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Attaching Patients In Primary Care Through Centralized Waiting Lists: Seven Canadian Provinces Compared

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A Comparative Health Reform Analysis

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Abstract

Canada has the lowest rate of attachment to primary care providers among OECD countries, which makes access and continuity of care problematic. To address this important issue, seven Canadian provinces have implemented centralized waiting lists (CWLs) for unattached patients in primary care. Introduced at different times, no two provinces' CWLs are exactly alike. The main goal of these CWLs is to reduce the number of unattached patients. In some provinces, CWLs also serve to monitor primary care activity or prioritize vulnerable patients. Societal pressure and broader primary care reform influenced the implementation of the CWLs in each province. Monitoring, in terms of data collected and purpose, differs between provinces. The interprovincial comparison enables identification of strengths, weaknesses, opportunities and threats during implementation and at each step of the CWLs: registration, patient assessment and attachment. Common issues with CWLs across provinces include the importance of monitoring to facilitate implementation, the need for specific measures to ensure access for vulnerable and complex patients, and the shortage of primary care providers.

Le taux d'inscription à un professionnel de la santé en première ligne au Canada est le plus bas parmi les pays de l'OCDE, ce qui soulève un important problème d'accessibilité et de continuité aux soins de première ligne. Pour répondre à cette préoccupation, sept provinces canadiennes ont mis en place des listes d'attente centralisées (LAC) pour les patients non-affiliés à un professionnel de la santé en première ligne. Les LAC ont été implantées à différents moments, et diffèrent beaucoup d'une province à l'autre. Le principal objectif des LAC est de diminuer le nombre de patients non-affiliés, mais dans certaines provinces elles peuvent également servir à surveiller les activités de la première ligne ou à prioriser les patients vulnérables. La pression sociale et d'importantes réformes des soins de première ligne ont influencé l'implantation des LAC. Le monitoring, en termes de données collectées et d'utilisation, diffère d'une province à l'autre. La comparaison interprovinciale permet l'identification des forces, faiblesses, opportunités et menaces à l'implantation et à chaque étape de la LAC : l'enregistrement, l'évaluation du patient et l'affiliation. L'importance de la surveillance afin de faciliter l'implantation, le besoin d'interventions spécifiques pour garantir l'accès pour les patients vulnérables et complexes et le manque de prestataire de soins de première ligne sont quelques exemples des problématiques des LAC communes à toutes les provinces.

Key Messages

- CWLs have been implemented in seven Canadian provinces to attach patients to a primary care provider, with large variations between provinces in the design and management of CWLs.
- Each CWL has strengths and weaknesses and presents opportunities and threats that need to be considered when implementing CWLs and within the CWL steps of registration, assessment and attachment

Messages-clés

- *Des LAC ont été implantées dans sept provinces canadiennes afin d'affilier les patients à des professionnels de la santé en première ligne, avec de grandes variations au niveau de leur conception et de leur gestion.*
- *Chaque LAC possède des forces et faiblesses et présente des opportunités et menaces qui doivent être prises en considération pendant l'implantation des LAC ainsi qu'à chaque étape d'une LAC, soit l'enregistrement, l'évaluation du patient et l'affiliation.*

1 DESCRIPTION OF THE HEALTH POLICY REFORM

In this analysis, we compare centralized waiting lists (CWLs) for unattached patients in primary care implemented in seven Canadian provinces: Québec (QC), Ontario (ON), Manitoba (MB), New Brunswick (NB), British Columbia (BC), Prince Edward Island (PEI) and Nova Scotia (NS). CWLs are interventions where patients are registered onto a single queue through a central intake point, to be assigned to the next available service from a pool of participating providers. Commonly used as a wait time management strategy by airlines and banking call centres, CWLs, in the context of health care, are complicated by the fact that patients' health needs vary and may change while they are waiting for the service. In seven Canadian provinces, CWLs have been implemented to match unattached patients—who do not have a regular primary care provider (i.e., family physician or nurse practitioner)—to available primary care providers and thereby improve access to primary care.

