Implementation of the Single Site Order in Long-Term Care: What We Can Learn from Using the Consolidated Framework for Implementation Research

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ABSTRACT

Context: To mitigate the risk of spread of COVID-19 in long-term care (LTC), the Public Health Agency of Canada instituted several rapid redesign and resource redeployment practices, including single-site policies.

Objective: This study aims to understand factors that influence implementation of the Single Site Order (SSO).

Methods: Consolidated Framework for Implementation Research (CFIR) guided data collection and analysis. Ten leadership team members and 18 staff were interviewed across 4 LTC homes in British Columbia (BC), Canada. In NVivo 12, a deductive framework analysis was used.

Findings: Seven notable CFIR constructs (intervention source, evidence strength and quality, costs, culture, networks and communication, readiness for implementation, and patient needs and resources) were found to be most influential in the implementation of the SSO. We present these constructs and the factors within.

Limitations: Our study was limited to the BC context. However, we believe that the findings offer useful insights into the complexity of policy implementation in LTC.

Implications: In a system already facing staffing concerns and a highly dependent and increasingly frail resident population, implementation of the SSO further taxed already stretched resources.

CONTEXT

Long-term care (LTC) is the epicenter of COVID-19, accounting for 70% of Canada's COVID-related deaths in the first wave of the pandemic (Canadian Institutes of Health Research, 2021). LTC homes across Canada continue to experience COVID-19 outbreaks since March 1, 2020. Approximately 80,000 LTC residents and staff have been infected, effectively representing 10% of all cases of COVID-19 in Canada (Canadian Institutes of Health Research, 2021). Canada's proportion of COVID-19 deaths in LTC homes during subsequent waves has remained substantially higher than the international average (41%) (Canadian Institutes of Health Research, 2021). Although only a small portion of older adults reside in LTC homes, COVID-19 exposed long-standing, widespread deficiencies, as well as age and gender inequities in the LTC sector (Duan *et al.*, 2020; Estabrooks *et al.*, 2020).

To mitigate the risk of spread in LTC, and to ensure health and safety of staff, residents and their families, the Public Health Agency of Canada (PHAC) instituted several rapid redesign and resource redeployment practices, including strict visitation and single site policies (British Columbia Centre for Disease Control, 2020). LTC workers commonly hold second jobs and double- or triple-duty caregiving roles (Van Houtven, DePasquale and Coe, 2020). In Canada, nearly a quarter of care aides (24.3%) reported working at more than one LTC home, with an average of 16 hours per week working only at LTC homes other than the primary LTC home where they held a regular position (Duan *et al.*, 2020).

The pressures of the pandemic exposed an acute weakness in Canadian healthcare. In Canada, decision making is divided between federal, provincial, and local government. British Columbia's (BC) (provincial) pandemic preparedness plan was adopted in 2012. The BC plan highlighted the importance of municipal (local) governments to work with regional health authorities to manage and create their procedures. The plan required all regional health authorities to create their own Pandemic Influenza Contingency Plan. BC's plan stressed the importance of effectively delegating responsibilities to appropriate actors and collaboration across various sectors (Blouin Genest *et al.*, 2021). According to the *BC Ministry of Health Long-Term Care COVID-19 Response Review* (published in October 2020), there were gaps in infection, prevention, and overall pandemic preparedness within LTC facilities. There were also varying interpretations and implementation of public health orders across facilities within different health regions; the implementation of the Single Site Order (SSO) was no exception.

The SSO is the focus of this study and falls under the Health Care Labour Adjustment Order, which ordered all LTC staff to work only at one single site (Giannasi and Hystad, 2020). There was significant consensus on the potential effectiveness of the SSO and agreement on the decision for the order to be sustained for the remainder of the pandemic because it can be effective in limiting a major contributing factor in the spread of infection in LTC homes (Giannasi and Hystad, 2020; Government of British Columbia, 2020). This order was an effort to reduce the cross-contamination risk through the previously highly transient staff (Government of British Columbia, 2020). The BC Provincial Health Officer issued the mandate of the SSO on March 26, 2020. Independent of implementation efficacy, more than 8,700 multi-site staff were reassigned (removed from working at multi-sites) to single sites by June 18, 2020 (Giannasi and Hystad, 2020).

The provincial government of BC announced that all LTC workers would be compensated equal wages and benefits as those who are in collective agreements with the local Public Health Authority. Full-time employment would be offered to all care providers along with their benefits. The provincial government of BC also announced plans to hire 7,000 additional personal care workers as staffing support for LTC homes (National Institute on Ageing, 2021).

The SSO did not restrict LTC staff from working in the context of other occupational settings, such as home health or acute care sectors. Examples of the non-LTC locations/jobs included home care, hospital/acute care, assisted living/group homes, cleaning services, and grocery shops. This restriction discrepancy in what the SSO encompassed raised concern for staff and operators who were not comfortable with the potential for external infection sources staff would be exposed to if they were to work in multiple occupational settings (Giannasi and Hystad, 2020; Government of British Columbia, 2020). Furthermore, although the policy restricted LTC workers to working at one single LTC home, 15% of care aides continued working in other work settings, which likely contributed to COVID-19 transmission (Duan *et al.*, 2020). It should also be noted that the policy did not apply to all LTC staff. Some worker classifications were included in the SSO (RNs, LPNs, PSWs), but others were excluded (NPs, physicians, pharmacists) (BC General Employee's Union, 2020). That being said, there is a limited amount of information available regarding what happened during the second wave, because the BC Ministry of Health report (Government of British Columbia, 2020) was published earlier in the second wave (October 2020).

