be represented as an interaction between an organization's analysis of data (e.g., identifying schools with high needs; SC2) and their operational or political response (e.g., how they communicate this issue to the schools' principals (SC8) and deploy SMHCs to address this need (SC5)). A gap in one sub-capacity could stall progress (e.g., incompatible data sharing between health and education; SC3), or require capacity in another area to bring about action (e.g., outcry that services are badly needed following a public incident; SC9). As such, sub-capacities are dynamic resources deployed to shifting problem forums, and the policy system is challenged to mobilize these resources in ways that meet multiple (and potentially competing) priorities. It may be the role of senior executives to coordinate resources in this way, such that the right sub-capacities can be effectively deployed at the right time in the evolution of multiple policy initiatives.

3.4.4. Limitations

Our findings should be considered in light of a few important limitations. These are not definitive descriptions of these cases. Criteria for saturation was around items identified as part of a policy capacity assessment tool, and thus further interviews may have yielded additional useful content, although we did exhaust our list of recommendations for the SMHC case. Participants may also be biased to spend more time describing policy capacity gaps and challenges, which may present a more negative description. Snowball sampling also relies on people who know each other; this may perpetuate a single policy narrative and marginalize a competing narrative.

Secondly, while we used the policy capacity framework to collect and analyze data and further refine the framework so it could be used as a tool, we did not objectively assess policy capacity or policy success. Therefore, the link between policy

capacity and policy success remains unproven. Further, policy evaluation remains more art than science (de Leeuw et al., 2014), and investigators must consider different types of success to fully explore its relationship with capacity; different information sources could be used for each of McConnell's (2010) three types of policy success: policy, process, and political. For example, service users are the ones who determine *policy* success (did it meet their needs?); developers, implementers, and stakeholders determine *process* success; and politicians, political staff, and pundits could opine on the *political* success.

Third, it is not clear how this framework might be different in other policy settings, where other forces drive policy. For example, one informant, who has transitioned into a role in indigenous policy, noted the law is a more important driver in this area than in healthcare. Our policies can be considered examples of service delivery policies, so other kinds of policies (e.g., governance, finance, content area) (Lavis et al., 2002, 2012) may have substantively different issues identified through this framework.

3.5. **Conclusion**

This conceptual framework for policy capacity was useful in making sense of the issues arising over the evolution of these policy cases. Analytical, operational, and political capacities guided our identification of factors at different resource levels, it facilitated cross-case comparisons and exposed key tensions. These tensions – between the ideal and the practical, the opportune and the good – represent the endemic tension in political science between short- and long-term results. Governments and their partners have finite resources (time, personnel, materials, public funds) and must make choices (intentional or otherwise) about what they wish to prioritize. Our hope is this work generates discussion as to how policy capacity can inform this conversation in both practical and theoretical ways.

As one participant stated: "[this framework] has a little smatterings of everything. Pull out one of them and it will not work. But the amount of it that you

need or when you need it varies depending on what you're trying to do." [NP04] This conceptual framework appears to be a useful tool for understanding policy change at different levels, and might enable both researchers and policy makers to better understand past policies and plan future ones with a higher degree of confidence.

3.6. **Endnotes**

[i] The legislation did not effect the Izaac Walton Killam Health Centre (IWK), the tertiary and quaternary pediatric and women's care centre for Atlantic Canada, thus leaving the province with two health authorities.

[ii] The recent "quadruple aim" also includes health care provider satisfaction (Sikka, 2015, *BMJ Quality and Safety)*, which is telling given some of the factors that emerged regarding physician support for this approach. For example, some physicians didn't want to give up some of these responsibilities to other professionals because of the value these activities provided (e.g., a chance to get to know patients better under low-pressure circumstance, an easy task to bill for within the fee-for-service system).

[iii] An informant stated that this was one of the points of compromise between DHW and DNS for the doctors to support the 2001 *Registered Nurses Act*, which states that NPs must have a collaborative practice relationship with a physician. This was also to ensure that NPs practicing in rural areas had some tether/support for case conceptualization

[iv] On average, SMHCs drove over 13 hours a month to provide services at different sites they were responsible for, with some spending 30 to 40 hours a month travelling between schools.

[v] This five-tiered model of service delivery resembles a pyramid, where the width (x-axis) represents the size of the population at that tier, and the height (y-axis) represents the severity of mental health and/or addictions issue (and thus the amount and/or specialization of resources required to address this). SMHCs are expected to work with tier three individuals 75-85% of the time doing activities such as treatment planning and crisis management; their remaining time is spent on population-based health promotion targeted at the general school population and screening, brief intervention, and self-management for students at risk of developing more severe issues (tiers one and two). Tiers four and five represent more specialized community support (e.g., psychiatry residential treatment). For more information on this model, see Barker et al. (2016) *Substance Abuse, 37*(4), p.526-533.

CHAPTER 4. TOOL REFINEMENT

The work in this chapter is prepared for submission as: Lawrence, L., McGrath, P., Fierlbeck, K., and Curran, J. Refinement of a tool for assessing health policy capacity using multiple case studies. *Health Policy.*

Statement of manuscript contribution: LL conceived of the study with input from JC, PM, and KF. LL collected and analyzed data with input from JC and prepared the manuscript. JC, PM, and KF all contributed revisions to the manuscript.

Abstract

Policy capacity as a concept is vital for improving health care systems, but in practice is poorly defined, limiting its usefulness for planning and evaluating policies. A recent conceptual framework has brought greater clarity to this important area by describing policy capacity as nine nested and inter-related sub-capacities (Wu et al., 2015). The aim of this study was to operationalize and refine this framework.

Methods: We built on an earlier version of this tool by using it to conduct two case studies of recent jurisdictional policy changes. Within- and cross-case analyses confirmed relevant factors and identified new ones. Synthesis and sorting rules were used to refine a final version of the tool.

Results: Slightly different tool versions evolved from the two cases. Synthesis of these tools, coupled with cross-case analysis, identified an additional "integrative" type of competency. The final version of the tool contains 47 factors across 12 sub-capacities.

Conclusion: The factors we identify align with the policy capacity literature, suggesting it would be a practical tool for policy analysis and planning. Integrative competencies provide more depth to the framework while also reducing overlap. More work remains to test this tool in other policy areas for both retrospective and prospective analysis.

4.1. **Background**

Policy responses are increasingly important to the health challenges facing modern society (e.g., aging populations, chronic disease prevalence, stress on outdated healthcare systems). Health policies (i.e., the decisions and rules which delineate how health systems function) have a tremendous effect on the health of populations, making them critical levers of change for health researchers, political actors, and others seeking to improve population health. Yet their power also belies their intractability; while policy reform is challenging because of the plurality of actors and the benefits incumbents receive from perpetuating the *status quo* (Machiavelli, 2010), health reform is notable because it is often publicly visible and personally affects people (Forest & Helms, 2017). In addition to scientific evidence to inform reform options, policy capacity is vital (Forest et al., 2015).

Policy capacity refers to the ability of government and their partners to perform policy functions such as designing, implementing, and evaluating policies (Fellegi et al., 1996; Painter & Pierre, 2005). It can refer to both the ability of organizations and the ability of their employees to conduct high-quality policy work, including policy analysis, stakeholder engagement, and policy implementation (Denis et al., 2015). Despite calls for enhancement (Anderson, 1996; Fellegi et al., 1996), policy capacity has been relatively ill-defined in the literature, and there have been few attempts to coalesce this body of knowledge into a practical tool (Denis et al., 2015; Gleeson et al., 2009). This has hampered systematic study of policy capacity and related attempts to strengthen it.

The recent conceptual framework of Wu, Howlett, and Ramesh (2015, 2018) helps to clarify policy capacity by breaking in into nine sub-capacities that exist at the intersection of two dimensions: resource level (individual, organizational, system) and competency type (analytical, operational, political) (Wu, Howlett, et al., 2018; Wu et al., 2015) (see Figure 4.1). This framework applies across “stages” of the policy process while recognizing that sub-capacity types are independent and interactive (e.g., the coordination between two organizations, each with their own capacity, is reflected in the capacity of the policy system). While each sub-capacity is a complex area composed

of different factors, together they bring clarity to a concept recognized as both important and inscrutable.

		Competency Area		
		Analytical	**Operational**	**Political**
Resource Level	**Individual**	**SC1: Policy Analytical**	**SC4: Managerial Expertise**	**SC7: Policy Acumen**
	Organization	**SC2: Organizational Information**	**SC5: Administrative Resource**	**SC8: Organizational Political**
	System	**SC3: Knowledge System**	**SC6: Accountability and Responsibility System**	**SC9: Political-Economic System**

Figure 4.1. Conceptual framework of policy capacity.
Note. Adapted from Wu et al., 2015, and Howlett and Ramesh, 2016.

Better understanding policy capacity would benefit both policy researchers and policy practitioners. Evaluating policy capacity can help make sense of the complex interdependencies that contribute to a policy succeeding, failing, or existing in the grey expanse in between (McConnell, 2010). There is also the potential for such a tool to be used prospectively, to identify assets and shore up resources thought to be critical for ushering in the desired policy changes. While most of the research with this framework has used national examples, there are implications for it to be used to understand both

regional (Brenton, 2018; Hughes et al., 2015) and international (Yap, 2018) policy dynamics.

Although they have promise, the sub-capacities of the policy capacity framework remain largely theoretical, and the few attempts to study them empirically focus on single sub-capacities (Fobe et al., 2018; Olejniczak et al., 2018; Pattyn & Brans, 2015). Further, while some surveys have been developed (Ramesh, Howlett, et al., 2016; Ramesh, Saguin, et al., 2016), scoring and implications are lacking. Each policy occurs within a different context, so the relative importance of each sub-capacity will vary, suggesting the usefulness of a way to assess and prioritize sub-capacities in order to inform a particular policy. Adapting the framework into a more functional tool would enable researchers, policy makers, and others to assess the state of a policy system transparently, track changes over time, and support the strategic deployment of resources.

We have previously developed a tool based on the conceptual framework for policy capacity by identifying factors and indicators associated with each sub-capacity using the Delphi process (see Chapter 2). In this paper, we describe how this tool was refined following its application to two health policy case studies (i.e., identification of new factors and rearrangement based on an evolving description of each sub-capacity).

4.2. **Methods**

The Health Policy Capacity Assessment Tool (HPCAT) we previously developed (Lawrence et al., 2020) was used to guide semi-structured interviews with policy makers to explore two case studies of policy changes in the province of Nova Scotia, Canada. Given both the large number of items generated in the Delphi phase, and that participants were unlikely to be able to speak knowledgeably about all indicators, only sub-capacity descriptions were used to guide data collection in this phase, with relevant factors used as prompts.

More detail on the case studies can be found elsewhere (see Chapter 3). Briefly, two recent policy changes were identified in Nova Scotia, and interviews with key informants

and document analysis were conducted using the HPCAT. Both purposive and theoretical sampling were used to identify individuals working in the policy environments of interest who could elucidate policy processes and framework sub-capacities (Charmaz, 2014). Saturation was achieved when two sequential participants did not identify any new factors. Throughout, elements of grounded theory were used to organize thoughts and note emerging thinking (e.g., memo writing) while maintaining data primacy in generating meaning (i.e., inductive and deductive analysis were both used but kept physically separate) (Charmaz, 2014). Interviews were transcribed verbatim and analyzed in NVivo 11 (QSR International; Burlington, MA).

4.2.1. Analysis

Following the first round of data collection (six interviews for each case), the principal investigator used directed content analysis to identify excerpts related to each of the nine sub-capacities (Hsieh & Shannon, 2005). A secondary coder coded a subset of these interviews (two from each case), and results were compared to clarify sub-capacity descriptions; disagreements were resolved through discussion. Once sorted, grounded theory analytical strategies were used to "open" code the data (i.e., identifying salient issues without trying to impose order on them), followed by "axial" coding to examine it from different perspectives and combine it to reflect larger ideas (Glaser, 1998; Glaser & Strauss, 1967; Olshansky, 2014). This process was inductive and iterative, enabling the identification of emergent factors and themes. We noted three categories of items: a) those identified in the Delphi phase that were also noted in the case studies; b) those not mentioned in the cases, making them targets for direct inquiry in future interviews; and c) new items identified in the cases but not in the Delphi.

Following this mid-point analysis, some items were revised and re-arranged within the tool (e.g., moved to another sub-capacity) to reflect how participants positioned items within each policy case. As cases were analyzed independently, this meant slightly different tools were developed and used to guide the next round of data collection (e.g., a factor identified in one case study, or moved to a different sub-

capacity, would not be mirrored in the other). The subjectivity of where to position factors within the framework has been previously noted (Hartley & Zhang, 2018).

This second round of data was analyzed as above (without a secondary coder), then the findings of the two rounds of interviews were synthesized. Framework factors were used to arrange axial codes, but attention was paid to other relevant information that did not fit and thus warranted either a new factor or placement in another sub-capacity. A revision log was used to track changes made in order to document decisions and rationales.

Once the HPCAT for both cases were determined, these were synthesized to produce a final HPCAT. We used rules to sort and synthesize factors, borrowing criteria for usefulness from Michie, van Stralen, and West (2011) to strive for comprehensiveness, coherence (i.e., factors placed at the appropriate resource level and competency type) and ease of use (i.e., parsimony) (see Appendix F). Indicators from the Delphi study were examined relative to those identified in the case studies and were also subjected to our usefulness criteria. Sub-capacity descriptions were reviewed to ensure alignment with their factors. A former senior policy maker then reviewed the tool to validate the placement of factors within the framework and identify any substantial gaps; their recommendations were noted and reincorporated into the tool where appropriate. Rationales for changes were noted, with each alteration resulting in a stronger understanding of the nine sub-capacities and the descriptions of the factors.

4.3. **Results**

Analysis of the first round of data collection for each case confirmed many of the indicators identified in the Delphi and added many indicators to existing factors. Additionally, new factors emerged in each case (e.g., effective prioritization of work), including some in both (e.g., personal motivation for doing good policy work).

Within-case analysis led to two slightly different HPCATs. For example, in one case “change management” emerged as a factor, while in the other case it was alluded to as an indicator (e.g., “supporting adaptation to policy change” for the factor

"employee retention"). Another example of a deviation between cases' tools was individual operational capacity (SC4); factors identified in one case were "policy lead ability" and "group skills", while the other case's factors were "intrapersonal ability" and "interpersonal abilities."

Factors placed in different sub-capacities depending on the case study could be explained for one of two reasons. First, they might reflect different perspectives on whether a factor was described in the context of work if it was carried out by an individual, or if this work was used by the organization (e.g., readiness of those affected by the policy, alignment of policy with other issues, timeframe management). These issues were resolved using the sorting rules. The second reason was that these appeared to be cross-cutting factors which applied equally across a resource level; we will expand on this shortly.

The synthesis of the two tools resulted in 58 factors; 22 of these were largely unchanged from the Delphi, while the remainder either emerged from the case studies or substantively amended original Delphi factors. However, factors such as communication ability, availability of personnel, and the quality of relationships emerged across multiple sub-capacities; this overlap did not abide by our parsimony criteria. After reflecting on the descriptions of the competency types and the importance of these factors, we decided to introduce three additional competency sub-capacities to accommodate factors that are relevant across the other three competency types. These *integrative* competencies essentially act as both a foundation for the other three *technical* competencies and a link between them (see Figure 4.2). The final version of the tool contains 47 factors and can be found in Appendix G.