These seven provinces faced similar challenges in implementing their CWLs, however, there were significant differences in terms of the resources (i.e., symbolic, technological, informational, financial, organizational, and human) they have invested in their CWLs (Breton *et al.* 2018). CWLs involve three major steps: 1) registration, 2) assessment of the patient and 3) attachment. Provinces have adopted different strategies to undertake each of these steps. For example, provinces may enable patients to register by telephone or online. Providers' participation in attaching patients from the CWL was on a voluntary-basis in some provinces, while in other provinces it was mandatory for certain providers. The criteria used to assess and rank patients on the CWL differed between provinces: some ranked patients chronologically by registration date, while others prioritized patients according to the level and/or urgency of their health care needs. In certain provinces, attachment was formal (i.e., patients are officially registered to providers' patient panels) while in others it remained informal.

The aim of this paper is to compare the CWLs for unattached patients across Canada and highlight what we can learn from the differences in their implementation with regards to each of these three steps: registration, patient assessment and attachment.

2 HISTORY AND CONTEXT: UNATTACHED PATIENTS ACROSS CANADA

In the early 2000s, several commissions stressed the need to reinforce primary care by ensuring all patients have a regular primary care provider (Standing Committee on Social Affairs, Science and Technology 2002; Clair 2001; Fyke 2001; Kirby 2002; Mazankowski 2001; Romanow 2002; Sinclair 2000). Canada has one of the lowest attachment rates among Organisation for Economic Co-operation and Development (OECD) countries (Commissaire à la santé et au bien-être 2014; Schoen *et al.* 2007). Calls for improvement have led a number

of Canadian provinces to develop strategies to reinforce primary care. CWLs are seen as an integral part of these efforts and, over the past two decades, they have been implemented in the seven provinces included in this study (see Figure 1).

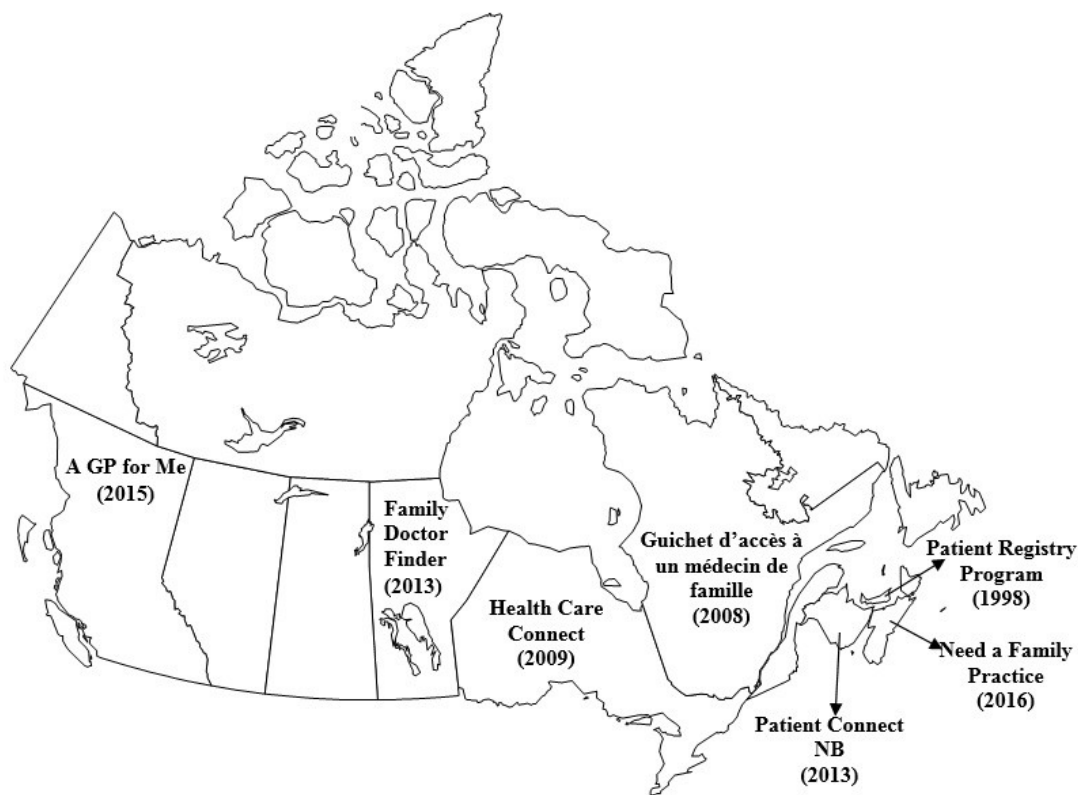


Figure 1: Centralized waiting lists for unattached patients implemented across Canada