In general, there are many barriers to implementation of evidence-informed guidelines in LTC, including time constraints, inadequate staffing, cost, lack of resources, knowledge gaps, and lack of teamwork and organizational support. Facilitators include leadership and champions; well-designed strategies, protocols, and resources; and

adequate services, resources and time (McArthur *et al.,* 2021). Early and rapid implementation of workforce-related policies during a public health crisis, such as the SSO, contributed to BC's efforts to mitigate outbreaks within LTC homes (Office of the Seniors Advocate, 2021). Community serving systems, such as LTC homes, are often poorly equipped to properly adopt new evidence-based interventions/policies during crises' onset and escalation (Eisman *et al.,* 2022). Implementation science, which is often underutilized, bridges the extant gap between research (data driven results) and practice. A better understanding of how policies such as the SSO were rapidly implemented and what factors influenced implementation can provide insight into how to rapidly implement future public health policies designed to protect vulnerable populations.

OBJECTIVE

The primary objective of this study was to understand factors that influenced implementation of the SSO. We were guided by the Consolidated Framework for Implementation Research (CFIR).

The CFIR is a comprehensive, organising taxonomy of operationally defined constructs that may impact the implementation success of complex programs (Damschroder *et al.,* 2015). The CFIR defines five domains (intervention characteristics, outer setting, inner setting, characteristics of individuals, and process), each with constructs and some sub-constructs that can affect implementation success.

In our study, *intervention* refers to the SSO, its core elements, its complexity, and the extent to which it is adopted and adapted to different LTC homes. The *inner setting* refers to the context (e.g., leadership engagement, learning climate, and delivery capacity at each LTC home) in which the policy is implemented (LTC). *Outer setting* refers to the broader economic and socio-political context (e.g., health system structures) that influence implementation. *Individuals* are persons who deliver, oversee, evaluate, and are affected by the policy (administrators, staff, family, residents).

Implementation processes are the change processes (e.g., planning, engaging, executing) associated with the policy implementation (Damschroder *et al.,* 2009).

To date, the CFIR has been applied to a wide variety of quantitative, qualitative, and mixed healthcare related studies pre, post, or during implementation for a variety of purposes (Kirk *et al.,* 2015). We chose the CFIR given its focus on implementation at multiple levels (individual and organisational) across five domains.

METHODS

STUDY DESIGN
This qualitative study utilized a deductive approach informed by CFIR. We chose CFIR because we were particularly interested in the implementation of the SSO, not just its impact. Semi-structured, key informant interviews were used for data collection.

SAMPLING
We engaged four public LTC homes, using convenience sampling, across three municipalities and two health authorities (Health Authority 1 and Health Region 2) in BC, Canada. In total, the four homes serve 781 residents and have 1090 staff (see Table 1). Three out of the four homes are accredited. One of the homes is operated by the local health authority and the other three are independently operated, all are not-for profit and publicly funded.

After receipt of ethics approval from the University of British Columbia, the research team worked with leadership team members in the four partner LTC homes to recruit leadership team members and staff for interviews. Leadership team members circulated an email to their staff that invited them to participate in the study. Staff members then contacted the research team to schedule a date and time for their interview and were sent a consent form to read, sign, scan, and return to the research manager via email at their earliest convenience. Purposive sampling focused on maximizing diversity across classification of job title. Leadership team members had to be English speaking, and staff had to be English/Cantonese speaking.

	ONE-SITE HIGH RISK POLICY			
	HEALTH AUTHORITY 1			HEALTH AUTHORITY 2
	LAKE BAY	ROSEWOOD	THE MANOR	SEASIDE
Funding model	Not-for-profit	Not-for-profit	Not-for-profit	Not-for-profit
Accredited (y/n)	Y	N	Y	Y
# of beds	215	154	250	157
# of Residents	250	130	250	151
# of Staff	400	160	280	250

Table 1 Overview of participating long-term care homes.

DATA COLLECTION

In total, 28 individuals participated in virtual interviews. Interviews took place at a time most convenient for the participant. Only the interviewees, the interviewer, and a note taker were present at the time of the interview. Interviews ranged in length from 45 to 60 minutes. Interview guide questions (see Table 2) were developed with the support of the CFIR guide (https://cfirguide. org/guide/app/#/guide_select). Interviews were audio recorded and transcribed verbatim using the Zoom platform. Field notes were taken during and after the interviews. Member checking was conducted during the interview to ensure accurate representation of participants contributions.

DATA ANALYSIS

Data analysis was guided by the CFIR. Guidance is available on how to use the framework, including definitions of constructs and how to code for them in qualitative data (www.cfirguide.org). We applied the CFIR to our interview data using deductive framework analysis, where data is sifted, charted, and sorted in accordance with key issues and themes using five steps: (1) Familiarize, (2) identify a thematic framework, (3) index, (4) chart, and (5) map and interpret (Ritchie and Spencer, 2002; Srivastava and Thomson, 2009; Gale *et*

al., 2013). The steps are discussed briefly later. Each interview was fully transcribed verbatim. Initially, TF and SS read through all the interview field notes and three transcripts (familiarize). Through team meetings, JSG, TF and SS developed a preliminary thematic framework based on the categories in the CFIR. The thematic framework consisted of the main CFIR categories with underlying themes and sub-themes, based on key issues and commonalities emerging from the field notes and initial reviewed transcripts (identify). Using NVivo 12 software, two team members (TF and SS) coded three interviews based on the thematic framework, with discussion among team members to ensure agreeance on how to code the same content and to discuss as new codes and sub-themes were identified (index). The remainder of transcripts were then coded, and full paragraphs were coded so that contextual meaning was not lost. Data were then summarized by charting illustrative quotes that best exemplified the themes (chart). As part of the interpretive process, a series of team meetings were held to discuss the data for common themes and sub-themes (map and interpret).