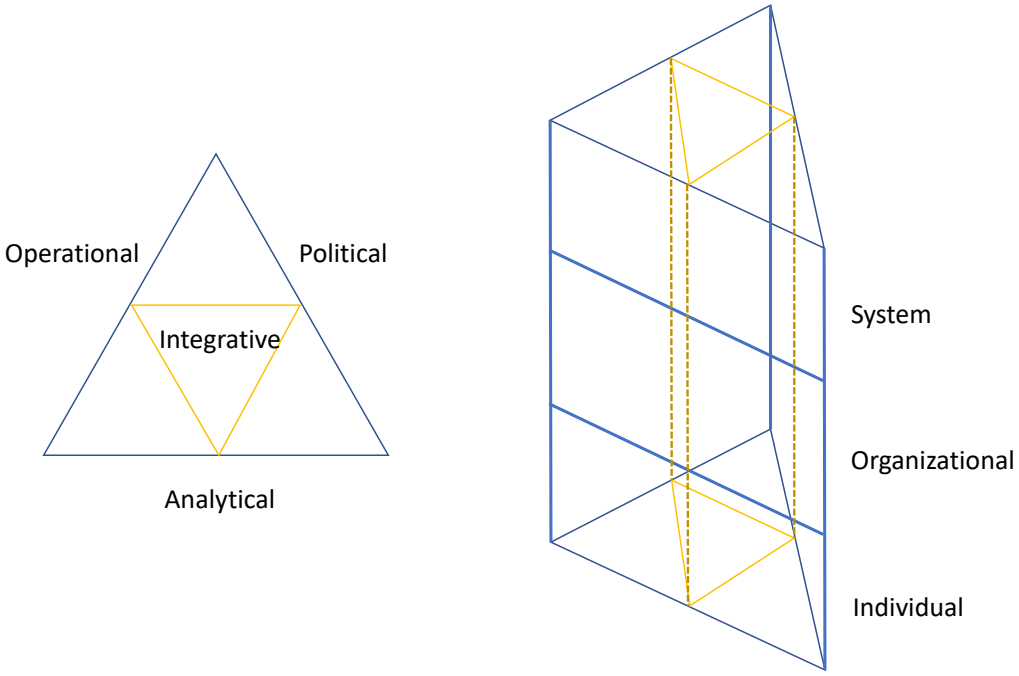

Figure 4.2. Integrative capacity as a fourth competency type.

4.4. **Discussion**

The case studies expanded on the HPCAT V1 by identifying new factors, clarifying sub-capacity descriptions, and producing a new category of "integrative" competencies. Many of the factors we identified within each sub-capacity have been described in the policy capacity literature, although a few differences also emerged. We first compare our work to other policy capacity assessment methods, then discuss implications for using the tool.

4.4.1. Alignment with other Assessment Methods

To our knowledge, the only assessments of policy capacity are the work of Hartley and Zhang, as well as two surveys developed by Ramesh and colleagues for self-assessing the individual skills of policy personnel and organizational capacity to examine alignment with our factors (Hartley & Zhang, 2018; Ramesh, Howlett, et al., 2016; Ramesh, Saguin, et al., 2016). At the individual level, they all include the identification of information to support policy analysis and analytical procedures (SC1), technical abilities

of policy managers (e.g., budgeting, assessing performance of team members) (SC4) and "understanding how things really get done" (SC7) [17, p.26]. Other survey questions align with our integrative capacities, such as being able to communicate well and motivate others. At the organizational level, our work shares the importance of data collection systems and access to information (SC2), financial and human resources (SC5), and communicating with stakeholders (SC8) with a survey of organizational capacity (Ramesh, Saguin, et al., 2016).

However, we did place some factors differently than Ramesh and colleagues. While we describe some factors as functions of producing guidance or *knowing* (i.e., analytical competencies), they describe them as a function of *doing,* or using information (i.e., operational competencies). For example, we described guiding tools and documents and performance monitoring as functions of organizational informational capacity (SC2), while Ramesh et al. considered these a part of organizational operational capacity (SC5) (Ramesh, Saguin, et al., 2016). Similarly, they note intradepartmental coordination as a function of SC5, whereas we describe internal information sharing as a function of SC2. These differences highlight the subtle overlap between capacities, and how placing factors in one category or another depends on the perspective of examination. Given that these factors are shared across our research, their inclusion in assessing policy capacity is likely more important than their final resting place.

We also placed some factors at the system level which others viewed as organizational capacity (e.g., inter-agency communication, consultation, and coordination, political support, interorganizational trust) (Hartley & Zhang, 2018). While we argue communication and coordination are shared between organizations, and therefore reflective of system capacity, the system-level capacities (particularly operational and political capacities) described by Hartley and Zhang and Ramesh and colleagues appear reserved for higher-order concepts that did not emerge in our work (e.g., rule of law, transparent adjudicative system, adequate fiscal system, public access to information) (Hartley & Zhang, 2018; Ramesh, Saguin, et al., 2016).

This difference may be due to our sampling frame, as system-level factors for provincial health policies (perhaps better described as *sub-system* level) are different from what counts as *system* issues for other research on this topic, where national policy capacity predominates. This explains why other factors identified at the system level (e.g., presence of rule of law, transparent adjudicative system) did not arise during our study; our provincial policy makers described issues that influenced their policy work, and these higher-order, "behind-the-scenes" factors were effectively invisible. While others have described the system level as representing sub-national, national, and international dynamics (Saguin et al., 2018), these represent three different levels of government with attendant independent influences.

Further research could examine whether these behind-the-scenes factors exist at the same level of the policy sub-system as those we identified (e.g., accountability, consultation and coordination, political will) or if they represent some broader, *supra*-system resource level that influence multiple policy sub-system. Hartley and Zhang note that some important governance indicators (e.g., political stability and absence of violence, regulatory quality, control of corruption) fall outside this framework (Hartley & Zhang, 2018). Considering other levels of organization (e.g., team-level, international order) may help explain policy change at different levels, and how capacity may need to be built or staggered to achieve desired outcomes.

4.4.2. "New" Factors for Policy Capacity

Some factors emerged from our case studies that were not noted in the aforementioned comparators but have been noted for their importance to policy success. Table 4.1 shows what new factors we identified compared to the few scholars who have attempted to transparently operationalize the framework sub-capacities since its publication (Hartley & Zhang, 2018; Ramesh, Howlett, et al., 2016; Ramesh, Saguin, et al., 2016).

Table 4.1. New elements to new policy capacity assessment tool.

SC	Refinement or new elements

1	*No notable additions*
2	Guiding tools and documents
3	Informal networks; shared understanding of problem and need for action
4	*No notable additions*
5	Organizational culture; material and infrastructure support; personnel recruitment/hiring; change management and workforce support
6	Governance, mandate, and approval process; shared leadership; interoperability
7	Seizing opportunities
8	Executive support; transparency of policy process; feedback incorporation/responsiveness; timeframe management
9	Political will; pressure/politicization; system stability

Note. "New" factors are compared to those identified by Wu, Ramesh, and Howlett, Howlett and colleagues, and Hartley and Zhang (Hartley & Zhang, 2018; Ramesh, Howlett, et al., 2016; Ramesh, Saguin, et al., 2016; Wu, Ramesh, & Howlett, 2018).

At the individual level, personal motivation to do the work well and the ability to frame the work to get buy-in (Koon, Hawkins, & Mayhew, 2016) were not explicitly noted in the measures of policy capacity. We also found "seizing opportunities" as an important individual political factor (SC7), although it is possible that this be implied under "judgement of political feasibility" (Hartley & Zhang, 2018) or the "application of knowledge of different interest, resources, strategies, and implications" (Wu, Ramesh, & Howlett, 2018). Individual capacity extends beyond the technical skills of analysis, management, and politics; our integrative capacities align with how Bowen and Zwi describe the leadership qualities required for policy change (e.g., values, beliefs, history, and commitment) (Bowen & Zwi, 2005).

At the organizational level, operational competencies (SC5), such as a supportive culture, recruitment, workforce support, and change management, were identified as influencers of policy success. Organizational culture contributes to performance areas like use of research evidence (Kothari, Edwards, Hamel, & Judd, 2009). Employee perceptions of control over their job and social support have been associated with

readiness for organizational change, while feeling unable to meet demands impedes readiness for change (Cunningham et al., 2002). Good communication between executives and staff, such as during periods of change, can deliver smooth transitions and bridge the gap between idealized outcomes and on-the-ground challenges (Tiernan, 2015). Transparency of the policy process to outsiders and how the timeframe for policy action is managed also emerged as factors of organizational political capacity (SC8). While transparency may be thought of as a value to be pursued in policy (Kuipers et al., 2014), it may also be viewed as a factor of capacity in that it enables stakeholder engagement (Boyko, Lavis, Abelson, Dobbins, & Carter, 2012).

From a systems perspective, we identified the need for a shared understanding of the policy issue and the need for action, a shared vision and buy-in to the policy response, and partner relationships and dynamics. These factors have been noted as effective for promoting evidence informed health policy and management decisions (Sarkies et al., 2017), while others claim that a shared vision was critical to the success of an international capacity-building project (Brown, Bezo, & Nanivska, 2013). In their umbrella review of cross-sectoral collaboration, Winters et al. also identify a shared vision and relationship dynamics as key themes of successful partnerships (Winters et al., 2016).

4.4.3. Integrative Competencies

The identification of some factors across multiple competency areas (e.g., communication skills, expertise and experience, availability of skilled personnel, partnership dynamics) led us to develop a fourth competency type, which we describe as “integrative” (see table 4.2). This arrangement parsimoniously explains general factors which enhance policy capacity through multiple competency types.

Table 4.2. Description of integrative capacities.

Resource level	Factors	Example Indicators
Individual ("Change Agent")	Expertise and experience, personal characteristics, interpersonal skills, leadership	Motivation, managing relationships, effective communication, systems thinking, articulating a vision for change, judgement
Organizational ("Organizational cohesion")	Turning ideas into results, availability of expertise, informing others, workforce willingness to change	Internal relationships and communication, human resource mechanisms, corporate supports, strategic coordination
Systems ("System harmony")	Working relationships and dynamics, shared vision and buy-in	Partnership history, multiple justifications for policy, ongoing negotiation and re-commitment to action, shared training

Policy making occurs in both complicated and complex environments. In the former, time and resource limitations and the window of political opportunity are barriers to comprehensive analysis leading to the "right" solution. In the latter, uncertainty is inherent in decision-making (Cairney, Oliver, & Wellstead, 2016; Rittel & Webber, 1973). Integrative capacities bridge the gap between the other three skill types, enhancing iterative policy making as developments from one area are used to inform another. A high degree of integrative capacity may enable policy makers to quickly appraise and respond to changes, yielding better policy outcomes than policy systems with unbalanced strengths, which are limited by the weakest competency (i.e., "Cannakin's Law/Bucket Theory") (Hartley & Zhang, 2018). An understanding of political concerns and implications, keeping past options ready "in the 'bottom drawer'" for windows of opportunity, and other capacities for negotiating tensions in policy work fall into this category (Gleeson et al., 2011, p.257).

These integrative capacities may also reflect the ability of policy networks to advance the work around roadblocks. Our case studies had a definitive chronology where the impact of sub-capacities changed over time (e.g., for Nurse Practitioners, a workforce planning analysis provided the justification for policy makers to shift their focus to gaining political support for a policy change). While work in analytical, operational, and political areas is performed simultaneously, the impact of work from one area may be more successful at moving the policy process forward. Integrative

capacities could then reflect the ability of a policy sub-system to a) be aware of the progress in these three areas, b) communicate and frame information from the other three competency types in a way that enables the other types to use that information to inform their work, and c) shift resources or focus towards the area that stands the best chance of overcoming resistance, uncertainty, or other challenges. Health policy makers must manage tensions, so integrative capacity may represent the ability to make sacrifices in pursuit of long-term outcomes (Abelson et al., 2017).

4.4.4. Implications for Use

For policy makers and researchers interested in using our tool to understand local policy capacity, we note a few points. First, not all factors will be relevant in all cases, and only certain sub-capacities will be "critical" (Howlett & Ramesh, 2016; Ramesh, Saguin, et al., 2016). Each policy context is a distinct product of ideas, interests, institutions, and external events (Lavis et al., 2012). Identifying critical factors can be challenging, particularly since wicked policy problems are defined as such because so much is unknown that to accurately understand the problem is to effectively solve it (Rittel & Webber, 1973). Identifying critical factors and sub-capacities is to begin an iterative learning process, where attempting to understand assets and gaps can at least inform operational and political work, leading to further analysis and learning.

Second, indicators are offered for preliminary guidance, but users can tailor their assessment in order to get the best data for their needs (e.g., quantitative data has been found to be more persuasive for central government) (Grace et al., 2017). Collecting data for assessment should address key concerns of tool users (e.g., valid, reliable, persuasive, accessible). While a single indicator could be used to explain multiple factors, thereby simplifying data collection efforts, it also puts greater weight on these indicators; conclusions drawn from a small number of indicators are more likely to be undermined if these indicators are contested.

Triangulation from multiple data sources provides a more defensible appraisal (Gilson, 2012), particularly as each factor is a broad subject of active scientific investigation. Determining the best sources of information can be challenging for the

reasons described above, but the sampling frame (e.g., identifying personnel to help determine the best indicators) ultimately determines the validity and reliability of the tool.

Next, consider how sub-capacities may be matched to stages of work or barriers. Weaker competency areas may limit overall capacity given that each can play an important role in the policy process (Hartley & Zhang, 2018). Planning is important to strengthen capacity as it may take substantial time to build or mobilize. Work across the three technical competencies can proceed independently, while integrative capacity can help match work streams with particular problems and create interdependencies so that each area supports the others.

Finally, the match between factors and sub-capacities may vary to accommodate the user's needs (e.g., provincial vs. national policy; assessing a factor at the individual level rather than the organizational level). The degree of overlap and interaction between factors and sub-capacities will depend on the policy and context of analysis. This interaction is dynamic over the course of policy, so we hope users adapt the tool to meet their needs and share these adaptations with this community to identify challenges and best practices.

4.4.5. Limitations and Future Research

Our data comes from a sub-national jurisdiction in a high-income country. There are measures of policy capacity we did not find that are likely attributable to the "invisibility" of these factors to our participants (e.g., rule of law), so this tool may omit factors useful for assessing policy capacity in low-and-middle income countries. Similarly, both of our cases focused on the health policy sub-system, and both cases eventually enjoyed substantial government support. Future research may want to examine how policy capacity factors may look different in other policy sub-systems (e.g., energy, economy), and for initiatives which do not have that level of support.

Analytical work is required to use the tool, and the large number of factors along with a high degree of subjectivity may make this tool too cumbersome to be used in all cases. While we also used it to examine policy change, it has not been used on its own

and therefore remains untested. Further, we do not provide guidance for how policy makers should interpret results of the tool to inform their work; it is ultimately up to the tool users to decide which findings are most important, and what to do with that information.

We also put forward untested ideas. While we followed a rigorous process for sorting factors within the framework, empiricists could perform more complex analyses to determine the ideal balance between lumping and splitting factors through more quantitative sorting or concept-mapping methods with more policy experts (Cane, O'Connor, & Michie, 2012; Trochim & Kane, 2005). Similarly, while we submit the idea of integrative capacities as distinct from the other three competency types based on our case study analysis, a sorting analysis could also help determine whether this is separate enough to warrant independent investigation.

A keen student of public administration or political science will likely notice that our tool omits something of importance. We hope this work provides a scaffold on which to build a common language and method for studying this important topic.

CHAPTER 5. GENERAL DISCUSSION

This dissertation research has built on the conceptual framework for policy capacity of Wu et al. (2015) by using the Delphi method to create the Health Policy Capacity Assessment Tool version 1 (HPCAT V1), applying this tool to two provincial health policy case studies, and refining the tool based on the results (see Table 5.1). As described in the previous chapter, this refined tool contains 47 factors arranged across 12 sub-capacities (see Appendix G). There are two contributions of this work. First, factors associated with the sub-capacities of the original conceptual framework were identified by policy makers and were later confirmed and expanded in the case studies. The other contribution of this work was the identification of *integrative* capacities, which were not clearly reflected in the original framework.

Table 5.1. Overview of dissertation components.