The earliest CWL for unattached patients, the *Patient Registry Program* implemented in Prince Edward Island in 1998, was originally intended to help newcomers to the province connect with a primary care provider. The program was reformed in 2012 to meet the needs of unattached patients more generally. Québec and Ontario implemented their CWLs in 2008 and 2009, respectively. In Québec, high rates of emergency department visits for conditions that could have been treated in a primary care setting led to a political commitment to put in place a CWL, the *Guichet d'accès à un médecin de famille* (previously the *Guichets d'accès pour la clientèle orpheline*), to increase attachment to primary care providers. Ontario implemented its CWL (*Health Care Connect*) as a broad provincial strategy to respond to public pressure to increase access to primary care providers for the reported one million unattached patients in the province. New Brunswick and Manitoba

implemented their CWLs in 2013, in quite different contexts. Manitoba’s CWL, *Family Doctor Finder*, was implemented to help patients find a regular primary care provider. The government had committed to attach every Manitoban to a primary care provider by 2015, and the CWL was a way to measure progress toward this target. New Brunswick’s CWL was implemented at the provincial level to replace multiple practice-level waiting lists with a centralized list, and align waiting-list management policies province-wide. At the time the CWL was implemented, a large number of patients with “significant risk factors” were reported to have difficulty accessing a provider in the province.

Several CWLs were implemented in British Columbia in 2015 as part of a provincial program of local targeted interventions (*A GP for Me*) with multiple objectives (reaching frail populations, improving the relationship between patients and doctors, and strengthening the primary care system). Each Division of Family Practice (i.e., community-based groups of FPs in the same geographic area) developed initiatives according to local needs—several divisions chose to implement a CWL to help connect unattached patients to a primary care provider. The information presented in this article relates to two Divisions of Family Practice identified by provincial-level stakeholders of the *A GP for Me* program as having implemented a CWL for unattached patients. The most recent CWL implemented in Canada is the *Need a Family Practice* program in Nova Scotia. This CWL was implemented at provincial level in November 2016 as a way to “have everyone in the province [...] matched with a primary care provider” and was part of system-wide centralization effort (see section 4.1).

3 GOALS OF THE REFORMS

CWLs have been implemented to meet a number of objectives. The first was to reduce the number of unattached patients by helping patients connect with primary care providers through a standardized process within a reasonable time (BC, MB, NB, ON, PEI, QC). Nova Scotia differs in this regard, referring to its CWL as a “registry” as opposed to a waiting list: the objective was to provide a centralized way for patients to indicate they are looking for a primary care provider and measure demand, without any guarantee of attachment to a provider. An intermediate goal in all provinces was to improve accessibility, continuity and comprehensiveness of primary health care in order to improve patient health, improve equity and lead to better use of the health care system. Some subtle differences were evident in the objectives of the provinces. In Prince Edward Island and Québec, one objective of the CWL was to monitor the number of unattached patients. New Brunswick and Prince Edward Island described a goal of centralizing both patient requests and providers’ availability through the CWL, and keeping an inventory of unattached patients. Manitoba aimed to not only increase patient attachment, but also to offer the best possible match between patients and providers. Another important objective of CWLs in four provinces (BC, MB, ON, QC) was to prioritize patients with greater or more urgent medical needs. The three

other provinces (NB, NS and PEI) operated mostly on a first-registered, first-attached basis with exceptions made for special cases.

4 FACTORS THAT INFLUENCE HOW AND WHY CWLS ARE IMPLEMENTED

4.1 Primary care reform

In the seven cases we explored, primary care reforms played a central role in the design and the implementation of CWLs. The CWLs in Manitoba and Nova Scotia were implemented in the context of important provincial primary care reforms. In both provinces (MB and NS), decision-makers responsible for managing CWLs were also involved in implementing new models of primary care, in an effort to align measures to improve access to primary care. In Nova Scotia, the reform included the implementation of *Collaborative Practice Teams*—team-based practices with family physicians, nurse practitioners, and other allied health professionals (Breton *et al.* 2018). The government’s investment in these models was conditional on reaching a team roster of 14,000 patients, including patients from the CWL. Moreover, the CWL was perceived as a component of a centralization policy that merged nine autonomous health authorities into one central health authority. Part of the centralization involved merging existing waiting lists managed by the regional health authorities to form a single provincial CWL. In Manitoba, the reform introduced *My Health Teams*—care networks in which clinics and regional authorities jointly plan and deliver care to a population. Family physicians joining such networks had an informal agreement to attach patients from the CWL in Manitoba.