We used several strategies to reinforce the rigor of our study. Team members cross-checked full transcripts against original audio files for quality and completeness;

CFIR CONSTRUCT	EVALUATION QUESTIONS
Intervention Characteristics	
Intervention source Evidence strength and quality	• Why was the one high-risk site only policy implemented in your setting?
	• What kind of information or evidence are you aware of that shows whether the policy will work in your setting? • What do your colleagues in other facilities think about the policy? • Are staff on board with the policy?
Inner Setting	
Networks and communication Culture	• Can you describe your working relationships with your colleagues? • To what extent do you get together with colleagues outside of work? • Do you meet (formally or informally) with a team of people? • Can you describe your working relationship with leaders?
	• How do you typically find out about new information, such as new initiatives, accomplishments, issues, new staff, and staff departures? • When you need to get something done or to solve a problem, who are your "go-to" people?
Individual Characteristics	
Knowledge, beliefs about intervention	• How do you feel about one high-risk site policy being used in your setting? • How does it affect you? How does it impact your colleagues? Residents and their families? • Is it effective in your setting? • How confident are you that you will be able to successfully continue to sustain the one high-risk site only policy?
Outer Setting	
Patients' needs and resources	• What challenges has the policy presented? • Have you heard stories about the experiences of staff, residents, and their families with respect to this policy?
Implementation Process	
Planning	• When you received the public health orders restricting workers to one high-risk site only, how did your organization respond?

Table 2 Sample of interview questions.

they also used 'member reflections,' which involve the process of re-iterating interpretations of what was heard during the interview back to participants to avoid misunderstanding. We conducted reflexive memoing throughout data generation and data analysis processes (Smith and McGannon, 2018). We also created an audit trail to record all key procedural and analytical decisions made throughout the study (Cutcliffe and McKenna, 2004; Koch, 2006).

FINDINGS

Leadership team participants (n = 10) ranged in job titles from chief executive officer (CEO) to executive director, nurse manager, care aide manager, director of human resources, and clinical operations supervisor. Out of the 10 leadership team participants, 8 identified as female. Each facility had at least two leadership team members participate in an interview (see Table 3).

Staff (n = 18) ranged in job titles from registered nurses (RNs) to licensed practical nurses (LPNs), care aides, laundry aides, chefs, and housekeepers. Out of the 18 staff, 1 identified as male. Eighty percent were over the age of 40. Length of time working at the facility ranged from 6 months to 37 years. Each facility had at least two staff participate in an interview (see Table 4).

NOTABLE CONSTRUCTS

Based on CFIR, seven notable constructs, reflective of three CFIR domains and the factors within, were identified as influential during implementation of the SSO. We present constructs and factors in Table 5.

INTERVENTION
Construct: Intervention source

Leadership teams felt there was limited external support and communication about the SSO. It was noted that antiquated data collection systems also influenced implementation of the SSO.

Limited external support and communication. Prior to the SSO being mandated to all LTC homes, there was a trickle of information that raised awareness of the possibility of a SSO being issued.

> We started getting some information from the health authority so before the SSO was initiated, the health authority had initiated this group chat. Teleconference to begin for all

LEADERSHIP		
POSITION	**COUNT**	**GENDER**
CEO	2	M = 1/F = 1
Executive director	2	F = 2
Nurse manager	1	F = 1
Care aide manager	1	F = 1
Manager	1	F = 1
Director, human resources	1	M = 1
Director of care	1	F = 1
Clinical operations supervisor	1	F = 1
Total	**10**	

Table 3 Leadership characteristics.

STAFF					
POSITION	**COUNT**	**GENDER**	**AGE (RANGE)**	**ETHNICITY**	**HOW LONG WORKED AT FACILITY (RANGE)**
RN	1	F = 1	45	Romanian	2.5 years
Care aide	7	M = 1 F = 6	50–58	Canadian Chinese = 3 Unknown = 3	6–30 years
LPN	2	F = 2	42–unknown	Filipino = 1 Unknown = 1	10–21 years
Continuing care assistant	1	F = 1	40	Filipino	6 months
Laundry aide	1	F = 1	22	Caucasian	3.5 years
Dietary aide	1	F = 1	38	Asian	16 years, 3 months
Housekeeping	2	F = 2	40–57	Caucasian = 1 Indian = 1	5–10 months
Lead housekeeper	1	F = 1	60	Filipino	19 years
Chef	2	F = 2	50–58	Caucasian = 1 Pacific Islander = 1	9–37 years
Total	**18**				

Table 4 Staff characteristics.

DOMAIN	CONSTRUCT	CFIR DEFINITION	INFLUENCING FACTOR
Intervention	Intervention source	Perception of key stakeholders about whether the intervention is externally or internally developed.	Limited external support/communication
			Antiquated systems for data collection
	Evidence strength and quality	Stakeholders' perceptions of the quality and validity of evidence supporting the belief that the intervention will have desired outcomes.	Lack of quality evidence of its effectiveness (not really a single site)
			Reactive policy decisions
	Costs	Costs of the intervention and costs associated with the implementation of the intervention, included investment, supply, and opportunity costs.	Human resources
			Losing casual pool and overtime
Inner setting	Culture	Norms, values, and basic assumptions of a given organization.	Leadership qualities
			Consistency in care and quality
			Tug-of-war between staff compensation and consistency
	Networks and communication	The nature and quality of webs of social networks and the nature and quality of formal and informal communications within an organization.	Consistent internal, open, communication
	Readiness for implementation	Tangible and immediate indicators of organizational commitment to its decision to implement an intervention	Staffing shortage and loss of volunteer and family hours
			Acquisition and use of PPE and IPAC implementation
			Increase staffing levels
Outer setting	Patient (resident) needs and resources	The extent to which patients are at the center of organizational processes and decisions: patient choices are provided, patient barriers are addressed, transition between program elements is seamless, complexity and costs are minimized, and patients have high satisfaction with service and degree of access and receive feedback	Resident needs and taxing resources