Study	**Objectives**	**Findings**
Delphi survey (Chapter 2)	- Validate sub-capacities - Generate, arrange, and rate factors and indicators of policy capacity	- All sub-capacities noted as important - Health policy capacity assessment tool (HPCAT) produced 40 factors with 131 indicators
Case studies (Chapter 3)	- Describe policy changes using HPCAT	- Both cases demonstrated limited analytical capacity and emphasized operational capacity, particularly in response to political pressures
Tool refinement (Chapter 4)	- Use case study data to refine HPCAT	- Overlap between factors suggests new "integrative" competency type - New factors identified, leading to 47 factors over 12 sub-capacities

I begin this chapter by discussing the integrated competencies in more detail, then describe how the tool might be used and some related implications. I conclude this chapter by noting the strengths and limitations of this research and identifying other areas for future inquiry.

5.1. **Integrative Competencies**

Integrative competencies encompass experience, motivation, and interpersonal ability at the individual level, aims and enabling structures at the organizational level, and partnership dynamics and a shared vision at the system level (see Table 5.2). These competencies represent factors that are both a) common to three technical competencies that support policy making and b) enable synergies or connections between technical competencies for advancing policy work (see Figure 5.1).

Table 5.2**.** Policy capacity factors, including integrative competencies.

Level	Analytical	Operational	Political	Integrative
Individual	SC1: Identifying and analyzing information (including evaluation)	SC4: Relevant technical abilities and leadership of policy manager	SC7: Understanding the policy process and stakeholder perspectives, and seizing opportunities	SC10: Experience & expertise, motivation, ability to communicate and interact with others, and leadership
Organizational	SC2: Access to information, guidance tools and principles, performance monitoring and feedback, and demand for better information	SC5: Supportive organizational culture, sufficient resources and enabling structures, recruitment and workforce management and support (including change management)	SC8: Stakeholder engagement, perceived legitimacy, feedback incorporation and responsiveness, executive support, and timeframe management	SC11: Turning ideas into results, availability of expertise, internal information sharing, and workforce tolerance for change
Systemic	SC3: Information sharing systems, informal networks, shared understanding of problem and need for action, and monitoring and evaluation systems	SC6: Accountability, consultation and coordination, governance structure and mandate, shared/co-leadership, and interoperability	SC9: Political will, public and stakeholder advocacy, issue politicization, public trust, and system stability	SC12: Partnership relations and dynamics and shared vision/buy-in

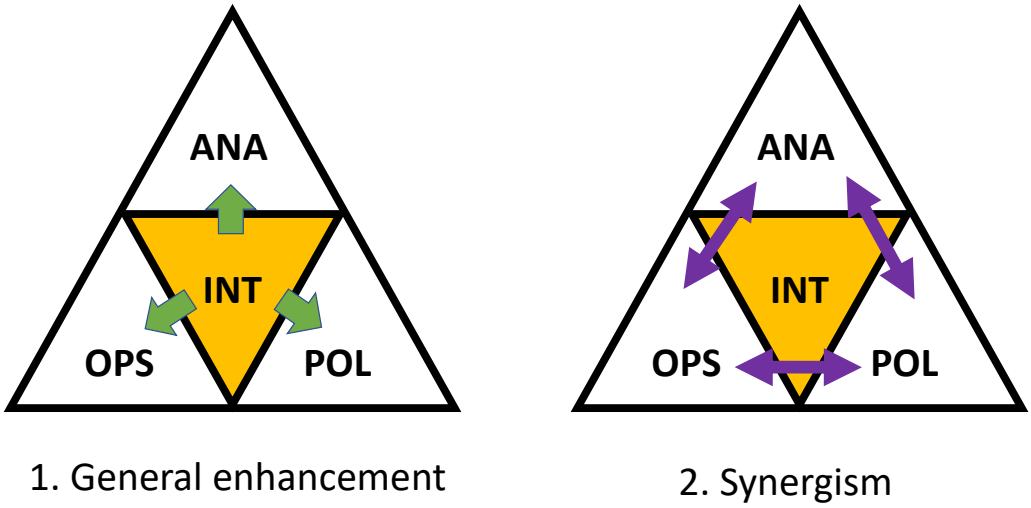

Figure 5.1. Two ways that integrative capacities strengthen overall policy making.
Note. ANA: Analytical competencies; INT: Integrative competencies; OPS: Operational competencies; POL: Political competencies.

Integrative competencies were identified through the reflexive data analysis process and in pursuit of a parsimonious tool. Placing factors in a one competency type over another seemed arbitrary when they appeared to be relevant to other types. Rather than have similar factors reflected in multiple sub-capacities, placing these separately within the framework represents their general enhancement of policy capacity, irrespective of the other three technical competencies. Perhaps these integrative capacities represent the *soft* skills that others used when describing policy capacity alongside the *hard* skills of data analysis or subject knowledge (Denis et al., 2015; Gleeson et al., 2009).

For example, individual communication ability has been presented as a factor for both policy analytical capacity (SC1) and political acumen capacity (SC7) (Hartley and Zhang, 2018). It is thus more parsimonious to consider communication as a separate ability which affects individual analytical and political capacity (and likely individual operational capacity as well). The case studies identified communication and other interpersonal skills as important for getting information (analytical capacity),

coordinating with partners (operational capacity), and working with stakeholders (political capacity). It is unsurprising that communication is important across technical competencies, given that good communication between people and organizations is critical for understanding different perspectives and building the legitimacy and cooperation required to achieve policy goals (Gelders, Bouckaert, & van Ruler, 2007; Zhang, Lee, & Yang, 2012). A similar case can be made for the other factors of the individual-integrative sub-capacity; experience and expertise, personal motivation, and leadership all enhance work in the other three technical competency areas.

The idea of "weaving" together different kinds of knowledge and skills (i.e., technical competencies) is just as essential to effective government as "steering" society in the desired direction (Parsons, 2004, *passim*). Parsons contends that building policy capacity requires an "activity of mapping and navigating through the complexities of interconnected problems, multi-level governance, multiple fault lines and multi-organisational setting, cross cutting issues, policy networks, organisational inter-dependencies and linkages" (2004, p.44). I see integrative competencies as the capacity to understand, support, and coordinate these different elements by drawing on and aligning the technical competencies. Karo and Kattel (2016) contend that it's a mix of capacities that enable organizations to develop innovations to address complex problems. Perhaps a role of integrative capacities is to identify and support the best mix of the technical competencies available to overcome barriers and leverage strengths in order to advance policies.

Conversely, technical sub-capacities can influence integrative sub-capacities in an interactive relationship. For example, governance arrangements (SC6) influence partnership relations (SC12) (Williams & McNutt, 2013), while employee resources and feedback on performance (SC5) can enhance personal motivation (SC10) (Bakker & Bal, 2010). While I expected to observe vertical interaction within a nested model (e.g., organizational capacity will influence individual capacity), interaction between competency types also makes sense, particularly over the policy process timeline (e.g., political capacity enabling analytical capacity) (Forrest, 2018; Saguin et al., 2018).

Appendix H documents case study examples of overlaps between the nine original sub-capacities.

Saguin, Tan, and Goyal (2018) describe how factors can be "inputs," "processes," and/or "outputs" within the larger policy process, indicating their interaction. For example, in the case of NPs in primary health care, initial funding in the late 1990s from the Canadian Federal Government (SC9; input) allowed the piloting of NPs, which served as a proof-of-concept where health system partners learned how to best integrate NPs into existing primary health care infrastructure and support them (SC5; process). The outputs of this work were better relationships between partners (SC12) and building legitimacy of the NP role within communities (SC8). While this is a simplistic linear description, these outputs would eventually become inputs for later stages of the NP rollout, representing different input-process-output cycles. Relationships between partners (SC12) and a mandate from government (SC9) supported the development of analytical (SC2) and workforce support (SC5) processes at the Nova Scotia Health Authority, which produced a greater pool of expertise (SC11) and a better understanding of stakeholder needs (SC8). Meanwhile, the findings from analyses on physician human resource planning and an evaluation of collaborative emergency centres (SC2), produced a common understanding of the issue and a need for action (SC3), leading to hiring and support practices (SC5) and a shift in framing NPs as part of a comprehensive team-based approach to autonomous providers enabling better access. These input-process-output streams can occur simultaneously, and may function as different forums where ideas are developed, contested, refined, and framed (Goyal & Howlett, 2019). However, as a whole the outputs of each stream inform growth and change as well as indicate their interaction over time.

This interaction between factors over time is evidence that policy capacity is temporal; time is required for a change in one sub-capacity (e.g., following an injection of resources) to lead to change in another (Howlett, 2019). For example, I view performance monitoring as an analytical factor (SC2), but it is only useful if that information can be communicated and acted upon to adapt organizational processes

(SC5). This conceptualization provides a theoretical basis to policy makers for prioritizing factors within sub-capacities for marshalling and deployment to achieve desired ends, and also explains why our analysis placed factors in different sub-capacities than others have done.[i] This notion also supports our concept of integrative capacities as the ability to take policy capacity from one competency area and apply it to another to advance policy work.

I am not the first scholar to submit an additional competency type to the policy capacity conceptual framework; Brans, Schram, and Smismans (2018) argued that legal capacity was "uneasily boxed in" (p.1) to operational and political competencies and thus was worthy of distinction. In their discussion of capacity building, Brinkerhoff and Morgan (2010) identify five key capabilities they believe generate and enhance capacity. Two of these in particular – relating and attracting support and balancing diversity and coherence – touch on the idea of integrative capacity. Relating and attracting support is built on interpersonal relationships and supports work across the other three technical competencies. Similarly, balancing control, flexibility, and consistency as well as integrating and harmonizing plans requires skills separate from the technical competencies in order to determine how they can be best coordinated.

5.2. **Implications for Use**

5.2.1. Assessing Policy Capacity

The different factors identified through this research can be used by researchers, policy makers, and their partners to assess policy sub-capacities and, as a result, policy capacity as a whole. Tool users – both researchers and policy makers – will have to judge which indicators are most appropriate for their purpose and should be aware that other factors not reflected in the tool may be important. Piecing together indicators and factors to get an idea of sub-capacity strength and overall policy capacity is like a mosaic; together, small measurements piece together a larger picture. Multiple data sources (e.g., documents, interviews, health system indicators) will have to be consulted. While this approach may be more cumbersome than relying on existing

indices or quantitative metrics (Hartley & Zhang, 2018), there may be a difference between what has been stated and what is being done (Ingold et al., 2019). Assessing the link between espoused ideals and support structures and mechanisms will be important (Murphy, MacCarthy, McAllister, & Gilbert, 2014).

Checking policy elements to ensure they are working in sync is inherent in policy making (i.e., policy congruency) (Howlett & Rayner, 2007; Lanzalaco, 2011). Understanding policy problems is both about facts and their interpretation (Kingdon, 2003, in Goyal and Howlett, 2019), just as policy failures can be attributed to both flawed ideas and flawed implementation (Oakley et al., 2006). Mixed methods approaches have been recommended for understanding health care system change at multiple levels because understanding only one facet is insufficient (Turner, Goulding, Denis, McDonald, & Fulop, 2016). Triangulating information from multiple data sources minimizes error or bias from a single measure while exposing contested issues (Denzin, 2010; Tonkin-Crine et al., 2015). If carried out systematically, it offers a transparent and replicable method for assessing capacity open to criticism and refinement. However, it might be impossible to prospectively determine the state of certain factors or sub-capacities with a high degree of confidence; these lacuna should be noted when communicating results so as not to offer a false sense of surety.

Time to do good policy work is often viewed as a luxury. Given the tension between spending time to evaluate policy capacity and conducting policy work, I developed an exercise sheet in addition to the HPCAT to help policy makers identify priority sub-capacities (see Appendix C). This enables policy makers to target their initial assessment of policy capacity and identify early issues or concerns before deciding whether an assessment of the other capacity areas is desired.

I also want to reiterate that capacity is both the presence of resources (e.g., having a dedicated research unit) and their effective mobilization (e.g., research is identified as important and given sufficient time and information to produce information that is useful). Capacity exists across a policy sub-system, so deploying it appropriately is just as important as its presence (Williams & McNutt, 2013). In this way,

capacity is socially constructed and interpreted; there may be different perceptions of whether capacity was effectively deployed both between and within policy makers, partners, and stakeholders groups (Cameron, 2019; Dunlop, 2015). I have tried to balance this with more objective indicators in order to enable transparency of appraisal, but it ultimately remains up to tool users – and those acting on their findings – to interpret the degree of capacity and its implications.

5.2.2. Using the HPCAT to Enhance Policy Capacity

At this time, I see policy makers using the tool to inform decisions about targeting resource distribution towards critical sub-capacities so government is more likely to achieve key mandate objectives. As such, I imagine that this tool could be used to support these kinds of decisions by departmental or agency senior leadership teams and their staff to assess the capacity needed to achieve key government mandates. While factors other than resource distribution and capacity building efforts contribute to policy success, policy capacity assessment could help prioritize sub-capacity development and identify and mitigate risks.

This tool is meant to be used to understand specific policies, as capacity is about "best fit" rather than "best practice" (Brinkerhoff & Bossert, 2013, p.692). However, a deeper understanding of a single policy may come at the expense of broader learning. This may limit the appeal of this tool to decision makers, who are responsible for optimizing resources to achieve multiple goals.

If the purpose of a policy capacity assessment is to identify relevant sub-capacities to strengthen, perhaps a way to make a stronger case for targeted investment is to link it to other priority areas and longer-term objectives. Communicating assessment findings in a way that aligns with the values of these decision makers (e.g., effective and efficient service delivery, fiscal probity) is a useful strategy for those hoping to spur policy action (Mark, Henry, & Julnes, 2000). Evidence that is congruent with the beliefs and values of decision makers is more likely to be used (Burchett et al., 2012). Thus, a savvy tool user will be able to articulate how strengthening sub-capacities will benefit

both the policy for which the assessment was performed as well as related and future work.

The research on policy mixes (i.e., the mix policy tools related to similar issues) and how they can be changed over time may be useful for helping to coordinate investments in long-term capacity building (Howlett, 2018; Kern, Rogge, & Howlett, 2019; Rayner, Howlett, & Wellstead, 2017). Policy mixes create trajectories which can cause "path dependencies" or "locked-in" effects (Howlett 2018, p.6-7). Understanding this starting point can provide clues for anticipating where there might be capacity strengths or gaps over the stages of a policy (Mulvale, McRae, & Milicic, 2017). By considering policy capacity within this larger context, senior decision makers may have a better idea how capacity building efforts could be staggered to minimize conflict with existing policy mixes, and create mixes supportive of future initiatives.

5.3. **Strengths and Limitations**

This work is distinctive from most of the past research on policy capacity because it examines capacity a) as shared between government and its partners (*cf*. Gleeson, Legge, & O'Neill, 2009; Hsu, 2015), b) at the sub-national level (*cf*. Cameron, 2019; Rasmussen 1999), and c) within the policy sub-system of health (*cf.* Chanturidze, Adams, Tokezhanov, Naylor, & Richardson, 2015; Hughes et al., 2015; Mirzoev et al., 2015). A transparent process of identifying and situating factors within different sub-capacities was also used compared to related work (Hartley & Zhang, 2018; Lodhi, 2018; Ramesh, Howlett, & Saguin, 2016). Other strengths of this work were having a former senior decision maker as part of my supervisory committee to help ensure relevance, as well as applying some of my own policy-making insight from working in the Nova Scotia Department of Health and Wellness.[ii]

Notwithstanding my attempts to keep factors within the tool general, factors which influence health policies may be different than other policy areas. As mentioned in Chapter 4, other factors (e.g., laws) have a greater role in other policy sub-systems. While the role of law was not mentioned in our cases, it has been noted as a potential

addition to the policy capacity framework (Brans et al., 2018). Policy makers in the health sector may also have a lower tolerance for risk required for reform; a senior policy maker now working in another sector stated:

> *"Health is great at giving reasons why things can't work. […] They're not as good at-risk tolerance because, and I get it, you've got patient care at the core of it […] like you're not going to take a chance on something that's going to be worse than what you're doing. Because if what you're doing, you see as being pretty good, if you take a chance and you do something different and it's worse, you've sort of gone against your professional ethics almost in a way. But the risk aversion is so high in healthcare that that is a bit of a rate-limiting step to innovation." [NP10*

The participant continues that this may be related to the leadership structure of the health system and the emphasis placed on clinical leadership:

> *"[T]here's convention in healthcare that your leaders need to be clinicians. Clinicians are wed to a certain way of providing clinical care. That's their training and that's their bias. Not that it's a bad thing, it's a bias that's brought in where some exploration around different kinds of leadership in healthcare, the non-clinical. […] And I sometimes wonder if that doctrine that we have, and you'll see it even today with leaders in senior level organizations requiring a clinical background. They're not clinicians anymore, but they require it. And you sort of look at it and you go, hmm, I wonder. I wonder if that's what is holding us back in our ability to actually advance the healthcare system? […] within my tenure, clinician leadership was the kind of prevailing, the strongest voice." [NP10]*

Some of the peculiarities of the jurisdiction of Nova Scotia may also be reflected in this tool. One participant claimed that in her experience doing cross-Canadian research around mental health, "[Nova Scotia] is one of the few provinces that really doesn't have provincial policies. They have a whole ton of strategies and guidelines but not policies necessarily" [SMHC02]. Other participants remarked that the province's small size leads to personal relationships playing a larger role, which has been noted in other studies of policy capacity in smaller jurisdictions (Cameron, 2019). Most research on policy capacity occurs at the national level, so there has been limited research on analogous variables at the regional level which influence policy capacity development.