In Québec and Ontario, CWLs were implemented some years after the push for team-based practices, but were seen as complementary as many of these newer primary care models were based on formal attachment of patients. In British Columbia, the program leading to the implementation of CWLs in some Divisions of Family Practice, *A GP for Me*, also included encouragement of team-based practices.

Primary care reforms have also influenced the management of existing CWLs. Québec’s CWL was redesigned in 2016 following a major system restructuring. CWL registration was centralized and linked to the provincial health insurance system (*Régie de l’Assurance Maladie du Québec*) to provide baseline information, and new general guidelines were introduced for the management of the CWL. The reform in Québec also imposed a global target for family physicians to attach 85% of the population or to empty the CWL (i.e., attach all 400,000 patients actively seeking attachment who had registered on the CWL). In Ontario, the 2016 reforms transferred management of the CWL to regional authorities (i.e., from Community Care Access Centres to Local Health Integration Networks).

4.2 Societal pressure

Societal pressure played an important role in prompting implementation of CWLs, and influenced the way they were managed, most notably in Québec and Ontario. Before Québec implemented its CWL in 2008, media reports of long wait times for elective surgeries had increased public concerns about access to care, which led elected officials to seek ways to better document the extent of unmet demand for access to services, including attachment to a primary care provider. Pressure to improve the attachment process had also been strong in Québec since the CWL's implementation, as emphasized in a report from the Auditor General that recommended the creation of a more standardized and equitable prioritization process (Vérificateur général du Québec 2015). In Ontario, the symbolic number of one million unattached patients spurred the provincial medical association to undertake a public relations campaign asking the government to take action and develop strategies to increase attachment. This campaign, combined with the constant pressure from patients who did not know how to find a provider, prompted the implementation of the CWL in Ontario.

Prince Edward Island's original CWL was revised in 2012 under pressure from public complaints and negative press. Without formal guidelines to assign patients to a provider, the CWL was considered unfair and lacking in transparency. More importantly, the high numbers of patients using walk-in clinics and emergency rooms illustrated the need to support patient attachment to a regular provider. In 2012, the CWL was opened to all residents of Prince Edward Island (not just newcomers to the province); guidelines were implemented, and a dedicated clerk was hired to manage the process. The implementation of the CWL in Nova Scotia also responded to pressure on politicians and policymakers to facilitate the attachment of patients, leading to implementation of formal monitoring and, ultimately, the CWL.

4.3 Sustainability

Whether the CWL was implemented as a temporary or a permanent measure influenced the design and management of CWLs. For example, Ontario originally implemented a CWL as a temporary measure: the aim was to attach every citizen in the province to a provider, then close the CWL. Early in implementation, in both Manitoba and Ontario, the single eligibility criterion of being unattached was broadened, as the challenge of attachment appeared more complex than simply identifying patients without a provider at a single point in time. The CWL became a permanent structure.

In New Brunswick and British Columbia, the CWLs were implemented on a temporary basis. CWLs in British Columbia were part of a temporarily funded provincial program (*A GP for Me*) aimed at developing initiatives to improve primary care delivery. Funding for the initiatives was scheduled to end on a specific date, whether or not they had achieved their objectives. In British Columbia, the Divisions of Family Practice included in our

study were planning to develop strategies for the sustainability of the CWLs, given their success. In New Brunswick, the CWL was implemented as a temporary measure, with plans to replace it by 2020 with other programs including team-based practices, public-private organizations, and a program to manage patients with greater needs. In this context, CWL processes were oriented towards transition to future programs.

5 HOW CWLS WERE IMPLEMENTED

5.1 Policy instruments

With the exception of British Columbia, all CWLs were implemented province-wide.