Table 5 CFIR domains, construct definitions and factors within that influences implementation of the single site order.

the administrators on the lower mainland and whomever infection, prevention and control (IPAC) would be interested in information that they were disseminating at that time. And so, we had some inclination that the SSO was going to happen. (Lake Bay)

Once the SSO was mandated, communication remained sparse, and leadership was often left looking for answers. Many staff members felt unable to obtain accurate information about the SSO and recognized that their inquiries regarding the SSO were not fully answered. This was a direct result of lack of clarity among leadership, including when the SSO would be lifted, and how seniority would be impacted by incoming staff.

If you wanted the information, it came at seven o'clock on a Friday night and you [the health authority] want an answer on Monday morning like you know people go home for the day come on. (Seaside)

Antiquated systems for data collection. The way the SSO was managed varied between health authorities. One health authority was responsible for placing staff

in LTC homes, and LTC homes waited to find out where staff were being placed by the health authority. In the other health authority, LTC homes themselves were responsible for calling all staff to determine where they would be working. The process of implementing the SSO created confusion amongst leadership team and staff and was largely due to outdated systems with multiple inconsistencies in collecting data and information about (a) which staff members had multiple jobs and, (b) for those with multiple jobs, at which setting and full-time equivalent those jobs were, which amounted to a lot of additional work for HR. (More on the cost implications later).

There are over 300 staff, and so the process leading up to the SSO was very onerous also because we don't have access to databases in the same way. (The Manor)

It was really, really, really disorganized, really confusing, mostly because I think how we track data demographic data [including place of employment] is not consistent ... There was not a lot of external support. When the Ministry of Health and our health authority requested

this information, and the information that they requested was a very short turnaround time. And that is OK for an organization that is smaller that may have 100 employees. We have 450 plus employees here. We have to navigate through some, you know, antiquated systems to gather the information in which they're looking for. And that does take a few hands and a bit of time to pull together. (Lake Bay)

Construct: Evidence strength and quality

Participants questioned how the SSO could be evaluated for effectiveness of mitigating the risk of spread when the SSO that was implemented was not really limiting staff to one LTC home (but rather one care home) and occurred in conjunction with other pandemic policies. The SSO did not restrict LTC workers from working in the context of other occupational settings, such as home health sectors or acute care. This restriction discrepancy in what the SSO encompassed raised concern for staff and operators who were not comfortable with the potential for external infection sources staff would be exposed to if they were to work in other settings.

Lack of quality evidence/information of its effectiveness (not really a single site). Availability of oversight, management, and support varies depending on LTC facility operation systems. This created confusion at the beginning of COVID-19, in particular in BC in relation to why the SSO was being implemented and how it would be effective.

> When the SSO happened, there was initially, I think, some little bit of confusion, because there was—you can't work at two long-term care facilities, but you can work in acute care and long-term care, so there was a little bit of confusion amongst many, so there was a lot of clarification around that. (Lake Bay)

> The order was misleading in that someone in acute care can actually work in acute and then walk across the street from a COVID-positive unit, can walk across the street and work in my long-term care home. And I just don't think it was well thought out. (Seaside)

In terms of guidance on process of implementation, there was very little provided to LTC facilities. There was speculation on the potential effectiveness of the SSO, yet LTC homes were not provided any feedback or information on how to effectively implement the SSO. This lack of communication led to confusion and a scramble to implement the policy, resulting in participants questioning the overall effectiveness of the SSO.

> The SSO, it came down in March or April of last year, right at the beginning of the pandemic, and there was a lot of change happening. And like policies and ways of practicing and that sort of thing, so it was—it was something that happened not on its own; it was in concert with many other changes. And it happened, I remember, very quickly, and it felt like, you know, we weren't—it didn't feel like we were given a lot of time to respond to it. Which did make the process feel a little bit chaotic. (The Manor)

> No one will ever be able to prove that it was effective or ineffective because you don't know what didn't happen and what could happen. So, did single site still get outbreaks? … My gut is telling me that there probably was some benefit to doing that, but I'm not sure if the pros really outweigh the cons with how much administration it required and whether efforts could have been better spent elsewhere. (Lake Bay)

Reactive policy decisions. Many participants deemed the SSO a reactive policy that excluded key stakeholders' voices from the policy development process and implementation. In particular when staff were placed in homes by health authorities, leaving no input from the homes themselves.

> I think the piece that was frustrating for me is that the people that were making these high-level decisions were not involved in operations of long-term care and so some decisions were made that to this day that have repercussions. (The Manor)

> I think the government took this kind of approach where essentially, they change labour relations policies. An easier approach probably would have been let's put money into these facilities to limit the spread within them. Let's give each of the facilities IPAC personnel. (Lake Bay)

Construct: Costs

The SSO has cost implications for LTC, which include HR costs to implement the order and losing a vast majority of their casual pool, resulting in overtime for staff.

Human resources. The SSO has cost implications for care homes, including HR costs to initiate the order. For example, for one of the homes, the SSO required a lot of work for less than 10% of the workforce (40 out of 450 employees were multisite, and 7 were allocated to a different LTC home). They had to call all staff members and figure out whether they were going to continue to work at their LTC home; this was done by HR and

leadership. The cost (time) to negotiate with individual employees and unions was extensive given the small percentage affected by the SSO.