Finally, notwithstanding having a secondary sorter and coder, there was some subjectivity sorting factors into appropriate sub-capacities; factor analysis has been used

in similar tool development research as an objectively-defensible way to group similar items (e.g., Cane, O'Connor, & Michie, 2012). This tool has also not undergone any other psychometric testing. Tool users may identify indicators that are more valid to the case in question than those we identified. While triangulation of data from our case studies helps make a case for the validity of our factors, the reliability of this tool is unclear. While I have tried to make framework indicators objective, untested inter-rater reliability means that indicators, factors, and possibly sub-capacities could be interpreted differently, both within and across policy sub-systems.

This tool is only meant to be a starting place for more transparent and systematic analysis of policy capacity, and I welcome further suggestions for improving the tool's usefulness to both researchers and policy makers. Even if the complexity of policy-making remains more art than science, taking an empirical approach to policy offers valuable transparency for testing assumptions. If policy capacity is a product of past decisions (Karo & Kattel, 2016), assessing policy capacity can be a way to formalize the impact of these decisions by describing the current state. This enables decisions about the future to be made in light of the past, even if they remain constrained by it.[iii]

5.4. **Future Research**

The HPCAT V2 must now be used to assess policy capacity, in health and other areas, to determine both its accuracy and acceptability by researchers and policy makers. Is it considered a legitimate way of understanding the factors which contribute to policy success? Will it be more useful assessing the capacities associated for specific policy initiatives (as I attempted) or identifying capacity strengths and gaps for sub-system-wide strategies involving multiple policies? While there are increasing studies reporting on policy capacity in specific cases, to my knowledge no one has used policy capacity as a conceptual tool to *prospectively* describe the development of individual policies or sub-systems (never mind nationally or internationally). Using this framework as a planning tool will uncover weaknesses and test its predictive power, including identifying relevant and accessible information for understanding sub-capacities.

As the tool is used to examine real policy issues, other indicators will be identified. This will add to our collective knowledge around what can both be transparently assessed and also what is seen as legitimate. Conclusions drawn from using the HPCAT, especially if being used to justify resources, are likely to come under scrutiny. As the HPCAT provides a way of systematically linking indicators to factors, factors to sub-capacities, and sub-capacities to an overall assessment of policy capacity, the data underpinning any conclusions may be questioned. Some indicators are likely to be more readily accepted, especially if they confirm what some decision makers already suspect. More research on the relationship between trustworthiness (e.g., comprehensiveness, accuracy) and usefulness (e.g., legitimacy, persuasiveness) can help tool users balance these two groups of values.

More research on integrative competencies, and to what extent they complement or are distinctive from the other three technical competencies, would help identify other integrative factors and explain their relationship to different kinds of policy success. Does a high degree of integrative capacity make up for relatively weaker technical capacities? Are integrative capacities critical to certain kinds of policies (e.g., social policies requiring coordination across multiple sectors)? Do integrative capacities enable policies to progress around obstacles by leveraging learnings from technical competencies? A better understanding of the skills and abilities which support anyone in a policy-making role, regardless of their 'technical' area, would support human resource strategies and professional development training (see Appendix I).

At the risk of adding further complexity, other resource levels within the conceptual framework could also be studied. I have noted how there were some differences between the factors we identified at the system level and those identified by others at the system level. While it is more accurate to say that many of our system factors are more accurately described as sub-system, some have stated that the system level represents sub-national, national, and international dynamics (Saguin et al., 2018). However, I think influences on these three levels of government are independent and have different implications for policy capacity, and are thus are worth studying

separately, particularly within a nested model. Further study of the effects of broader resource levels on narrower ones may help explain why some policies may be constrained by capacity gaps at higher levels, helping to build the case for when larger reform is needed.

Another resource level which could help explain policy capacity as it pertains to specific policies is between individuals and organizations. Organizations can have hundreds – or thousands – of staff, and their individual abilities may be more strongly influenced by their immediate work environment than broader organizational factors. For example, one participant argued that implementation had to be looked at two ways: *"*You need to look at it as we are one provincial team. And then you need to look at it within the team that's actually doing it, which happens at the zone level, right. So we plan provincially and we implement locally" [NP05]. How individuals work together within organizations can help explain how organizational capacity manifests in individuals working together.

The importance of team dynamics is well-noted in the business literature, as team performance is closely linked to organizational success (Cohen & Bailey, 1997; Guzzo & Dickson, 1996). While organizations may have goals and supporting structures, these may not trickle down to influence individuals as intended (e.g., imperfect information or resource transfer). As teams with high degrees of trust (De Jong, Dirks, & Gillespie, 2016) and psychological safety (Delizonna, 2017) perform better, this implies that the capacity which different teams within an organization can apply to policy issues will vary. Thinking of organizations as monoliths ignores the more functional units that are critical for assessing the policy capacity relevant to specific issues. Better understanding team capacity, and at what operational level teams exist (e.g., departments, branches, projects, etc.) may help explain how organizational capacity influences individual capacity.

Finally, it would be worth investigating how, even at the system level, it is ultimately individuals who are responsible for making decisions and working together. Participants in both cases highlighted the roles of individuals when it came to organizations working

together at the system level. “There isn’t always trust. And this is Nova Scotia: trust is person to person” [SMHC03]. They felt that effective collaboration “really comes down to people because organizations are people” [NP11], and “if people don’t get along […] then it’s hard to get cooperation within certain things” [SMHC08]. Interpersonal dynamics between a small number of people can have large repercussions on system-wide policies. Notwithstanding the effect of organizational and systemic policy capacity, it is humbling to consider how individuals, with their biases, egos, and ideologies, have the potential to contribute to systemic harmony or cause interorganizational dysfunction.

Perhaps this is why the roles of leaders, and the qualities of leadership, are of such interest (Storey, Hartley, Denis, T’Hart, & Ulrich, 2016). As the challenges our society faces require greater cooperation and coordination, the ability of leaders to provide a clear and inspired vision and work with others to leverage our collective abilities is of mounting importance. Many of the abilities and qualities of good leaders are reflected in the HPCAT (e.g., negotiating, working with stakeholders, building relationships, addressing challenges, respected by colleagues, committed to good decision making) (Crosby & Bryson, 2005; Morse, 2010; Ospina & Foldy, 2010).

Yet these leadership abilities refer to leadership firmly within the process of making single or clusters of policies (“micro” policy making). How then does leadership at the “macro” level (i.e., political leadership) influence policy capacity? It is at this macro-level where policy agendas for entire jurisdictions are set; any policy options which are outside this agenda are unlikely to gain the support required to come into being.[iv] Rather, civil servants (which comprise a substantial portion of the policy capacity work force) are given their direction from political leadership and tasked to produce the best policy options for these issues.

This is where a lack of political leadership can undermine policy capacity. Political leaders have the ultimate authority to decide what options are pursued. If a problem has been poorly-framed or an ideologically-driven solution has already been decided upon, then the outcome is likely to be less than good policy regardless of the degree of

policy capacity available. Political leadership is not obligated to take advice and can effectively neutralize existing capacity by deciding not to draw on it. In turn, this would likely frustrate and alienate those producing policy advice. This corrosive dynamic would not only lead to poorer-quality policies, but also weaken the spirit and eventually the ability of a policy capacity system. While all politics is ideological to some extent, in extreme examples (e.g., authoritarianism, populism) the otherwise healthy tussle of ideas is anathema. In these cases, it seems unlikely that improving policy capacity is unlikely to result in improved policy outcomes; the problem seems to be from the top.[v]

5.5. **Conclusion**

This research has expanded on the conceptual framework of Wu et al. (2015, 2018) by using a mixed-methods approach to identify factors within the nine sub-capacities, including factors which have not been explicitly identified in related literature. It has also identified integrative competencies distinct from, but interrelated to, the other three technical competencies. I contend that integrative capacity represents the fundamental supporting and unifying factors for policy-making, and helps to balance the trade-offs between a policy's rightness (based on analytical capacity), functionality (operational capacity), and acceptability (political capacity). Our systematic approach to identifying factors and arranging within the policy capacity framework brings transparency and clarity to a complex topic.

While all four competencies are important for achieving policy progress, the most effective capacity mix will depend on the context and nature of the policy in question, including the moment in its evolution. As alluded to in chapter 2, one participant described the importance of taking such a comprehensive approach to understanding policy change:

> *"And so I mean all of it had its ingredients. Like each piece, big or small… It's like baking a cake. Like you pull out one thing then you're not going to get the same result. […] I can't even call it clinical policy but you're right, it has a little smatterings of everything. Pull out one of them and it will not work. But the amount of it that you need or when you need it varies depending on what you're*

trying to do. […] And it varies depending on what you're trying to do, at what level, and what difficulty" [NP04]

The competencies and factors in the HPCAT V2 reflect the tensions between supporting and aligning (integrative capacity) the ideal (analytical capacity) and the doable (operational capacity) within a given context (political capacity). While further testing of this tool is required, it will provide useful conceptual guidance and flexibility to policy makers and researchers interested in better understanding policy capacity.

5.6. **Endnotes**

[i] For example, some of the factors we consider to be analytical are considered operational by Hartley and Zhang (2018). This may reflect my positionality as a researcher interested in policy change. I assume that knowledge (analysis) informs action (operations), but clearly the reverse can be true (i.e., the same factor may be an input at one time and an output at another, even within the same policy process).

[ii] This experience was part of a Canadian Institutes of Health Research Health Systems Impact Fellowship towards the end of the research process, and introduced me to some case study participants I was later recommended to speak with, as well as provided insight into the realities of policy making.

[iii] Today's decisions contribute to a *mix* of policy ideas, and a mix spurs conflict and variety from which something is likely (but not guaranteed) to emerge the winner (Karo and Kattel, 2016). These "winning" decisions contribute to a legacy future decision makers must operate within. Like Darwin's theory of evolution, perhaps the policy ideas which best adapt to competitive environments and proliferate are those which maintain balance and control long enough to become embedded in legacies. This ideological evolution sees success as the ideas which have the most offspring – those which birth future policy legacies. To extend the ecological analogy, if our old policies have left us with legacies that explain the state we're in, how can we create conditions for innovative responses to complex problems to thrive?

[iv] That is, unless they are responding to an unequivocally important and urgent issue. For example, while public health and vaccine development were not on the Nova Scotia government's 2017 election platform, as I complete this dissertation COVID-19 has forced policy makers to consider these issues. But outside of these kinds of situations

(and perhaps contributing to strategic planning) civil servants have arguably little leeway to decide on what issues are most important.

[v] Herein lies a tension at the heart of systems of decision making. Policy capacity is a tool, and is only as useful as it's deployed. Effectively deploying policy capacity helps decision makers focus limited resources to achieve political priorities, yet prioritizing inherently privileges some issues over others. What good is policy capacity if political leadership isn't directing it to better ends? Truth might speak to power, but power has to be willing to listen.

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APPENDICES

Appendix A – First Round Questions

Health Policy Capacity - Round 1

Thank you for participating in this Delphi study. You will have 2 weeks to complete this survey. Reminders will be sent at 7 and 10 days.

The purpose of a Delphi survey is to achieve a consensus from an expert panel. This occurs over the course of multiple survey rounds; once the first round is complete, answers are synthesized and used to develop the next survey round. Survey respondents will see how their peers answered questions, and have an opportunity to review and/or revise their answers. In this Delphi study, your participation will help adapt a framework for understanding policy capacity, which will then be used in a future research project to study health policies in Nova Scotia.

This survey contains 4 pages of questions and will take approximately 30-45 minutes to complete. While you can save survey responses at the end of each page, the questions build on each other and require some reflection. Therefore, it would be beneficial to both the research and your ease of completion if the survey is attempted with as few breaks as possible. **While this survey can be completed using a phone, it is not recommended as survey navigation may be cumbersome.**

As this is an online survey, there is no written informed consent process; completion of this survey implies consent to have your responses used in research. All results will be aggregated at the group level; individual responses will not be linked to participants, and your name will not appear in any products (e.g., publications, presentations) related to this research.

Purpose

The purpose of this research is to identify and understand the factors that are required for policy capacity, which is the ability of policy-making organizations (or networks of organizations) to "marshal the necessary resources to make intelligent collective decisions" (Painter &Pierre, 2005) . The factors which comprise this ability are considered necessary pre-conditions for the policy to succeed, although they can be difficult to objectively define and appraise. In this round, we would like your help identifying these factors, as well as indicators that could be used to assess them. In future survey rounds, you will be asked to rank these factors and indicators on criteria such as importance, clarity, and feasibility.

Policy Success

Policy success is often dependent on many factors, including the goals or objectives of the policy, as well as the goals/objective of those involved in the policy process. For example, while a policy might not be defined as successful if it failed to meet its 'program' objectives (e.g., effectiveness, efficiency), it might still be a 'process' success (e.g., attaining legitimacy through acceptable means, a sustainable coalition of supporting interests) or a 'political' success (e.g., controlling agenda, tackling a problem and marginalizing critics) (McConnell, 2010). Policy success may also look different depending on the stage of the policy process (e.g., policy development, implementation, or evaluation). For the purposes of this research you can choose to define success however you think appropriate; we hope that this research will be useful for identifying factors that lead to all kinds of policy success.

Q1: To begin, please list 10-15 factors that you believe are important for policy success based on your policy experience. These can be any kind of characteristics, events, or resources that, based on your experience, have contributed to policy success (or you strongly believe would have led to success had they been in place). For example, factors which are linked to policy success might be dedicated financial resources, executive sponsorship, political will, or strong interorganizational communication channels. These factors do not need to be universal for every case of policy success. Some factors may be quite unique, but critical in specific cases (e.g., public support might be critical only in cases where the policies are publically visible or directly affect members of the public). It may be helpful to think of broad categories (e.g., resources) and then consider factors that fall within that category (e.g., highly trained personnel, highly skilled personnel, budget line, adequate time, etc.).In the adjacent cells, please indicate whether the factor is important at all stages of the policy process listed or only at one or two specific stages.

Factor	All Stages	Development	Implementation	Evaluation
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐

Q2: Factors must be operationalized so that their presence can be reliably assessed. Please suggest indicators that could help identify the presence/degree of the factors you provided in the previous question. For example, if you said that 'political will' was a factor linked to policy success, how could someone assess whether political will was there? Examples might be formal executive sponsorship of a policy, or examining news coverage to see if the public or elected officials are vocal about the topic. If 'strong evidence base' is a factor, indicators could be the number of policy developers with a PhD, or the amount and quality of the research accompanying policy documentation. Indicators don't need to be objective or universally-accepted; they're meant to provide some potential ways to assess the presence (or degree) of a factor, and are often used with other indicators to give a more comprehensive picture. It's okay if you know your indicators are not perfect, as they will be refined over the course of this research. Ultimately, these indicators will be used by people interested in the success of a given policy to get an idea of the presence and degree of factors important for policy success.Indicators can be framed as statements (e.g., executive sponsorship) or questions (e.g., does the policy in question have appropriate support of someone with relevant decision-making authority?). Subjective definitions (e.g., appropriate support) are fine.