5.2 Implementation plans

5.2.1 Practical evidence base

CWLs were sometimes based on practical evidence from other jurisdictions. Manitoba consulted with Ontario and New Brunswick. In New Brunswick, the design was based on the CWL implemented in Ontario five years earlier. Nova Scotia extensively looked at what had already been implemented in some of its regional health authorities, as well as in other provinces (namely, based on the results of the present study) to design their CWL. British Columbia conducted community consultations at the local level to identify the need for a central intake system: many participants recommended a telephone registration line, and this was selected as the system to put in place in certain regions. The CWL implemented in Manitoba aimed to improve upon an earlier initiative called the *Family Doctor Connection Program* that was considered to be suboptimal.

5.2.2 Financial resources

CWLs were funded by the Ministry of Health in most provinces (MB, NB, ON, PEI and QC). In British Columbia, at the beginning of the *A GP for Me* program, funds were transferred to the local level responsible for implementing mechanisms to promote attachment to a primary care provider, but no ongoing funding was supporting the CWLs. In Nova Scotia, there were no dedicated funds allocated to the CWL at the time of data collection for this study.

Measures had been implemented to encourage providers to attach patients from the CWLs in several provinces (QC, NB, ON and PEI). In New Brunswick, newly practising family physicians were obligated to attach 600 new patients from the CWL within their first year of practice, upon which they received a financial bonus. Above this initial target panel size, family physicians in New Brunswick received a financial incentive for each new patient attached (three instalments of \$50). In Québec, family physicians received a one-time financial incentive for attaching new patients. Incentives were larger if patients were attached

through the CWL, and were modulated according to patients' medical vulnerability (\$23 to \$300). In Prince Edward Island, while not specific to the CWL, family physicians received a \$150 bonus for each new patient they attached once their patient panel had reached 1,200 patients. Ontario had, in the early stages of the CWL, offered financial incentives to family physicians, but these were eliminated in 2015 following reports of alleged gaming by providers: providers were reportedly self-referring patients through the CWL (i.e., telling patients to register on the CWL and attaching these patients directly to receive the CWL financial incentive), which proved costly to the health care system. Similar self-referral gaming has also been reported in Québec, where stricter rules were implemented to avoid such behaviour (Breton *et al.* 2015). The three other provinces (BC, MB and NS) offered no financial incentives for attaching patients through the CWL.

5.2.3 Technological resources

Different technological resources were used to operate CWLs. Manitoba, Ontario and Prince Edward Island used a dedicated provincial telephone line, whereas in British Columbia and Québec, telephone lines were operated at the local level. New Brunswick and Nova Scotia used existing provincial telephone services originally designed for health information and emergency care, the 811 lines. New Brunswick and Nova Scotia had provincial websites dedicated to the CWL. In four provinces (MB, ON, PEI and QC), the CWL was integrated into the provincial Ministry of Health websites. British Columbia was the only province that did not use a web-based system, meaning that people could not register online.

Each CWL collected data. In some provinces, the database was dedicated to the CWL and secured by the government (MB, ON, PEI). In other provinces, data were collected manually in an Excel file by the CWL coordinator or manager (BC, NB, NS). In Québec, the CWL database was directly linked to the data from the *Régie de l'Assurance Maladie du Québec*, the health insurance system, which confirmed patients were unattached and eligible to register on the CWL and provided information on patients' health conditions and health services utilization.

5.2.4 Priority criteria

New Brunswick was the only province that did not prioritize patients at all and had a first-registered, first-attached system in place. All other provinces (ON, QC, MB, PEI, NS, BC) prioritized certain patients. However, some provinces used a few basic criteria, such as being unattached (MB and NS), being referred by a hospital (MB and PEI), having urgent needs (PEI), being a newborn/new mother, or being diagnosed with cancer (MB). In other provinces (BC, ON, QC), patients were prioritized based on an assessment of their health and needs. In Ontario, an automated algorithm prioritized patients based on a self-reported health questionnaire taking into account criteria such as co-morbidities, frailty, body mass index, disability and mental health. In British Columbia, there were no formal prioritization

criteria, but a medical office assistant assessed patients by phone and prioritized patients that seemed to have more complex health needs or for whom attachment was deemed most beneficial. In Québec, patients were automatically assigned to a priority category from A (most urgent) to E (least urgent) based on patients' answers to a simple self-reported health questionnaire and data from the *Régie de l'Assurance Maladie du Québec*, the health insurance system (e.g., presence of certain health conditions, emergency department visits, age). Additionally, patients in Québec could request to be assessed by a nurse clinician over the phone, who could assign patients to the appropriate category.