> Some use, you know, social insurance numbers. Some are using emails, phone numbers, last name, first. So we don't have a standardized approach to collect employment information or personal demographics or stuff like that, so to correlate who works where. It was a nightmare. (Lake Bay)

Losing casual pool and overtime. Two homes lost a lot of casual staff. In LTC, a casual pool refers to staff who do not have guaranteed hours or a permanent position with the health authorities. For example, at one home, the casual pool dropped by 63% (from 24 to 9), so they were working short or overtime and had to prioritize staffing in the specialized neighbourhoods (units with elders, with behavioural issues, etc.), whereas they used to have floats (which not allowed during COVID times).

> When the orders came in, that was in May [2020], on the SSO, and then we had to tell staff that you cannot work in multiple sites. So, where that came to the crunch was that if you're casual, you need those hours; like, all of us, at some point in health care, start as casuals, so you work at multiple sites, because you need to make some money. So, it was like, No, you can't. You have to—you have to actually pick a site. So, the health authority looked at, I'm going to say, four weeks in March, right about now, the health authority looked at where did you spend most of your time, and then they allocated you to the site, so where we felt the impact was we lost some casuals. (Seaside)

INNER SETTING
Construct: Culture

Whereas leadership played a central role in creating a culture of care, the SSO was seen to influence consistency and quality in care provision. The SSO created a tug-of-war between staff compensation and consistency.

Leadership qualities. It was emphasized across interviews that leaders who create and emulate a culture of care influence staff buy-in to policies. Leadership that prioritized staff input and engaged in pre-pandemic planning supported an effective response through investment and buy-in from experienced staff. Strong leaders were able to maintain staff resilience by providing a culture of cross-provider collaboration through continual open communication.

> We all came to work … people like me did not move around the care home, but at least they

know that I came in to work most days. They speak, they see my car in the parking lot, they know exactly where I park, so they know when I'm here, and I know when I'm not here, and I think that makes a difference. (Seaside)

> For me, it's that you are there with each single resident—I'm putting it as my family. There's a really big attachment to the facility, the residents, the families. It's just a natural attachment. That is why I really wanted to work there. And we have excellent [leadership]. I can say that, that [they are] there for everybody … I have so many, so many communications with [them]. (Lake Bay)

Consistency in care and quality. Consistency in care was highlighted as a benefit of implementing the SSO.

> When it first started, is that it was a very, very kind of chaotic, confusing, anxiety-provoking time, and I would say that since then, I'm glad that it's been done, I think it is a good decision. … I think it's highlighted that, and it's good for continuity of care to have a consistent group of staff working at one place. (The Manor)

> Because previously, each floor (all three floors) ran together, so dining and activities always included all floors. So then, that way their [residents'] moods weren't controlled very well. But now, each floor has only their own floor, so it feels like home. They feel this way, and our colleagues feel this way as well. (Rosewood)

Consistency in care was seen as beneficial not only for quality of care but also for management of staff and IPAC. Leadership was keen on the SSO because they thought having consistency of workers increased staff familiarity with work processes and increased organizational commitment and care quality

> As a manager and leadership, I would like to keep this, because the SSO gave us a safety blanket knowing that. They're—all our staff exclusively works for us. This is our tiny bubble. (Seaside)

Tug-of-war between staff compensation and consistency. Though consistency in care is important in relationship building, it is also understandable that the system is not set up to honor staff with the hours to earn a respectable income. Therefore, the tug-a-war between staff compensation and consistency in care will continue if staff are not able to pull together enough hours at one home.

> I do hope that you know as we begin transitioning out of pandemic that we have the ability to have

more regular kind of full-time lines and fewer part-time lines. But I don't think that sites will be able to maintain a single site strictly. I do think we've certainly felt benefits to it, so I think sites will do their best to work within their own systems to have a more consistent staffing group. But one thing we found through this is that a lot of people were working more than full-time hours and working across different health authorities. And obviously we can't guarantee someone more than full-time hours, so if they need more, and they want to work at more than one site in the future, I think there's nothing that would be able to tell them not to. (The Manor)

Construct: Networks and communication

The implementation of the SSO was influenced by consistent internal, open communication. Leadership was considered a central driving force behind internal, open communication.

Consistent internal, open, communication

Although leadership teams struggled with external support/communication about the SSO, they made every best effort to provide staff with constant communication, more so than previously. However, the confusion at the beginning of the SSO was no fault to the leadership team; rather, the information provided by the health authorities was difficult to action. Most staff felt supported by supervisors who were open to feedback regarding, for example, reduction in float staff and changes during the pandemic. This open-door policy from leadership allowed staff to provide their input into the decision-making process. Staff reported appreciation of policy updates and changes being discussed during daily meetings to reinforce the often abrupt and unexpected changes.

I think they just kind of offered up the open dialogue, of a "We understand that this is challenging … If you have any questions or need any extra support, like—please, like, come and talk" … HR and they pretty much said, like, "Our doors are open; ask away. We want to help you make a decision that will best impact you." And also, I guess, I wasn't one of those ones who went and asked those questions, so I don't know how effective that was, but I know that they definitely offered up the consultation for support OK. (Lake Bay)

I think where we are fortunate that we have a communication mechanism, so we push that information quite regularly through the pandemic and provide people with the update. (Rosewood)

Construct: Readiness for implementation

To increase motivation and build capacity within LTC homes, a few leaders anticipated the need to obtain personal protective equipment (PPE) and quickly implement IPAC measures and increase staffing levels. These actions were deemed necessary to enhance readiness for implementation, despite the lack of additional external funding to cover off on these additional costs.

Staffing shortage and loss of volunteer and family hours

Challenges, such as staffing shortages, increased workloads, difficulty, and complexity of tasks were compounded by other policies implemented at the same time, such as increased IPAC procedures, visitation restrictions that resulted in loss of volunteer and family hours. These challenges provided multiple barriers to LTC homes being ready to effectively implement the SSO.