Factors	Indicators
${Fac1}	
${Fac2}	
${Fac3}	
${Fac4}	
${Fac5}	
${Fac6}	
${Fac7}	
${Fac8}	
${Fac9}	
${Fac10}	
${Fac11}	
${Fac12}	
${Fac13}	
${Fac14}	
${Fac15}	

Q3: The purpose of this question is to determine the importance of concepts ("sub-capacities") contained within an existing policy capacity framework. A model of policy capacity developed at the federal level by Ramesh and Howlett (2015) conceptualizes policy capacity as a combination of nine sub-capacities. According to their model, the success of a given policy is contingent on the combination of these nine different sub-capacities (some sub-capacities might be 'critical' in some policies and not in others). These sub-capacities are at the intersection of three types of skills (analytical, operational, and political) across three resource levels (individual, organizational, and system) (see table below with examples).
Ramesh and Howlett also provide definitions for these sub-capacities (see following table). Based on your policy experience, how important are these sub-capacities to health policy success?At the bottom of the page, you can comment on the extent to which this model captures important factors and/or the degree to which these sub-capacities have been important for policy success based on your experience.

Sub-Capacity	Definition	Sub-Capacity Importance
1. Policy Analytical	Staff ability to access, acquire, and apply different kinds of knowledge, and the skills to process, analyze, and apply this information across the policy process.	◯ 1. Not important at all ◯ 2. Slightly important ◯ 3. Somewhat important ◯ 4. Very important ◯ 5. Critically important
2. Organizational Information	Effective information and policy analysis system, such as architecture for collecting and disseminating information in an accessible and digestible form.	◯ 1. Not important at all ◯ 2. Slightly important ◯ 3. Somewhat important ◯ 4. Very important ◯ 5. Critically important
3. Knowledge System	State of a system's institutions and opportunities for knowledge generation, mobilization, and use.	◯ 1. Not important at all ◯ 2. Slightly important ◯ 3. Somewhat important ◯ 4. Very important ◯ 5. Critically important

4. Managerial Expertise	Ability to perform key managerial functions, such as planning, staffing, budgeting and directing, as well as a high degree of leadership and communication ability.	◯ 1. Not important at all ◯ 2. Slightly important ◯ 3. Somewhat important ◯ 4. Very important ◯ 5. Critically important
5. Administrative Resource	Funding and staffing levels, as well as the nature of intra- and inter-agency communication, consultation, and coordination.	◯ 1. Not important at all ◯ 2. Slightly important ◯ 3. Somewhat important ◯ 4. Very important ◯ 5. Critically important
6. Accountability and Responsibility System	Clear rule of law and transparent adjudicative system, as well as broader systems of training, recruitment, and competency promotion.	◯ 1. Not important at all ◯ 2. Slightly important ◯ 3. Somewhat important ◯ 4. Very important ◯ 5. Critically important
7. Political Acumen	Understanding of the needs and positions of different stakeholders and possessing keen judgement of political feasibility and desirability.	◯ 1. Not important at all ◯ 2. Slightly important ◯ 3. Somewhat important ◯ 4. Very important ◯ 5. Critically important
8. Organizational Political	Good working relationships between operations and direction-setting, as well as facilitating communication with public and building coalitions.	◯ 1. Not important at all ◯ 2. Slightly important ◯ 3. Somewhat important ◯ 4. Very important ◯ 5. Critically important

9. Political-Economy	Adequate fiscal resources as well as public sense of legitimacy and trust placed in system, such as through an active civil society and freedom to debate issues.	◯ 1. Not important at all ◯ 2. Slightly important ◯ 3. Somewhat important ◯ 4. Very important ◯ 5. Critically important

Q4: Based on your experience, please rate whether the definition of each policy sub-capacity clearly explains factors linked to health policy success. Please add any modifications or suggestions for improving clarity in the adjacent box (i.e., does something need to be specified or added in order for the definition to be useful?)The table depicting this model is shown again for your convenience.

Sub-Capacity	Definition	Sub-Capacity Clarity	Suggestions for Improvement
1. Policy Analytical	Staff ability to access, acquire, and apply different kinds of knowledge, and the skills to process, analyze, and apply this information across the policy process.	◯ Very Clear ◯ Minor modifications needed ◯ Major modifications needed ◯ Not clear at all; no suggestions	
2. Organizational Information	Effective information and policy analysis system, such as architecture for collecting and disseminating information in an accessible and digestible form.	◯ Very Clear ◯ Minor modifications needed ◯ Major modifications needed ◯ Not clear at all; no suggestions	
3. Knowledge System	State of a system's institutions and opportunities for knowledge generation, mobilization, and use.	◯ Very Clear ◯ Minor modifications needed ◯ Major modifications needed ◯ Not clear at all; no suggestions	

4. Managerial Expertise	Ability to perform key managerial functions, such as planning, staffing, budgeting and directing, as well as a high degree of leadership and communication ability.	◯ Very Clear ◯ Minor modifications needed ◯ Major modifications needed ◯ Not clear at all; no suggestions	
5. Administrative Resource	Funding and staffing levels, as well as the nature of intra- and inter-agency communication, consultation, and coordination.	◯ Very Clear ◯ Minor modifications needed ◯ Major modifications needed ◯ Not clear at all; no suggestions	
6. Accountability and Responsibility System	Clear rule of law and transparent adjudicative system, as well as broader systems of training, recruitment, and competency promotion.	◯ Very Clear ◯ Minor modifications needed ◯ Major modifications needed ◯ Not clear at all; no suggestions	
7. Political Acumen	Understanding of the needs and positions of different stakeholders and possessing keen judgement of political feasibility and desirability.	◯ Very Clear ◯ Minor modifications needed ◯ Major modifications needed ◯ Not clear at all; no suggestions	
8. Organizational Political	Good working relationships between operations and direction-setting, as well as facilitating communication with public and building coalitions.	◯ Very Clear ◯ Minor modifications needed ◯ Major modifications needed ◯ Not clear at all; no suggestions	

9. Political-Economy	Adequate fiscal resources as well as public sense of legitimacy and trust placed in system, such as through an active civil society and freedom to debate issues.	◯ Very Clear ◯ Minor modifications needed ◯ Major modifications needed ◯ Not clear at all; no suggestions	

Q5: Thank you for participating in the first round of this Delphi study. In the next round (scheduled to start November 20), all responses will be synthesized and you will have an opportunity to rate them as well as suggest ways they might be improved. Please leave any comments or suggestions for the research team here. If you would like a calendar invitation/reminder for completing the survey sent for a specific time, please indicate that here too, as well as whether that should be scheduled through an administrative assistants (please provide their email).Please select "finish" to complete the survey.

Appendix B - Health Policy Capacity Assessment Tool (HPCAT) (V1)

Sub-Capacity	Definitions
1. Policy Analytical	Staff ability to access, acquire, and critique different kinds of information such as peer-reviewed research or 'real-world' evidence from health indicators or internal consultation, and the skills to process, analyze, and apply this information across the policy process.
2. Organizational Informational	Capacity of an organization to effectively share information and analyze policy, such as processes for collecting, sharing, and exchanging information in an accessible and digestible form, and developing plans and other guiding materials.
3. Knowledge System	System-level mechanisms for knowledge generation, translation, and application between different organizations and political actors.
4. Managerial Expertise	Staff ability to perform key managerial and administrative functions, as well as a high degree of leadership and communication skill.
5. Administrative Resource	Organizational funding and staffing levels, as well as interconnected procedures of training, recruitment, and competency promotion.
6. Accountability, Responsibility, and Coordination System	The nature of system-level accountability, consultation, and coordination with partners, as well as clear and transparent decision-making and conflict resolution processes.
7. Political Acumen	Staff ability to understand the needs and positions of different stakeholders, and judgement of how to manage priorities and balance political feasibility, stakeholder values, and the public good.
8. Organizational Political	Good working relationships between an organization's operations and those setting policy direction (e.g., executive sponsors), as well as facilitating communication with public, engaging key stakeholders, building coalitions, and managing disparate expectations and interests.
9. Political Economy	Adequacy of system's fiscal resources, as well as public sense of legitimacy and trust placed in health system.

SC1: Policy Analytical Capacity (Individual-level, Analytical Capability)
Need for policy; finding and applying evidence; analysis of policy impacts; equitable and sustainable policies

1. Need for policy action informed by different kinds of the best available evidence
    a. Needs assessment accurately specifies the problem the policy action is intended to address
2. Identification and appraisal of different sources of good-quality evidence relevant to policy action (e.g., external consultation, jurisdictional scan, grey literature)
    a. Policy action personnel have appropriate training in searching for multiple kinds of evidence

    b. Policy action personnel have access to evidence acquisition services, including web-based supports
    c. Policy action personnel can critically appraise and synthesize multiple kinds of evidence
3. Analysis and application of different kinds of evidence relevant to policy action
    a. Policy action personnel have access to support resources for analysis (e.g., content matter expert, financial, change management, evaluation)
    b. Policy action personnel understand how policy action will fit into current context
    c. Policy action personnel identify appropriate analytical approaches, including general principles and specific strategies
    d. Policy action decisions are based on accurate understanding of need for policy
    e. Multiple options are considered before major policy action decision
4. Analysis of intended and unintended impacts of policy action, including planning for the mitigation of undesired impacts
    a. Impact of policy action is derived from a SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) or similar analysis
    b. Assessment performed to understand impact of policy action on the target group or community
    c. Assessment performed to understand impact on departments or organizations directly involved with policy action
5. Equity considered in policy action (i.e., efforts are made to address avoidable inequalities and historical and contemporary injustices, and reduce disparities between groups)
    a. Policy action is reviewed with a health equity lens
    b. Efforts are made to remedy any inequities which are unintentionally exacerbated due to policy action
6. Sustainability of policy action (i.e., the policy remains relevant and effective for the foreseeable future)
    a. Process or system in place for detecting problems and adapting to changes
    b. Multiple champions or advocates willing to support policy in the long-term

SC2: Organizational Information (Organizational-Analytical)
Organizational information acquisition and learning; policy action guidance; performance monitoring

1. Internal information sharing and organizational learning procedures
    a. Organizational opportunities for learning from others and sharing lessons learned
    b. Robust organizational procedures for requesting and sharing information

    c. Processes, or services to access information for learning how things were done on similar policies
    d. Simplicity of locating existing relevant work
    e. Procedure for documenting work in order to easily access it in the future
2. Availability of applicable evidence to support policy action
    a. Scientific literature review, including qualitative research
    b. Jurisdictional or environmental scan
    c. Analysis of local policy context
    d. Evidence document to support policy issue (e.g., list of sources)
3. Comprehensive and clear project charter or guiding documents
    a. Provides guidance or explicit direction for adapting policy action to meet unforeseen conditions
    b. States purpose of policy, set objectives, and desired outcomes so that it can be easily understood by non-experts
    c. Contains clear strategy or plan to reach desired outcomes
    d. Contains task overview and provides explicit direction for task achievement
    e. States guiding values or principles to be reflected throughout policy activities
    f. Contains consistent and clear direction for how policy is to be applied
    g. Contains timelines associated with different tasks (e.g., Gantt chart)
    h. Provides consistent definitions (e.g., policy, protocol, guideline)
4. Useful tools for guiding work
    a. Clear policy framework or tool used as appropriate according to the stage of work
    b. Policy framework or tools used consistently across working groups
    c. Defined documentation or reporting process used for managing progress
5. Performance monitoring throughout policy action and across policy process
    a. Project charter is followed, or revisions are documented accordingly
    b. Evaluation plan is implemented
    c. Evaluation is embedded into all policy stages from the beginning
    d. Plan or process is used for collecting and addressing data (i.e., feedback loops)
    e. Sunset clause necessitates an explicit decision regarding policy renewal

SC3: Knowledge System (System-Analytical)
Knowledge sharing and exchange; partnerships for enhancing policy action

1. External system or network for sharing and receiving information, including online or electronic opportunities
    a. Formal inter-organizational and cross-jurisdictional opportunities for learning or collaboration

    b. Programs for sharing or circulating best practices or relevant research findings
    c. Formal role or position for identifying and sharing best practices and/or translating relevant knowledge
2. Leveraging existing partnerships
    a. Effective partnerships with researchers or universities

SC4: Managerial Expertise (Individual-Managerial)
Leadership; project management; *characteristics of group responsible for policy action*

1. Capable and effective policy lead(s)
    a. Generally respected by the people they work with, including those they supervise, team members, and other stakeholders or partners
    b. Willing to revise plans as needed (i.e., 'course-correcting')
    c. Has appropriate skill set and leadership competencies (e.g., chairing meetings, project management, etc.)
    d. Has experience managing staff
2. Clarity of policy lead role
    a. Formal accountability to policy sponsor or executive
    b. Specific written role description that identifies all deliverables, timelines and accountabilities
3. Managerial support
    a. Availability of policy office (or equivalent dedicated personnel) to assist in management of policy action activities
    b. Availability of personnel with strong project management or organizational abilities, or training to develop these skills
    c. Accurate identification of resources required to complete tasks for policy action
4. Characteristics of group responsible for policy action, including Policy Developers/Authors
    a. Group has skills and experience required for successful policy action
    b. Group comprises diverse perspectives
    c. Group management processes, including member selection and regular functional evaluation, enhance work required for policy action

SC5: Administrative Resource (Organizational-Managerial)
Organizational culture; funding; material and infrastructure; human resources

1. Organizational culture supports quality policy action
    a. Job descriptions for those involved in policy action include dedicated time for policy work
    b. Policy work seen as a valuable asset by policy-making organization
    c. Policy work actively supported by policy-making organization (e.g., investing in skills development)

2. Availability of skilled personnel assigned to policy action
    a. Personnel involved with policy action have protected time for activities (i.e., policy work is not 'off the side of the desk')
    b. Personnel assigned for policy action is sufficient, including partnerships with academia and student placements
    c. Administrative personnel are dedicated to support activities required for policy action
    d. An organizational competency chart (or similar tool) helps identify and clarify roles, job descriptions, performance management assessments, and professional development plans
    e. Access to specific personnel supports is available, as needed (e.g., legal or risk assessment)
3. Financial resources
    a. Accurate financial impact projections for implementing/not implementing policy
    b. Budgeting processes for ensuring fiscal management
    c. Regular budget reviews and revisions
4. Robust and dedicated material and infrastructure support
    a. Availability of needed material and infrastructure, including workspaces, equipment, and information systems
    b. Staff access to needed or state-of-the-art tools
5. Recruitment and Retention of personnel required for policy action
    a. Effective recruitment process for needed positions
    b. Availability of professional development and career advancement opportunities

SC6: Accountability, Responsibility, and Coordination System (System-Managerial)
Governance; coordination between partners; accountability

1. Accountability of decisions related to policy action
    a. Processes or frameworks in place for holding people accountable to changes resulting from policy action
    b. Clear chain or path of accountability
    c. Clear scope of responsibilities of different partners
    d. Documented responsibility of policy sponsor or lead to budget items
    e. Clear rules for engagement, communication, and decision-making
    f. Culture of mutual respect and trust among those involved in policy action (e.g., possible to safely voice disagreement)
2. Consultation and Coordination with partners required for policy action
    a. Dedicated support to manage communication and coordination, such as an administrative coordinators or communication advisor
    b. Sufficient opportunities for interaction between policy personnel, including on-line collaboration
    c. Identification of partners

    d. Implementation of consultation plan
    e. Commitment and monitoring of necessary partner contributions
    f. Common reference materials (e.g., briefing notes, project charter)
3. Governance and approval process for policy decisions
    a. Appropriate number of committees and approval points
    b. Clear sequence of approval levels
    c. Terms of reference for governance committee
    d. Clear authority, decision-making, and accountability details documented
    e. General agreement on policy action evaluation strategies
4. Process for non-compliance to policy
    a. Clarity of job expectations for those affected by policy action
    b. Mechanisms for appropriate follow-up