5.2.5 Attachment type

The attachment between patients and providers was formalized in only two provinces (ON and QC). In the other provinces, attachment was recognized, but not formal (i.e., an attached patient was thought to have a regular provider, but this was not formalized through a signed agreement). CWLs attached patients to family physicians in every province, whereas attachment to a nurse practitioner was only possible in two provinces (ON and NB). In Québec, nurse practitioners could care for CWL patients, but these patients generally had to be formally attached to a family physician working with the nurse practitioner.

6 EVALUATION OF THE CWL

As seen above, provinces had different objectives in implementing CWLs, and these influenced how the CWLs were evaluated. In British Columbia, where CWLs were implemented as part of a provincial program with multiple objectives, it is difficult to assess which local programs worked best. The design of the CWL and the formality of attachment appeared to have an impact on monitoring capacity. For example, although the CWL in Nova Scotia was implemented at the provincial level in order to track the number of unattached patients in the province, attachment remained informal: patients attached by a provider from outside the CWL were not recorded by the CWL monitoring system. Conversely, the obligation on team-based practices to attach 14,000 patients, meant that coordinators managing the CWL were responsible for monitoring the total number of patients registered in a practice, regardless of whether they were taken from the CWL.

6.1 Collected data

Provinces tracked different data sets in monitoring CWLs: four provinces (MB, ON, PEI and QC) monitored multiple indicators such as total registration, registration in the last week/month, waiting times for attachment, location of patients waiting, or of patients attached in the last week/month, etc. In addition, New Brunswick also collected data on how patients registered, whether they had a chronic condition, their language, etc. In New Brunswick, Québec and Prince Edward Island, attachment refusals, whether by providers

or patients, were also monitored, though reasons for refusal were not recorded (PEI, NB). British Columbia only collected information on the number of patients attached from the CWL, not the number of patients waiting on the list, nor wait times. Nova Scotia monitored the number of patients in each status category (open/pending/assigned) by geographic location and by the time spent at this status. In Manitoba and Nova Scotia, location information represented the patient's preferred location for a provider, and not their actual location.

6.2 Monitoring

Manitoba monitored the proportion of patients attached within 30 days (target of 85%). Stakeholders reported achieving a rate of approximately 95% of patients attached within 30 days or less. In New Brunswick, attachment was expected within one year of registration on the CWL. Québec recommended different wait times depending on the patient's level of vulnerability and complexity. As opposed to several other provinces, which benchmarked wait times on the CWL, Nova Scotia used data from the CWL to adjust supply and demand: patients in high demand areas could be asked if they were willing to be attached to providers in nearby lower demand areas, providers from low demand areas could be encouraged to relocate to high demand areas or providers in high demand areas could be encouraged and supported to attach new patients by implementing team-based practices.

Reports were produced monthly in most provinces (MB, NB, NS and ON). Ontario also provided daily reporting. Prince Edward Island's system automatically produced a weekly report. In Québec, data from the CWL were reported quarterly. In Prince Edward Island and Québec, monitoring reports were used to track the use of the CWL and, in Ontario and Québec, they were presented to regional and local decision-makers for use in planning. In Ontario, coordinators had monthly meetings where they discussed trends and issues that arose with the CWL in their region. In Manitoba, reports were used to identify areas with lower attachment rates that could require additional resources.

7 ANALYTICAL COMPARISON

The Strengths-Weaknesses-Opportunities-Threats (SWOT) analyses presented below reflect the data collected during interviews with key stakeholders in each province in 2016-2017. However, many changes were underway at the time of data collection and may not be reflected in the results below.