With the loss of volunteers and families, helping with some of our elders will be one hour, sometimes two hours, and so even with three care aides on the floor, it's still really unbearable. Because usually the elders come to us in a very late stage, they're very frail, and [health authority name] is really encouraging families to take the elders and keep them at home, so they're coming to us like palliative care almost. We're just trying our best with SSO and with the provincial health order to screen essential visitors that comes into place. (Seaside)

Acquisition and use of PPE and IPAC implementation were critical to staff feeling safe and comfortable working at a LTC home. Having a dedicated IPAC person in house was seen as critical to implementation of COVID policies, including the SSO.

What we did is the—starting on March, the seventh, we did enhance cleaning. We increased our staffing. We stopped having what we call floats … if you don't know, then you go on conservative side and say, I don't know what this virus looks like. And I can tell you right now, this virus does not seem to know gender, does not seem to know ethnicity. (Seaside)

Increase staffing levels

LTC homes were not provided additional funding to maintain their experienced staff and ensure adequate staffing levels in the context of rising workloads. Reallocating funds to increase staffing levels cost one LTC home C$40,000.00 in the first three months of the pandemic. They felt it was necessary because staff previously would be used across LTC home floors and now were restricted to one floor because of the SSO. Therefore, the LTC home increased their staffing levels at an internal expense to make sure they had enough staff per floor.

That really impacted our ability to staff up, which in my case cost us ... It was $40,000 in those first 90 days. (Seaside)

OUTER SETTING
Construct: Patient (resident) needs and resources
Resident needs (which include resident health status and level of dependency) and HR issues (which include staff shortages and loss of volunteer and family hours) were found to influence implementation of the SSO.

Resident needs and taxing resources. During the pandemic, residents were in need of more intensive care compared to before. The length of stay, previously 3–5 years, reduced to 12–18 months, and many incoming older adults came in with a palliative designation. Many incoming residents came from the hospital, where the ratio of nursing staff to resident vastly differs compared to that of LTC (1 to 4 versus 1 to 22, respectively) (MacPhee *et al.*, 2014). The health status of incoming residents presented a cascade of challenges to staff who were already working at a reduced capacity (see inner setting for human resource challenges).

I remember, we used to work in fourth floor, and our dining room ... is located at first floor. Most of our elders usually come down on their own, or either walk, you know, use the elevator, and walk to the dining hall. Right now, most of them must be portered from their room to the dining hall. They cannot self-propel. (Seaside)

DISCUSSION

The CFIR can be used to conduct a post-implementation evaluation to identify factors, both barriers and facilitators, that influenced implementation. Furthermore, the CFIR can provide a template to organize research data, synthesize findings, and promote knowledge-building for implementation of future policies. By identifying notable constructs and the factors within, we can determine for future public health emergency policies and strategies that need to be in place to facilitate effective implementation in a timely manner.

INTERVENTION SOURCE
Implementation of the SSO was a challenge for all facilities in our study. A central challenge to implementation of the SSO stemmed from limited external communication and support (tangible and financial). Providers often received notices and information at the same time as the public, which left little to no time to prepare adequately for inquiries (Giannasi and Hystad, 2020). This led to confusion and inconsistent staff and provider practices. The SSO directive came with little guidance on how to best implement the policy. Facilities had to scramble to quickly

organize and implement the SSO. Conflicting guidance regarding the SSO and other pandemic preventative measures such as handwashing versus mask-wearing (Nagler *et al.*, 2020) also contributed to the challenge. Strong internal communication mechanisms facilitated planning and implementation of the SSO. Further research can determine whether specific communication strategies can lead to behavioral changes and effective implementation.

In order to implement the SSO, it came at a financial cost to facilities. This came at a time when facilities were faced with many unprecedented costs related to infection control and acquisition of PPE. Extra human resource costs and staff costs made implementation of the SSO difficult.

Further, data systems regarding inventory and contact details of LTC workers should be easily accessible, yet they are scant and hard to access. Lack of standardization of data compounded with little cross-sector cooperation on how to gather, share, and make use of the limited data proved challenging. Basic information relevant to the SSO, such as the number of facilities a worker works at, is not readily available.

INNER SETTING
Staffing levels pre-pandemic did not adequately meet care needs of residents; the acuity and dependency of residents has changed dramatically over the past few decades but has not been reflected in staffing levels paid for by government. Consistent with a recent study (Havaei *et al.*, 2022), providers in our study stressed how the SSO placed added pressures on an already worn system, specifically regarding staffing. Challenges that LTC homes faced included loss of casual staff, regular shift coverage, and provision of vacation and sick time coverage (Giannasi and Hystad, 2020). Two years into the pandemic, staff were exhausted and burnt out, and leadership were concerned about the need to turn to agency staff to maintain the SSO.

HR limitations are a central reason for implementation failure (Eisman *et al.*, 2022). Even before the pandemic, with 3.5 workers per 100 older adults, Canada exhibits one of the lowest LTC worker to older adult ratios in the OECD (Drummond *et al.*, 2020). In the LTC sector, these human resource limitations are further complicated by a dyad of narrowly sufficient full-time workers and a primarily part-time staff workforce. This is the opposite of what was suggested in 2007 by the Registered Nurses Association of Ontario for best practices, which recommended a full-time/part-time ratio of 70% to 30% to enable continuity of care and to ensure patient and client safety, a quality work environment, and stability in the workforce (Registered Nurses Association of Ontario, 2017).