SC7: Political Acumen (Individual-Political)

Policy-making process; understanding stakeholders; timing; alignment with other factors

1. Understanding and balancing stakeholder needs
    a. Facilitated meetings are held with stakeholder representatives
    b. Policy personnel are able to appraise and synthesize multiple stakeholder perspectives
    c. Political factors in favour and against policy are identified
2. Political know-how
    a. Personnel involved with policy actions understand and consider how the political process will influence the policy
    b. Personnel understand the political feasibility in policy process decisions
    c. Personnel understand the different steps or tasks required for the policy to succeed
3. Readiness of target population or organization to accept policy action
    a. Commitment of resources needed for policy action
    b. Buy-in from those responsible for implementing policy action
    c. Positive or informational messaging from or within the target about policy goals or process
4. Timeframe for policy action
    a. Timeline for policy action is appropriate given both its need and the work required
    b. Timing of policy action fits with other initiatives or events
    c. Comparison of anticipated/projected timeframe to actual timeframe
5. Policy alignment
    a. Policy clearly fits within government priorities (e.g., department, minister)
    b. Policy clearly fits within target organization mission or vision
    c. Policy clearly fits within the mandate or strategic direction of organization(s) responsible for policy action

d. Stakeholder respond positively to proposed policy actions
e. Those directly affected by policy express willingness to change

SC8: Organizational Political (Organizational-Political)
Consultation; stakeholder engagement; incorporating feedback; communication; executive support

1. Need for policy defined by local actors
    a. Need demonstrated by occurrences in the community, including antecedent or contributing factors
    b. Need spurred by a critical event that requires urgent action (e.g., public health outbreak)
2. Stakeholder engagement
    a. Identification of key stakeholders
    b. Identification of common areas of interest between stakeholders and policy makers
3. Incorporation of feedback
    a. Process outlined for how to best address feedback received for policy development and review
    b. Involvement of others as needed to address contradictory or concerning feedback (e.g., ethical issues raised)
    c. Documentation of how feedback was considered and incorporated as appropriate
4. Clear, effective, and sufficient communication of decisions to those needing to know
    a. High-quality communication plan followed
    b. Communications support in budget
    c. Personnel responsible for carrying out policy action know about it in advance and understand the rationale for why it was needed
    d. Those affected by policy action adhere to any changes
5. Fair and inclusive consultation
    a. Appropriate parties are involved, or had the opportunity to be involved
    b. Affected communities are included in discussions and decision making
    c. Consultation process is accessible (e.g., online access, meeting location on major bus route)
    d. Internal departments which will be affected by the policy are consulted
6. Executive leadership supports policy action
    a. Policy has executive sponsor or owner
    b. Sponsor provides clear staff direction (e.g., briefing notes)
    c. Sponsor has necessary authority to ensure implementation of policy
    d. Sponsor support is clear and documented
    e. Personnel working on policy believe executive support is sincere
7. Transparency of Policy Process

a. Multiple opportunities for consultation throughout policy action, as appropriate
b. Non-sensitive aspects or decisions of policy action are accessible to interested parties outside of policy group
c. Policy is easily accessed by the public

SC9: Political Economic (System-Political)
Political will; public support

1. Political will *(no indicators)*

2. Public advocacy support groups *(no indicators)*

Appendix C – Tool for Identifying Critical Capacities

GUIDE FOR IDENTIFYING CRITICAL CAPACITIES:

Briefly, what is the policy idea that is being considered?

What would success of this policy look like (indicate 3-5 metrics of success)

Metric of Success	**Resource Level**	**Competency Type**
1.		
2.		
3.		
4.		
5.		

For each success metric, consider what might be critical for success. Not all successes will have something critical associated with them.

RESOURCE LEVEL: Is success highly contingent upon…

1. …the work of individuals with specific skill sets (e.g., complicated analysis, deft leadership)?
2. …the abilities and resources of your organization?
3. …the cooperation and coordination of partner organizations?

COMPETENCY TYPE: Is success highly contingent upon…

A. …getting the information required to design the policy "the best way"?
B. …managing the work in a specific way or sequence?
C. …timing or align with other factors beyond your control?

See results on the next page to identify critical sub-capacities.

Result	Sub-Capacity	Definitions
1A	1. Policy Analytical	Ability of personnel to access, acquire, and critique different kinds of information (e.g., peer-reviewed research, health indicators, internal consultation), and the skills to process, analyze, and apply this information.
2A	2. Organizational Informational	Organizational processes for collecting and sharing information for supporting policy analysis, including plans and other guiding materials and methods for monitoring progress.
3A	3. Knowledge System	System-level mechanisms for knowledge generation, translation, and application between different organizations and political actors.
1B	4. Managerial Expertise	Ability of personnel to perform key managerial and administrative functions, as well as a lead or coordinate activities.
2B	5. Administrative Resource	Organizational funding and support for policy action, as well as procedures for recruiting, training, and retaining qualified personnel.
3B	6. Accountability, Responsibility, and Coordination System	System-level accountability, consultation, and coordination with partners, as well as clear and transparent processes for decision-making and conflict resolution.
1C	7. Political Acumen	Ability of personnel to understand the needs and positions of different stakeholders, and judgement of how to manage priorities and balance political feasibility, stakeholder values, and the public good.
2C	8. Organizational Political	Relationship between an organization's operations and those setting policy direction, as well as communication with public, stakeholder engagement, coalition building, and managing expectations and interests.
3C	9. Political Economy	State of system's fiscal resources and political will, as well as public sense of legitimacy and trust placed in health system.

For more information on how you can assess the strength of each of these policy sub-capacities, please see the Health Policy Capacity Assessment Tool (Lawrence et al., 2020, *Canadian Public Administration*).

Appendix D – Informed consent

Informed Consent Form Non-Interventional Study

STUDY TITLE: Health Policy Capacity in Nova Scotia: Framework Adaptation and Testing

PRINCIPAL INVESTIGATOR: *Mr. Logan Lawrence*
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1. Introduction

You have been invited to take part in a research study. A research study is a way of gathering information on a treatment, procedure or medical device or to answer a question about something that is not well understood. Taking part in this study is voluntary. It is up to you to decide whether to be in the study or not. Before you decide, you need to understand what the study is for, what risks you might take and what benefits you might receive. This consent form explains the study.

You may take as much time as you wish to decide whether or not to participate.

Please ask the research team to clarify anything you do not understand or would like to know more about. Make sure all your questions are answered to your satisfaction before deciding whether to participate in this research study.

The researchers will:

- Discuss the study with you
- Answer your questions
- Be available during the study to deal with problems and answer questions

Study participants are purposefully selected on the basis of their position and expertise in specific health policy areas, and/or based on recommendations from their colleagues.
You are being asked to consider participating in this study because of your perspective and experience in health policy making, and can offer insight around the health policy process.

If you decide not to take part or if you leave the study early, your usual health care will not be affected.

2. Why Is This Study Being Conducted?

The aim of this research is to understand what kinds of factors lead to successful health policies. Although policy making is a critical part of our health system, limited research has attempted to identify the 'key ingredients' that lead to health policies which achieve all the goals they were designed to meet. This research is important because it will help policy makers to better identify potential barriers and facilitators to policy success, and plan their policy work more carefully in order for policies to succeed.

This research is a series of case studies of health policies in Nova Scotia. This kind of research will essentially look at different examples of health policies, and compare and contrast what kinds of factors were beneficial or detrimental to the success of the policy (e.g., resources, interests, skills). Through careful identification and analysis of policies at different levels and parts of our health system, this study will improve our understanding of how policy making works and what can be done to improve our health policies and strengthen our health system.

Based on the results of this research, a tool will be developed to help policy makers identify relevant factors that are likely to be important if their policies are to be as successful as envisioned. This tool will contribute to a stronger policy process, which in turn will mean greater benefits from the policies. This research will also provide a new approach to how scientists think about complex systems like health service delivery and policy making.

3. How Long Will I Be In The Study?

The length of this study for participants is approximately one hour. The entire study is expected to take about eight months to complete and the results should be known in one year.

4. How Many People Will Take Part In This Study?

It is anticipated that about 80 people will participate in this study throughout Nova Scotia.

5. How Is The Study Being Done? What Will Happen If I Take Part In This Study?

This research consists of a series of case studies of specific health policies. To collect information on these policies, interviews will be conducted with people knowledgeable in these areas ("key informants"). During these interviews, participants will be asked questions about what factors affect policy development, implementation, and/or evaluation.

If you decide to participate, you will be asked to provide basic demographic information as it relates to their current role (e.g., position, length of time, experience in policy). You will also be asked about specific policies, to what degree they were successful, and what kinds of factors contributed to that ultimate success. This should take no longer than one hour. Interviews may occur in person or over the phone.

Participants may be contacted after their interview for follow-up requests (by telephone or email), which might include providing additional clarification or directing the research team to supporting documents. In the event that a follow-up is required, it should take no longer than 30 minutes. You are free to choose note to participate in any follow-up at any time.

All interviews will be audiotaped unless explicitly requested; any quotes used will be anonymized.

7. Are There Risks To The Study?

As this study involves a conversation with a researcher, there are minimal risks associated with participating. Some of the questions may make you feel uncomfortable, or it may be an inconvenience to stay in the same room for the duration of the interview. You are able to take a break during the interview if desired, and may choose not to answer any questions.

Once the interview is complete, you might later feel discomfort after reflecting on the interview.

Breach of confidentiality**:** As with all research, there is a chance that confidentiality could be compromised; however, we are taking precautions to minimize this risk. All interview transcripts will be de-identified, and identifying information will be kept separately from participant responses.

8. Are There Benefits Of Participating In This Study?

We cannot guarantee or promise that you will receive any benefits from this research. However, possible benefits include feelings of satisfaction or pride of contributing to research and sharing your perspective. Your participation contributes to research on the health policy process, which may be of use to other policy makers and researchers in the future.

There are no medical benefits to you from taking part in this study.

9. What Happens at the End of the Study?

It is anticipated that the results of this study will be published and/or presented in a variety of forums. In any publication and/or presentation, information will be anonymized in such a way that you cannot be identified. If you would like any copies of publications from this research, please check the box indicating this on the last page.

10. What Are My Responsibilities?

As a study participant you will be expected to:

- Follow the directions of the research team;
- Report any problems that you experience that you think might be related to participating in the study;
- Answer research team questions honestly and to the best of your abilities

11. Can My Participation in this Study End Early?

Yes. If you chose to participate and later change your mind, you can say no and stop the research at any time. If you wish to withdraw your consent please inform the research team. If you choose to withdraw from this study, your decision will have no effect on your current or future medical treatment and healthcare. If you decide to withdraw, you have the option of withdrawing the data you provided.

A decision to stop being in the study will not affect any work performance evaluations you may have.

Also, the Nova Scotia Health Authority Research Ethics Board and the principal investigator have the right to stop patient recruitment or cancel the study at any time.

Lastly, the principal investigator may decide to remove you from this study without your consent for any of the following reasons:

- You do not follow the directions of the research team;
- There is new information that shows that being in this study is not in your best interests;

If you are withdrawn from this study, the principal investigator will discuss the reasons with you.

12. What About New Information?

You will be told about any other new information that might affect your health, welfare, or willingness to stay in the study and will be asked whether you wish to continue taking part in the study or not.

13. Will It Cost Me Anything?

There are no out-of-pocket expenses for participants.

Compensation

You will be reimbursed with $25 for your time and knowledge for participating in this study.

Research Related Injury

If you become ill or injured as a direct result of participating in this study, necessary medical treatment will be available at no additional cost to you. Your signature on this form only indicates that you have understood to your satisfaction the information regarding your participation in the study and agree to participate as a subject. In no way does this waive your

legal rights nor release the principal investigator, the research staff, the study sponsor or involved institutions from their legal and professional responsibilities.

15. What About My Privacy and Confidentiality?

Protecting your privacy is an important part of this study. Every effort to protect your privacy will be made. If the results of this study are presented to the public, nobody will be able to tell that you were in the study.

However, complete privacy cannot be guaranteed. For example, the principal investigator may be required by law to allow access to research records.

If you decide to participate in this study, the research team will collect only the information they need for this study.

Access to Records

Other people may need to look at your personal information to check that the information collected for the study is correct and to make sure the study followed the required laws and guidelines. These people might include:

- The Nova Scotia Health Authority Research Ethics Board (NSHA REB) and people working for or with the NSHA REB because they oversee the ethical conduct of research studies within the Nova Scotia Health Authority.

Use of Your Study Information

The research team and the other people listed above will keep the information they see or receive about you confidential, to the extent permitted by applicable laws. Even though the risk of identifying you from the study data is very small, it can never be completely eliminated.

The research team will keep any personal information about you in a secure and confidential location for 7 years and then destroy it according to NSHA policy. Your personal information will not be shared with others without your permission.

After your part in the study ends, we may continue to review your health records for safety and data accuracy until the study is finished or you withdraw your consent.

You have the right to be informed of the results of this study once the entire study is complete.

The REB and people working for or with the REB may also contact you personally for quality assurance purposes.

Your access to records

You have the right to access, review, and request changes to your study data, including your audio tape from the interview.

16. Declaration of Financial Interest

This study is unfunded. The PI has no vested financial interest in conducting this study.

17. What About Questions or Problems?

For further information about the study you may call the principal investigator, who is the person in charge of this study.

The principal investigator is Mr. Logan Lawrence
Telephone: (902) 266-8978

18. What Are My Rights?

You have the right to all information that could help you make a decision about participating in this study. You also have the right to ask questions about this study and your rights as a research participant, and to have them answered to your satisfaction before you make any decision. You also have the right to ask questions and to receive answers throughout this study.

If you have any questions about your rights as a research participant, contact Patient Relations at (902) 473-2133 or healthcareexperience@nshealth.ca

In the next part you will be asked if you agree (consent) to join this study. If the answer is "yes", please sign the form (or provide verbal consent if being interviewed over the phone).

19. Consent Form Signature Page

I have reviewed all of the information in this consent form related to the study called:

Health Policy Capacity in Nova Scotia: Framework Adaptation and Testing

I have been given the opportunity to discuss this study. All of my questions have been answered to my satisfaction.

This signature on this consent form means that I agree to take part in this study. I understand that I am free to withdraw at any time without affecting my future care.

☐ I **agree** to audio recordings as described in this consent form.

☐ I **do not agree** to audio recordings as described in this consent form.

_____	_____	____ / _____ / ___
Signature of Participant	Name (Printed)	Year Month Day*

OR

☐ Verbal consent given.

_____	_____	____ / _____ / ___
Signature of Person Conducting Consent Discussion	Name (Printed)	Year Month Day*
_____	_____	____ / _____ / ___
Signature of Investigator	Name (Printed)	Year Month Day*

Note: Please fill in the dates personally

I will be given a signed copy of this consent form.

☐ I would like a copy of any publications resulting from this study emailed to me.

Email: _____ _____

Appendix E – Interview Guide

Date: Time: Place:

Interview Code:

Position/title of interviewee:

Policy case:

Policy action discussed: Development / Implementation / Evaluation

Preamble: Thank you for volunteering to participate in this study. The goal of this study is to better understand the factors which contribute to policy capacity (i.e., the overall ability of policy-making organizations and their partners to successfully develop, implement, and evaluate policies). These findings will be used to refine a tool for assessing policy capacity.

Informed Consent:

- [*If the interview is being conducted in person*]: [*Present informed consent form*]: This informed consent form describes the study and your rights and responsibilities as a participant. Please take some time to read over it and let me know if you have any questions.
- [*If the interview is being conducted over the phone*]: If you have not had the opportunity to review the informed consent form sent in advance, please do so now. *[Receive verbal consent*

[In either case, ask for their permission to audio-record the interview]

Policy Capacity Framework:

Before we begin, I'd like to explain the framework that we're using for this research *[present policy capacity framework]*. This framework conceptualizes policy capacity as a product of sub-capacities at the intersection of three resource levels (individual, organizational, system) and three competency types (analytical, managerial, political). These nine sub-capacities contribute to the ultimate success of the policy at each stage of action (i.e., development, implementation, evaluation), although some might be critical while others are relatively unimportant.

The questions I ask will pertain to each of these nine sub-capacities; please feel free to refer to the framework and definitions when answering questions.

Do you have any questions before we begin? *[answer any questions]*

Questions

1. Are you familiar with *[the policy in question]*, and if so, what is your understanding of it?

2. Briefly describe your role in the policy action and experience with this issue

Now, the first set of questions has to do with ***analytical competencies*** (i.e., **gathering information to help inform decisions**)

3. Thinking about the ***information gathering*** in [*the policy action*], what factors either **supported or challenged the gathering of information to inform policy decisions?**

    a. **SC1: Individual** competencies (e.g., group characteristics, analysis of impact, finding and using evidence, equity and sustainability)

    b. **SC2: Organizational** competencies (e.g., internal information sharing and organizational learning, available/accessible evidence, project charter, guiding tools)

c. **SC3: System** Competencies (e.g., external knowledge sharing systems, partnerships)

This next set of questions relates to ***managerial*** competencies (i.e., **resources,** operations, processes, **or decisions used to guide work**):

4. Thinking about [*the policy action*] **was led and organized**, what factors either contributed to or challenged **carrying out work** to support *[the policy action]*?

    a. **SC4: Individual** competencies (e.g., managerial support, policy lead)

    b. **SC5: Organizational** competencies (e.g., organizational culture, available and appropriate personnel, resources)

    c. **SC6: System** Competencies (e.g., transparency of policy process, consulting and coordinating with partners, accountability, governance, non-compliance process)

This last group of questions relates to ***political*** *competencies* (i.e., how this work is positioned or aligned with other issues and priorities)

5. Thinking about the ***political competencies*** involved in [*the policy action*], what factors supported or challenged how **this work was framed and positioned**?

    a. **SC7: Individual** competencies (e.g., readiness of target of policy action, timeframe, understanding stakeholder needs, policy alignment, policy know-how)

b. **SC8: Organizational** competencies (e.g., consultation with target and other relevant stakeholders, stakeholder engagement, communication, incorporating feedback, executive support)

c. **SC9: System** Competencies (e.g., political will, public groups supporting action)

6. Out of ***all*** of the factors we've discussed, in your opinion, were any *critical* to the outcomes of *[the policy action]*? (Either because they were present or missing)

7. Is there anything we have not discussed that you believe contributed, or would have contributed, to the outcomes of the policy action?

8. Finally, are there other documents or people that would be useful for helping me understand this policy, or any factors or sub-capacities we haven't discussed that are relevant to this policy?

9. Do you have any final thoughts you'd like to add?

[*Reimbursement Information*]

Appendix F – Sorting Rules

Objectives

1. Create a tool that provides guidance for how to assess policy capacity comprehensively
2. Is useful and user-friendly to decision makers (i.e., not overly complex or precise)

Determining whether an item is a factor or indicators

- Factor: concept; rich with detail, important in most cases
    - Factors should be distinct from each other; they may cluster but should be defensible as separate, independent concepts
- Indicator: observable unit; useful in some cases (different options for assessing)

Indicators are…	**Whereas factors are…**
Observable/identifiable units; examples	Representations of the significance of the indicator; higher-order concepts
Easily defined (though assessments are subjective)	General statement, but "know it when I see it"
Of relatively small importance for overall policy success	of greater effect

Determining Resource Level

- Resource levels are "nested", where higher levels influence those within them
- The work of individuals is reflected in organizations activities, and organizational processes and culture influence individual abilities; individuals make decisions on behalf of organizations
- Organizations do the work of system partnerships, while system variables can influence the ability and direction of organizations to do work
- Relationships between individuals shape system interactions, and decisions at the system level shape the work of individuals (mediated through their roles within organizations)

Description of resource levels

Level	**Description**	**Examples**
Individual	Ability of individuals to carry out practical, elemental work of organizations; is affected by higher resource levels	skills doing work; build understanding; communicate insight for action to be undertaken
Organizational	Assets, capabilities, and attributes of an entire organization; uses or acts on information; provides structure, direction and support to individuals	provide clarity and direction for work; circulate info, build shared understanding e.g. time frame management

System	Shared interests and activities between actors within the policy sub-system; Guide or shape roles of organizations through negotiations, accountability agreements	Understanding others role, negotiating responsibilities prioritizing between partners trust between organizations

Determining competency type

- Consider the function of the activity or attribute; where is it most appropriately placed to help explain the policy in question?

Description of competency types

Competencies	Description	Example
Analytical	*Knowing***:** getting information and knowledge and analyzing appropriately to inform decisions	Gathering and analyzing data, monitoring progress, planning
Operational	*Doing***:** Carrying out activities	Staff management, budgeting, accountability, partnership governance
Political	*Contextualizing:* Political support; managing externalities to policy work	Tailoring approach based on stakeholder readiness,
Integrative	*Foundational***:** Underlying or general factors which support the other three "technical" skills; *Linking***:** Help align or combine technical skills in complementary or synergistic ways	Motivation, availability of skilled personnel, shared vision, communication and framing

Determining whether to "lump" or "split" a factor

- Consider "lumping" (combining two or more items) if:
  - The factor was not well-described in the case descriptions (i.e., lacks depth)
  - The factor could act as an indicator for another better-defined factor
- Consider "splitting" (teasing apart the nuance in a multidimensional item) if:
  - A strong argument could be made that the different parts of a factor should be examined independently

Determining rearrangement between first and second round of case study data collection:

1. Identify indicators which were identified (either as present or absent)
2. Note new information pertaining to each SC

3. Revision log notes changes in developing the tools used to guide second interview round based on emerging understanding of *resource levels* and *competency types:*
    a. *Move* factors to new SCs that are more appropriate based on resource level and competency types (e.g., equity, sustainability, need for policy action moved from individual to organizational level)
    b. *Demote* factors to indicators if they don't meet above criteria
    c. *Absorb* aspects of factors (or indicators) into other related factors (parsimony)
    d. *Amend descriptions* to reduce superfluous detail that could be better placed elsewhere or left to user discretion

Appendix G – Health Policy Capacity Assessment Tool (HPCAT) (V2)

Legend

- **Bold text for indicators indicates that it could be placed elsewhere**
- "X" for indicators signifies it was observed in the case studies; "-" signifies indicators noted in the Delphi only
- *Italicized* indicators are for new indicators that weren't captured in the Delphi

SC1: Policy analytical capacity:

Ability of personnel to acquire, manage, and critique different kinds of information, and process and analyze this information to support policy processes.

#	Factor	Description	Indicators
1	Identification, appraisal, and management of useful information*	Personnel know how to seek it out, appraise its quality, and organize it, including scanning for issues that could benefit from a policy response	- Research training - Systematic approach to understanding the issue - Critical appraisal of information - Identify good sources of information (e.g., people)
2	Analysis and application of information, including evaluation	Making sense of information and using it to inform options for policy responses	- Coherent synthesis of evidence - Multiple options described - Risks identified and mitigation strategies prioritized - Appropriate analytical strategies used (e.g., Impact assessment)

**Note.* Information could be survey or statistical data, monitoring data, program evaluation results, expert opinion, government documents, person experience, interest-group provided information, legal opinions, social media, traditional media (Ramesh, Howlett, and Saguin, 2016).

SC2: Organizational Analytical

Organizational processes for collecting and sharing information for supporting policy analysis, developing plans and other guiding materials, and monitoring progress, as well as organizational support for informed analysis and action.

#	Factor	Description	Indicators
1	Access to information	Data systems and other structures that enable evidence to be collected and used	X Information gathering support (e.g., evidence acquisition services) X Adequate data management system X Facilitated access to sought-after information
2	Guidance tools and documents	Analyses, principles, values, plans, and other concrete products which	X Plan for reaching outcomes and achieving tasks X Consistent direction for policy application,

#	Factor	Description	Indicators
		provide a rationale for actions and activities	**X clarifies roles and responsibilities** X Strategies for implementation or evaluation X Framework/tool used appropriately (e.g., according to stage) - consistent use across stages of work
3	Performance monitoring and feedback mechanisms	Iterative approaches or processes for identifying and addressing emerging issues	- Documentation outlining policy objectives and outcomes (e.g., logic model) X Plan/process for collecting data and acting om it (i.e., feedback loops) X Mandate for monitoring and quality improvement X Adequate data collection systems X revise and update practices as needed
4	Demand for evidence and trust in its value to support decision making	Direction and support for collecting and interpreting information to enhance decisions	- Evidence used to identify goals, challenge assumptions, inform design, and justify actions X Action based on perceived need X Explicit evidence basis for policy action X Ongoing refinement of needs X Openness towards new methods of planning/informing X Multiple forms of evidence consulted (e.g., scientific literature, environmental scan, local data) X Preferred forms of evidence are used X Leadership supports evidence-informed decision making

SC3: Knowledge System

System-level mechanisms for gathering and sharing knowledge, building a shared understanding of the issue, and monitoring and evaluating progress.

#	Factor	Description	Indicators
1	Systems for sharing information	Identification and delivery of useful information between partners, including information sharing principles	X Formal meetings or opportunities for collaboration or learning between organizations, X Mechanisms for sharing best practices or translating knowledge (e.g., positions, roles, or programs) X Shared materials developed X Existing partnership forums X Partnerships with researchers or universities X National networks X Draw on past work of partners
2	Informal networks	Drawing on personal relationships to gather information and inform thinking	X Leverage long-standing personal relationships X Informal discussions (e.g., before or after another meeting)
3	Shared understanding of problem and need for action	Partners have common conceptualization of what needs to be addressed	X Plan for achieving change through policy system X Work is appropriate given its evolutionary stage X Agreement on key policy concepts X Willingness to disrupt *status quo* X Learning on-the-go and revising as needed
4	Monitoring and evaluation	Systems for collecting, analyzing, and responding to data based on shared vision	X Unified data collection across partners X Data collection draws on differences in partners' scopes X Mechanisms for responding to evaluation findings

SC4: Managerial Expertise

Ability of personnel to perform key managerial and administrative functions, as well as any relevant operational responsibilities.

#	Factor	Description	Indicators
1	Capable policy lead/manager	Individual has a vision of change, flexibility of thinking for how to achieve it, champions the work, and has managerial skills (balance urgent with important, manage issues, ability to make decisions).	X Respected and trusted by colleagues X Able to identify how to advance work and execute X Troubleshoot issues and resolve conflicts to keep culture positive and work progressing X Make and stand by decisions X Supports others as appropriate X Successfully advocate for extra support/resources when needed (even under adverse conditions)
2	Relevant operational abilities of personnel	Required technical abilities to accomplish work relative to role (e.g., chair meetings, plan budgets, strategize, manage relationships)	- *Performance review*

SC5: Administrative Resource

Organizational support for policy action, funding and resourcing for policy work, recruitment of qualified personnel, and general workforce support as well as managing change resulting from policy activities.

#	Factor	Description	Indicators
1	Supportive organizational culture	Implicit enablers of staff to do their job; advocate for the support their needs	X Group management processes enhance work X Policy work seen as valuable asset by organization - Dedicated time for policy work - Professional development opportunities for enhancing policy-related abilities

#	Factor	Description	Indicators
2	Financial resources and structures	Means required to pay for policy as well as supporting financial infrastructure to enable change	X Dedicated budget support for work X Payment mechanisms provide incentives for desired behaviours - Budgeting process and regular review
3	Material and infrastructure support	Availability of technology and space required for workforce to succeed	X Technology provided to enable work X Physical workspace is conducive to work X Access to materials needed for work
4	Recruitment	Enablers for bringing on new personnel	X Effective recruitment (e.g., for hard-to-recruit areas) X Retaining plan to prevent “mass exit” X Consistent hiring practices
5	Change management and workforce support	Conditions that enable workforce to adapt to new conditions and succeed and stay in their roles	X Professional development opportunities X Clear job expectations and accountability X Access to supports/internal capacity as needed (e.g., project management, legal) X Identification of resources required to complete tasks for policy action X Build internal supports to support adaptation to policy change X Employee orientation/onboarding embeds vision X Overcome resistance to change X Expectation management X Education and awareness regarding change X Clarity of changes to job expectation for those affected

SC6: Accountability, Responsibility, and Coordination System

System-level accountability of policy activities, consultation and coordination with partners, as well as clear and transparent processes for decision-making and modes of partnership

#	Factor	Description	Indicators
1	Accountability	Clarity for what partners are responsible for, and what will happen if responsibilities are not met	X Scope of responsibilities for partners X Culture of mutual respect and trust X Processes/framework for accountability to policy change X Partners deliver on their respective roles X Partners re-define or evolve in their roles
2	Consultation and coordination with partners	Identifying and working together on issues of shared importance; communicating direction between partners	X Communication and coordination support X Opportunities for interaction between personnel X Common reference materials X Mechanisms for communication at decision making at senior level down to front-line X Opportunities for troubleshooting operational issues X Address problems together X Sufficient opportunities for interaction between personnel X Informing new actors of relevant developments
3	Governance, mandate and approval process	Oversight of shared work, including understanding and respecting different responsibilities, and mechanisms for decision-making and authority	X Documentation of authority, decision-making, X Clear accountability of partners X Clear sequence of approval levels X Non-punitive mechanisms for non-compliance (e.g., coercion/framing, fear of missing out, invitations to participate)

#	Factor	Description	Indicators
4	Shared/co-leadership	Representatives from organizations work closely together to reach agreement over how to coordinate activities and make decisions	X Develop and distribute communications together X Leadership roles understand and champion policy to their respective organizations X Persistence at working together to achieve goals X Balance work on plans and intentions with addressing emergent issues X Work with partners to conduct policy activities X iteratively develop clarity and make changes over time
5	Interoperability	Degree to which partners can easily work together in relevant areas	X compatible information systems X shared philosophical or epistemological positions X degree to which staff understand responsibilities and pressures of other organizations

SC7: Political Acumen

Ability of personnel to understand the needs and positions of different stakeholders, knowledge of the policy process, and seize opportunities to advance policy work.

#	Factor	Description	Indicators
1	Understanding and balancing stakeholder perspectives and needs	Appreciating stakeholders' relationships, readiness, and potential reactions, and incorporating this into analysis and activities	X Appraise and synthesize multiple perspectives X Address concerns/fears X Bring in critics X Inform and engage without breaking confidentiality X Balance minimizing burden with fostering ownership X People skills X Negotiation for moving forward together X Facilitated meetings with stakeholder representatives

#	Factor	Description	Indicators
			X Understanding of needs reflected in work/products X Identify the "right" people and ways to engage
2	Political know-how	Understanding of how to navigate the policy process and how political pressures shape feasibility; frame issues to align with priorities and build legitimacy, support, and buy-in	X Understand political constraints and feasibility X Navigate policy making procedures and structures X Understand and integrate influence of political process X Understand the different steps required for policy success, including assumptions X Give "announceables" to maintain political support X Respond to political pressures X Coherence between policy action and other guiding documents (e.g., mandate letter, legislation) X Messaging targeted to relevant parties X Stakeholder buy-in to policy work
3	Seizing opportunities	Ability to identify and take advantage of "windows of opportunity" to advance policy work	X Align work with other priority issues (policy window) X Leverage opportunities to advance work in ways that would not otherwise be possible

SC8: Organizational Political

Relationships with stakeholders, executive support for policy work, transparency of policy activities and decision making, responding to pressures and integrating feedback, and managing timeframes.