Limiting staff from working in multiple LTC homes may be helpful to prevent the spread of the virus among care settings, but this policy was not enacted alone. LTC

homes enacted multiple policies at the same time and with limited additional external funding or resources. For example, In July 2013, BC had PPE inventory valued at $5.7 million; however, by January 2020, the inventory value was halved to $2 million (Lai *et al.*, 2020; National Institute on Ageing, 2021). Although many PPE were donated to the reserve by health authorities in 2014 in light of the Ebola outbreak, PPE expired and were not replaced. Other health jurisdictions either dipped into the PPE reserve stockpile ahead of the pandemic or donated any extra supply, leaving facilities unprepared when the COVID-19 pandemic began (Woodward, 2020).

OUTER SETTING

According to data from the Job Vacancy and Wage Survey, most of the increase in the total number of vacancies in Canada in the fourth quarter of 2020 was in health care and social assistance. The number of vacancies in this sector reached an all-time high of 100,300 positions at the end of 2020 (Cornelissen, 2021). Although it has been frequently perceived that employers exploit casual staffing as a strategy for financial savings, staff may choose to work for multiple employers for various reasons including variety and flexibility in scheduling (Giannasi and Hystad, 2020). The SSO created a challenge for some staff who relied on multiple jobs for flexibility and/or increased wages. For others, it offered a more stable schedule with financial gain. In this way, it is difficult to determine whether or not this affected implementation of the SSO.

LIMITATIONS

Although our study used a theory-informed approach (CFIR) in study planning, data collection, and analysis, not all domains within the CFIR appeared to notably influence implementation of the SSO. In particular, the individual domain (individual characteristics, beliefs, etc.) was not represented in our findings. This may be due to the limited number of questions we asked about individual characteristics. Future studies on public health crisis and rapid implementation should include more questions targeted at the individual level. Our findings are also limited in their potential transferability. Our study was limited to the BC context and to those LTC homes that volunteered to participate. However, we believe that the findings offer useful insights into the complexity of rapid policy implementation during a public health crisis in LTC.

Rapid implementation of policies made it difficult to research the exact process of implementation, and we relied upon retrospective perspectives to understand the beginning stages of implementation. There are many difficulties associated with designing, implementing, and disseminating RAPID studies during a public health crisis. These challenges include time pressures, limited resources, and the ability for decision-makers on the ground to receive and digest the research findings. As the pandemic went on, new variants of the SARS CoV2 virus emerged, causing decision-makers to change their approaches to mitigation and responses to governmental directives. The COVID-19 pandemic has underscored the urgency of advancing implementation science to guide effective, rigorous, and efficient rapid implementation of policies (Eisman *et al.*, 2022).

IMPLICATIONS

Implementation of the SSO proved to be a challenge for all facilities in our study. In a system already facing staffing concerns and a highly dependent and increasingly frail resident population, implementation of the SSO further taxed already stretched resources. While the facilities in our study found "a way" to implement the SSO, there are concerns as to the sustainability of such a policy. Sustained implementation will require a comprehensive overhaul of staffing and resource challenges. Although government investments have already supported financial resources, additional financial support is needed to sustain the order (Giannasi and Hystad, 2020).

As the COVID-19 pandemic and other public health emergencies have demonstrated, vulnerable populations often suffer the negative consequences disproportionately (Laajaj *et al.*, 2022). Our findings underscore that policy development needs to be conducted—prior to implementation—in collaboration with those who will be most significantly influenced by the policy (residents, LTC staff) and those who will oversee policy implementation (e.g., leadership).

It also evident that the challenges faced in implementation of the SSO was compounded by all the other policies being implemented at the same time. For example, changes to visitation policies, dining policies, and infection control policies all demanded extra resources and staff time. As we move forward and learn from the pandemic response, we must consider how to build capacity to implement policies to respond to unforeseen challenges in LTC, like another pandemic or natural disaster.

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COMPETING INTERESTS

The authors have no competing interests to declare.

AUTHOR CONTRIBUTIONS

Joanie Sims Gould: study concept and design, data collection oversight, data analysis, manuscript writing. Thea Franke: data collection, data analysis and interpretation, manuscript writing. Sabina Staempfli and Lillian Hung: data collection, analysis, manuscript writing. Farinaz Havaei: study concept and design, data collection oversight, data analysis, manuscript writing. All authors have read and approved the final manuscript. Joanie Sims Gould: had full access to all of the data in this study and takes complete responsibility for the integrity of the data and the accuracy of the data analysis.

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REFERENCES

BC General Employee's Union. 2020. Single site order for long term care, assisted living, and provincial mental health facilities. Burnaby.

Blouin Genest, G, *et al.* 2021. Translating COVID-19 emergency plans into policy: A comparative analysis of three Canadian provinces. *Policy Design and Practice*, 4(1): 115–132. DOI: https://doi.org/10.1080/25741292.2020.1868123

British Columbia Centre for Disease Control. 2020. *Infection prevention and control requirements for COVID-19 in long term care and seniors' assisted living.* British Columbia.

Canadian Institutes of Health Research. 2021. *The impact of COVID-19 on long-term care in Canada: Focus on the first 6 months.* Ottawa, ON. Available at: https://www.cihi.ca/sites/default/files/document/impact-covid-19-long-term-care-canada-first-6-months-report-en.pdf.

Cornelissen, L. 2021. *Profile of immigrants in nursing and health care support occupations.* Ottawa, ON.