#	Factor	Description	Indicators
1	Legitimacy with stakeholders	Policy response seen as legitimate (i.e., acceptable, authoritative) by relevant stakeholders	X Need spurred by critical event that requires urgent action - *Policy makers seen as responsible for acting*
2	Stakeholder relationships, consultation and engagement	Relevant local actors consulted or engaged as appropriate; attention paid to relationship dynamics and how to balance short-term work with long-term relationship building	X Shared language X Collaboration between policy makers and those implementing 'on the ground' X Affected communities included in discussions and decisions X Manage concerns and (re)build trust and support X Engagement is targeted and deliberate X Shared knowledge of importance of goals X History of working relationships
3	Executive/leadership support	Senior sponsorship of policy action	X Sponsor support is clear, documented, and sincere X Sponsor 'makes things happen' X Sponsor provides clear staff direction X Leadership has vision for policy change
4	Transparency of policy process	Ease of which stakeholders not directly involved in policy making see how decisions were made	- Multiple opportunities for consultation throughout policy action, as appropriate - Non-sensitive aspects or decisions of policy action are accessible to interested parties outside of policy group - Policy is easily accessed by the public

#	Factor	Description	Indicators
5	Feedback incorporation and responsiveness to politics	Gauging stakeholder readiness, integrating stakeholder input and other points based on political environment	- Process outlined for how to best address feedback received for policy development and review - Involvement of others as needed to address contradictory or concerning feedback (e.g., ethical issues raised) - Documentation of how feedback was considered and incorporated as appropriate
6	Timeframe management	Making progress on key issues to move work along and respond to political pressures	X Timeline for action is appropriate given need and work X Time for action appropriate given need and work required X compare anticipated and actual timeframe

SC9: Political Economy

Political will, public and stakeholder support for policy actions, as well as public trust placed in health system, politicization of policy issues, and overall system stability.

#	Factor	Description	Indicators
1	Political Will	Support of central government (e.g., platform commitment)	X Provincial mandate X Mentioned in throne speech X Continued across different governments X Stated as part of election platform X Progress demanded X Government articulates what it wants X Influence of political leaders felts

#	Factor	Description	Indicators
			X Willingness to have difficult conversations with the public
2	Public advocacy/support groups	Activism or public statements from the public related to policy issue (e.g., protests, editorials)	X Agreement on value X Transparent to public X (dis)Trust from groups who have been historically underserviced X Cynicism of government spending (e.g., fat cat jobs) X Appetite/acceptance for funding behind-the-scenes pieces X Change aligns with public expectations or history in policy area X Successful change ambassadors
3	Stakeholder advocacy	Work on behalf of stakeholder groups to influence public perception of issue	X Advocacy for change X Shared vision for change X Trust or legitimacy placed in government/policy organization
4	Pressure or politicization	Influence from central government to respond to policy issue in a particular way or speed	X Blame across partners X Purpose of policy changed in response to external priority
5	Public support/trust	Public faith in policy makers and related policy sub-systems	X Trust or legitimacy placed in policy system actors X Public acceptance of change
6	System (in)stability	Change in the system that influences policy activities	X Departmental reorganization - *Change of government* - *External incident that shifts policy priorities*

SC10: Individual Integrative ("Change Agent")

General individual ability and characteristics to do good work, exercise judgement and balance different priorities and goals, and bring together the three other competency areas in ways that enable work to proceed.

#	Factor	Description	Indicators
1	Policy ability – experience, expertise, and judgement	Past work or training that contributes to capability to perform relevant work; Ways of thinking or acting that enable linking the three technical competency areas (e.g., systems or strategic thinking)	- Understand the issue and decision considerations beyond a superficial level - Experience working on different parts of the policy process - See relevance of related work
2	Personal motivation	Desire to do a good job and improve the *status quo* (e.g., willingness to learn new ways of doing things)*;* Ability to complete challenging work (e.g., persistent, flexible, hard worker, resilient)	- Personal interest in better understanding the issue and decision considerations X Willingness to work hard and do what's needed for success X Personally motivated or bought-in to policy X Questioning of *status quo*
3	Communication and Interpersonal ability	Ability to communicate complex information and trade-offs understandably and usefully; Social awareness for navigating relationships and working with others effectively, including securing buy-in and support	X Support colleagues as appropriate X Build trust among collaborators X Bridge between senior decision makers and front-line staff (i.e., communicate decisions and inform on progress) X Use and build on personal relationships X Resolve issues and keep things positive - effective presentation of evidence to decision makers
4	Leadership	Vision for change and flexibility of thinking; ability to convince and motivate others; identifying and resolving tensions and advancing work	X Questioning the status quo X Long-term vision for big change - Faith of personnel/colleagues

SC11: Organizational Integrative ("Organizational Cohesion")

An organization's desire to effectively and meaningfully address policy problems, build shared understanding, and willingness to change in response to policy activities.

#	Factor	Description	Indicators
1	Turning ideas into results	Recognition of synergistic value of other three areas; organizational desire to make the best decision possible, and exploring what that looks like on a case-by-case basis	- Organizational appreciation for making decisions based on different criteria - Internal mobility of staff
2	Availability of expertise	Human resources available to do required tasks well; Individuals responsible for scoping work and deploying resources have a good understanding of what's required	X Protected time for policy work X Sufficient personnel - *Effective human resource mechanisms for hiring and circulating staff*
3	Internal information sharing and organizational learning	Decisions communicated effectively to those needing to know Internal communications and other processes through which the organization builds a shared understanding of issues and responses.	X Communications plan X Communication prioritized during resource scarcity X Direct communications to grassroot groups X Communicate using preferred methods X Manage expectations of policy change X Personnel delivering policy know about it in advance and understand rationale X opportunities for learning from others, sharing lessons learned X procedures or opportunities for requesting or sharing information X consistent messaging across jurisdictions affected X documentation and archiving standards
4	Willingness of workforce to pursue or adopt change	Understanding, trust, and buy-in from those within the organization affected by new policy	X Low risk of "change fatigue" - *Trust in management* - *Buy-in to vision for change and its need*

SC12: System Integrative ("System Harmony")

Capacity of system to manage relationships with partners in light of shared history and diverging priorities, and achieve a co-operative vision.

#	Factor	Description	Indicators
1	Partnership relations and dynamics	History of partners relationships, including past successes and failures; Respecting and trusting partners' responsibilities	X Trust that information shared between partners will be used appropriately and in everyone's best interest X Actively keeping each other informed X Stability of trusting relationships over time X Desire to be involved in work X power dynamics maneuvered respectfully X Respect others' mandates and jurisdictions
2	Shared vision and buy-in to solution, commitment to advancing work	Partners have common plan for how problem is to be addressed	X Mutual understanding and shared action X Diversity of decision-makers X Willingness to deviate from status quo X Shared training X Shared standard of success

Appendix H – Overlaps in Framework

Observances of overlap:

	1	2	3	4	5	6	7	8	9	Total
1				X	X	X	X			4
2			X		X	X		X	X	5
3		X		X	X	X		X	X	6
4	X		X		X	X	X	X		6
5	X	X	X	X		X	X	X	X	8
6	X	X	X	X	X					5
7	X			X	X					3
8		X	X	X	X					4
9		X	X		X	X				4

Note. This was not a systematic analysis of issues being coded into more than one sub-capacity, merely a documentation of observances during the coding process.

<u>Vertical interaction (within competency types)</u>

Analytical Capacities

- Organizational X System: poor data quality in system influences an org's ability to collect, analyze

Operational Capacities

- Individual X Organizational: Hiring people with the right skills e.g., resilience, enthusiasm (ambassadors); Managers abilities to communicate and support expectations for workforce
- Individual X System: Balance between relationships between organizations and the individual relationships between the people representing them
- Organizational X System: recruitment through partnerships between NSHA, DHW and Dalhousie University (e.g., funding more seats, incentives)

Political Capacities

- None observed

Horizontal interaction (across competency types)

Table H1. Analytical (SC1-3) X Operational (SC4-6) overlaps

		Operational		
		Individual (SC4)	Organizational (SC5)	System (SC6)
Analytical	Individual (SC1)	Doing analysis on how to inform better policy implement	Finding people with the skill set, way of thinking to do new ways of work, analysis; Recognition that research should be used more, but didn't have the staff	Partner autonomy means that you can bring forward the best analysis and they can claim 'things work differently here' e.g., District Health Authorities
	Organizational (SC2)	N/A	Clash between idea of parent-free youth health centres and operational need to integrate families into child and youth treatment; Data to demonstrate value as a way to continue to get funds for a position (e.g., sustainability); Creating data systems, templates as resources to support work; Sharing information internally and keeping other teams informed of activities and findings; Congruency between organizational values and actions (e.g., balance individual freedom to practice and organizational responsibilities); Staff capacity to do research, analysis	Lack of internal communication incurs risk to external relationships (e.g., Doctors Nova Scotia having to figure out DHW's "Byzantine" structure to ensure they're talking to the right people)
	System (SC3)	Building relationships across the system, provinces to share info	Information sharing to support work can make people feel like they're giving up privacy, autonomy (shared calendars for SMHCs); Incongruency between policy directive (NPs not replacing family physicians) and practice (NPs as sole provider in some areas)	Partner relations can be ts of organization are not kept informed and take anger out at partners; Using data to coordinate activities between partners (e.g., deploy SMHCs to areas with need) Role clarity: know and be confident in what you

				have to do, and trust others to do the same; Conflict between agreement on vision but disagreement on action (because of undesirable effects

Table H2. Analytical (SC1-3) X Political (SC 7-9) overlaps

		Political		
		Individual (SC7)	Organizational (SC8)	System (SC9)
Analytical	Individual (SC1)	Understanding community needs in in a way that's verifiable (i.e., legitimizing); determining good option that assuages concerns; integrating impacts with readiness; demonstrating impacts for political support	N/A	N/A
	Organizational (SC2)	N/A	Communication of information to different audiences (e.g., internal (SC2) vs external (SC8)). The purpose of 2 is to inform activities, while SC8 engages e.g., learning about fears of SMHC replacement so they can be addressed; Communicating new goals and monitoring them; Monitoring readiness (SC8) and using it to inform activities (SC2) e.g., PHC clinic proposals	Having numbers on-hand to respond to political pressure
	System (SC3)	N/A	Similar to SC2xSC8, but different audiences: both are concerned with external communication, but SC3 is coordination partners while SC8 is with the public and stakeholders	Engaging the public both informs them of policy and generates information to be analyzed and integrated

Table H3. Operational (SC4-6) X Political (SC7-9) overlaps

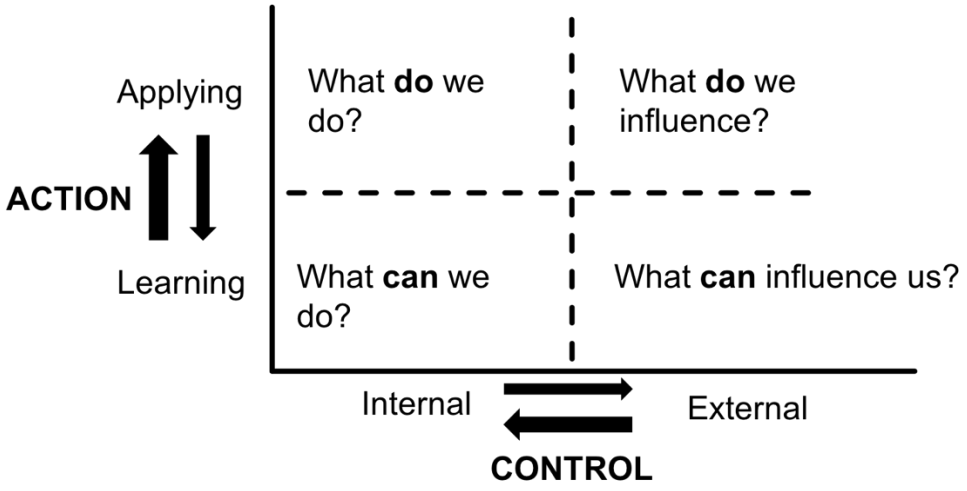
		Political		
		Individual (SC7)	Organizational (SC8)	System (SC9)
Operational	Individual (SC4)	Understand politics and patterns to figure out how to move work forward; deliver announceables to secure support	Change management – what are people doing (e.g., understanding others to inform work); Leadership as individual characteristics and larger effect on how work of organization is perceived	N/A
	Organizational (SC5)	NSHA putting out Expressions of Interest based on assessment of readiness	Resources as a way to manage buy-in e.g., updating family practice equipment because NSHA staff needed better equipment; Raising public awareness for new NP role	Public and political appetite for staff to support CFPTs is low; Maintaining system stability through effective staffing (skill, not just bodies)
	System (SC6)	N/A	N/A	Challenge of operationalizing on political ideas, and the strain a lack of planning has on relationships

Abbreviations: CFPTs: Collaborative Family Practice Teams; DHW: Departments of Health and Wellness; NSHA: Nova Scotia Health Authority; PHC: Primary Health Care; SMHC: School Mental Health Clinician

Appendix I – Postscript

Throughout my graduate training, I've been exposed to many ideas, pondered some, rejected a few, and revisited a couple. The more I puzzled over this idea of policy capacity – the special blend of herbs and spices that make a policy what it is – the more I wondered what it was I was really studying. I used the description of others – that policy capacity was required for policies to be successful – as a crutch, and was prodded in my defense on this account ("give me one solid example where policy capacity led to policy success"). Obviously this is tricky because policy capacity isn't one thing, and policy success even less so. At times my heads spun as I wondered what I had waded into – the audacity of a kinesiology graduate attempting to figure out how we can make better policies.

I thought the addition of integrative capacities was a useful contribution – the notion of tying it all together seemed important in my case studies (and perhaps just goes without saying in political science circles), so I thought it was worth saying. But the more I thought about integrative capacities, the more I wondered if they were really a separate *thing*, or just another shade of something already implicitly reflected in the other three capacity types. This thinking got tangled up with some other thoughts that had been fluttering – the praxis between knowing and doing, the third way between two extremes, decision making – and I thought that the resulting table might be another iteration of the triforce-looking framework I produced. I think of this as a heuristic to represent policy capacity of a decision making unit (DMU), but maybe it's something else entirely.



I was thinking of analytical and operational capacities as two sides of a single dimension representing knowing/learning and doing/applying. Obviously it's not helpful to just do one or the other, so a balance has to be struck. But policy is inherently about action – policy has to be produced, so there is a bias towards applying (indicated by the larger arrow).

Policy making always exists in, and is shaped by, a given context. If analytical and operational capacities were one spectrum, did the political and integrative competencies represent another spectrum we could plot against? To me, political competencies seem to be about the external context: how the policy relates to larger government and stakeholders. In contrast, the integrative capacities seemed to be about pulling things together and recognizing the core abilities that underlie policy activities. I think this axis represents control, with the bias towards the internal state of a DMU, as we can't control external factors.

The intersection between these four capacities can be represented by the questions above. Essentially, they act as a guide for making decisions, with the biases driving the cycle clockwise (always leaning towards what the DMU over what it's being influenced by, and towards what it does instead of what it could do). This action influences the external environment, causing a reaction for the DMU to learn from and incorporate into further action.

To use this framework, one has to consider what is the scope of the DMU to understand the internal/external dynamic. Internal actions at a micro level (e.g., individual, team) are likely having an external impact on their organization. Using the nested resource levels of the original policy capacity framework, internal actions at a meso level (e.g., organization) will influence a different external environment. The framing of the decision is also not reflected in this model, although it could be used to help frame.

I think the cyclical nature of this framework has strategic implications. Perhaps a goal can't be attained within a single round of decisions, but choices can be made that increase either the control, or the ability to act, for the DMU in successive rounds. Perhaps this is better represented as a compass than a graph.

…

This PhD has taught me that decision making is about much more than information, which is where academia as a whole – at least my experience with it – struggles. Policy making is pragmatic because life forces choices under uncertainty. If you're a researcher reading this, I implore you to think outside of your current project or field of study. There is so much else going on that would benefit from your skills and insight.

My friend, a math professor, once decried the recent pressure to make more research applied. He told me the area of math he worked in had produced insights which took 40 years for the relevant application – computers – to emerge. To force a field to focus on today's issues short-changes the future. And yet I can't help but wonder how much research today has an excellent justification for going nowhere – today or tomorrow. I have a bias for thinking there is much more to be gained by trying to connect the dots between different areas, and apply these learnings, than there is in the erudite exercises and mental masturbations our field condones. What questions **do we** prioritize?