Cutcliffe, JR and **McKenna, HP.** 2004. Expert qualitative researchers and the use of audit trails. *J Adv Nurs*, 45: 126–133. DOI: https://doi.org/10.1046/j.1365-2648.2003.02874.x

Damschroder, L, *et al.* 2015. The Consolidated Framework for Implementation Research (CFIR): Progress to date, tools and resources, and plans for the future. *Implementation Science*, 10(S1): A12. DOI: https://doi.org/10.1186/1748-5908-10-S1-A12

Damschroder, LJ, *et al.* 2009. Fostering implementation of health services research findings into practice: A consolidated framework for advancing implementation science. *Implementation Science*, 4(1): 50. DOI: https://doi.org/10.1186/1748-5908-4-50

Drummond, D, Sinclair, D, Bergen, R and **COVID-19 Health Policy Working Group.** 2020. *Ageing Well.* https://www.queensu.ca/sps/sites/spswww/files/uploaded_files/publications/1%20Ageing%20Well%20Report%20-%20November%202020.pdf

Duan, Y, *et al.* 2020. Care aides working multiple jobs: Considerations for staffing policies in long-term care homes during and after the COVID-19 pandemic. *Journal of the American Medical Directors Association*, 21(10): 1390–1391. DOI: https://doi.org/10.1016/j.jamda.2020.07.036

Eisman, AB, *et al.* 2022. Advancing rapid adaptation for urgent public health crises: Using implementation science to facilitate effective and efficient responses. *Frontiers in Public Health*, 10. DOI: https://doi.org/10.3389/fpubh.2022.959567

Estabrooks, CA, *et al.* 2020. Restoring trust: COVID-19 and the future of long-term care. *FACETS*, 5(1): 651–691. DOI: https://doi.org/10.1139/facets-2020-0056

Gale, NK, *et al.* 2013. Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC Medical Research Methodology*, 13(1): 117. DOI: https://doi.org/10.1186/1471-2288-13-117

Giannasi, W and **Hystad, J.** 2020. *BC Care Providers Association Review of the response to COVID-19 in seniors care and living.* British Columbia.

Government of British Columbia. 2020. *BC Ministry of Health long-term care COVID-19 response review.* British Columbia.

Havaei, F, *et al.* 2022. The impact of pandemic management strategies on staff mental health, work behaviours, and resident care in one long-term care facility in British

Columbia: A mixed method study. *Journal of Long Term Care*, 71–87. DOI: https://doi.org/10.31389/jltc.100

Kirk, MA, *et al.* 2015. A systematic review of the use of the Consolidated Framework for Implementation Research. *Implementation Science*, 11(1): 72. DOI: https://doi.org/10.1186/s13012-016-0437-z

Koch, T. 2006. Establishing rigour in qualitative research: The decision trail. *J Adv Nurs*, 53: 91–100. DOI: https://doi.org/10.1111/j.1365-2648.2006.03681.x

Laajaj, R, *et al.* 2022. Understanding how socioeconomic inequalities drive inequalities in COVID-19 infections. *Scientific Reports*, 12(1): 8269. DOI: https://doi.org/10.1038/s41598-022-11706-7

Lai, C-C, *et al.* 2020. COVID-19 in long-term care facilities: An upcoming threat that cannot be ignored. *Journal of Microbiology, Immunology and Infection*, 53(3): 444–446. DOI: https://doi.org/10.1016/j.jmii.2020.04.008

MacPhee, M, *et al.* 2014. *BC Nurses' Workload Impact Study Report*. DOI: https://doi.org/10.14288/1.0389883

McArthur, C, *et al.* 2021. Barriers and facilitators to implementing evidence-based guidelines in long-term care: A qualitative evidence synthesis. *Implementation Science*, 16(1), p. 70. DOI: https://doi.org/10.1186/s13012-021-01140-0

Nagler, RH, *et al.* 2020. Public perceptions of conflicting information surrounding COVID-19: Results from a nationally representative survey of U.S. adults. *PLOS ONE*, 15(10): e0240776. DOI: https://doi.org/10.1371/journal.pone.0240776

National Institute on Ageing. 2021. *The NIA's recommended 'titanium ring' for protecting older Canadians in long-term care and congregate living settings*. Toronto, ON.

Office of the Seniors Advocate. 2021. *Review of COVID-19 outbreaks in care homes in British Columbia*.

Registered Nurses Association of Ontario. 2017. *Healthy work environments best practice guidelines: Developing and sustaining effective staffing and workload practices*. Toronto, ON. Available at: https://rnao.ca/sites/rnao-ca/files/Developing_and_Sustaining_Effective_Staffing_and_Workload_Practices.pdf.

Ritchie, J and **Spencer, L.** 2002. Qualitative data analysis for applied policy research. In: Huberman, AM and Miles, MB (eds.), *The Qualitative Researcher's Companion*. SAGE Publications, Inc. pp. 305–329 DOI: https://doi.org/10.4135/9781412986274.n12

Smith, B and **McGannon, KR.** 2018. Developing rigor in qualitative research: Problems and opportunities within sport and exercise psychology. *International Review of Sport and Exercise Psychology*, 11(1): 101–121. DOI: https://doi.org/10.1080/1750984X.2017.1317357

Srivastava, A and **Thomson, SB.** 2009. Framework analysis: A qualitative methodology for applied policy research. *JOAAG*, 4(2): 72–79. Available at: http://www.joaag.com/uploads/06_Research_Note_Srivastava_and_Thomson_4_2_.pdf.

Van Houtven, CH, DePasquale, N and **Coe, NB.** 2020. Essential long-term care workers commonly hold second jobs and double- or triple-duty caregiving roles. *Journal of the American Geriatrics Society*, 68(8): 1657–1660. DOI: https://doi.org/10.1111/jgs.16509

Woodward, J. 2020. No Depleted PPE supplies put B.C.'s readiness for pandemic in jeopardy. *CTV News*. Available at: https://bc.ctvnews.ca/depleted-ppe-supplies-put-b-c-s-readiness-for-pandemic-in-jeopardy-memo-1.5028955.