7.1 Implementation

Table 1: SWOT analysis of the CWL implementation

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> ● Active involvement of a local coordinator who develops locally appropriate strategies to reach patients and providers (BC, MB, NS, ON, QC), has a good knowledge of local primary care and builds relationships with participating providers (MB). ● Monitoring data that is useful to enhance the implementation of the CWL as it may help adjust the CWL to the context and the local challenges (NS, ON, QC). ● Web-based registration is easy and inexpensive to implement (NS). 	<ul style="list-style-type: none"> ● Temporary funding or lack of funding may jeopardize CWLs' sustainability and limit uptake by providers (BC).
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> ● Consulting with local stakeholders on the initial design of the CWL may lead to better uptake by patients and providers (BC, NS, NB). 	<ul style="list-style-type: none"> ● Lack of trust in government, tensions between medical associations and governments may slow down the implementation (NS, ON, QC).

7.2 Registration

Table 2: SWOT analysis of the registration

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> ● Hiring more staff to answer the high volume of calls: registration of patients by telephone with a coordinator may help manage patients' expectations (BC, MB). ● Collecting enough patient information (including health insurance number) to prevent duplicate registration (BC, NB, NS, ON, QC). ● A single provincial website makes it easier for patients to register and reduces the volume of calls (NB, NS, ON, PEI, QC). 	<ul style="list-style-type: none"> ● Lack of clerks to answer the telephone (BC, MB); lack of defined roles and dedicated resources to register patients (NS, PEI). ● A long and/or complex registration process (ON) is difficult to navigate for patients. ● With formal attachment, patients who want to change providers must formally detach, through a complex administrative process, before being eligible to register on the CWL (ON, QC); a barrier for patients who move to a new region and need to change providers (ON, QC) or for patients who are unaware they are attached to a family physician (QC).
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> ● Extensive media coverage of the importance of being attached to a primary care provider led to increased patient awareness of the CWL (QC). ● Registration with a CWL is simpler than contacting individual providers and practices (MB, ON, QC). 	<ul style="list-style-type: none"> ● Lack of awareness: the CWL is not sufficiently publicized and patients are unaware of its existence (NB, NS, ON). ● Patients may perceive the CWL as an inefficient way to obtain a provider as waiting times on CWL are long (ON, QC).

7.3 Patient assessment

Table 3: SWOT analysis of the patient assessment

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> ● Having an electronic system directly linked to the public health insurance system provides updated information on patients (QC). ● Having an automatic prioritization system standardizes the prioritization process (ON, QC). 	<ul style="list-style-type: none"> ● Patients unable to update their health information after they register on the CWL: if their health deteriorates while they are waiting for attachment, their priority level is not adjusted (BC, MB, NB, NS). ● Lack of standard assessment tool and prioritization guidelines may lead to inequities in access to services (e.g., vulnerable patients less able to advocate for themselves and express their needs) and may lead to distrust among providers (BC, MB). ● When using self-reported information for assessment, patients can lie about or exaggerate their health problems to increase their priority level (ON). ● Staff responsible for registering patients does not have clearance to collect personal information, which limits the information used for assessment and prioritization (MB).
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> ● Access to primary care clinics to temporarily care for complex patients while they wait for attachment may help stabilize their condition, making it easier for the coordinator to find a provider willing to attach them (BC, NB). 	<ul style="list-style-type: none"> ● Lack of consistency between the prioritization criteria used in the CWL and prioritization criteria used in other interventions: primary care providers may choose the process with the criteria they prefer (ON, QC).

7.4 Patient attachment process

Table 4: SWOT analysis of the patient attachment process

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> ● Coordinators who have a deep knowledge of the region, and of the expertise and preferences of different providers ensure an effective and personalized attachment where both patient and provider are satisfied (BC, MB, ON). ● Following up on attachment after patients have been assigned to a provider to ensure successful attachment and avoid patients falling between the cracks (e.g., assigned patients waiting indefinitely for attachment, unsuccessful attachment without patient returning on the CWL) (BC, NS, NB, QC). ● Financial incentives to primary care providers for attaching new patients from the CWL (QC), and for family physicians when they reach target panel sizes (PEI, NB) increase patient attachment rate. 	<ul style="list-style-type: none"> ● Patients with certain complex conditions (e.g., mental health or substance abuse problems) may be difficult to attach through the CWL as providers may be unwilling to attach them without any support (BC, MB, NB, NS, ON, PEI, QC). ● Patients are given little time to call the practice for a first appointment once they receive notice of attachment: the clinic may be over-booked, difficult to reach or the patient may be on holiday (BC, NB, MB). ● Cherry picking may occur: providers may refuse patients after a first appointment (NB, MB, QC); coordinators may only assign patients to providers that fit with providers' preferences (BC, ON). ● Attachment targets and financial incentives may encourage cherry picking and lead to longer wait for patients with complex conditions (NB, QC). ● Patient preferences (e.g., male/female provider, travelling distance) are not considered: patients are more likely to refuse attachment to their assigned provider (MB, NB, NS, QC). ● Outdated information slows the attachment process down: lack of updated patient contact information (NS, PEI); and the list of available providers/practices is compiled manually and not updated (NS).

OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> • Other policies or interventions aligned with CWL objectives and processes (e.g., team-based practices, provincial attachment targets) may help foster attachment through the CWL (MB, NS, QC). • Implementing different mechanisms to improve primary care capacity (e.g., a collaborative practice with a nurse practitioner, team-based practice) (BC, MB, NS, ON, PEI, QC, NB). 	<ul style="list-style-type: none"> • Lack of available primary care providers (QC), especially in rural and remote areas (BC, MB, NB, NS, ON, PEI). • Population misconception about nurse practitioners' skills and roles: patients are reluctant to be attached to a nurse practitioner (BC, MB, ON, NB). • Some practices/providers do not seem to see the added value of CWLs because they can attach new patients without using the CWL (MB). • Too many barriers for nurse practitioners to have their own practice (PEI).

8 CONCLUSION

Our aim was to compare the CWLs for unattached patients across Canada and highlight what we could learn from the differences in their implementation. The seven CWLs shared a main objective of improving access to primary care providers and faced common challenges in doing so, including lack of available primary care providers to attach CWL patients and difficulties attaching patients with certain complex conditions (e.g., mental health, substance abuse). Each CWL's design and implementation had been influenced by the resources invested and unique contextual factors including primary care reform and societal pressure. While no single CWL emerged as a "best" model, variations in design and implementation provided an opportunity for CWL stakeholders to learn from the experiences of other provinces and to build on each other's strengths and weaknesses.

By triangulating the SWOT analyses presented above with recommendations made by interview participants and discussions at the pan-Canadian deliberative dialogue symposium with stakeholders (see Methods section 9), several recommendations have emerged from our study. We highlight key recommendations.

ORGANIZATIONAL

- Appoint a dedicated coordinator at the regional level to manage the CWL and develop relationships with providers to influence provider use of the CWL.
- Opt for simple administrative processes (whether CWLs prioritize patients or are first-registered, first-attached) to encourage participation by providers and patients.
- Put in place a registration system able to update information on patient health and

attachment status.

- Monitor the CWL to facilitate implementation by identifying the needs in given populations (i.e., data to be collected must be accurate, standardized, and relevant to assessing the level of needs,) and elements that might improve the design of the CWL (i.e., plan a data analysis for management and continuing improvement and surveillance).

POLITICAL

- Adopt strategies to avoid cherry picking and provider refusal of vulnerable or complex patients. One strategy could be allocating batches of patients with pre-determined ratios of different types of patients for attachment to providers or clinics.
- Harmonize CWLs for unattached patients with other policies. Competing pressures such as financial incentives may lead to unintended outcomes, such as cherry picking.

These recommendations were based on what stakeholders, as experts of CWLs for unattached patients in their province, perceived as ideal to optimize CWL processes and avoid certain issues or unintended outcomes. The recommendations, while generally agreed upon by the different stakeholders, were not always deemed possible to implement given certain political (e.g., tensions with professional associations) and organizational (e.g., limited resources) barriers. It should also be noted that no consensus was achieved regarding whether CWLs should prioritize patients or not. Stakeholders stated that this decision should be based on provincial context including system priorities and context, resources available to prioritize patients, gap between demand for attachment and supply of available providers and average wait times.

Overall, our results suggest that certain elements are crucial to CWLs' processes and may be sources of both strengths and weaknesses. These elements include primary care provider participation and capacity to attach CWL patients, resources invested in managing the CWLs, policy alignment of CWLs, information systems for data collection and ongoing monitoring and ease of navigation of CWL processes for patients. While our study is the first, to our knowledge, to examine the design and implementation of CWLs for unattached patients, studies focusing on wait time management and single-entry models for access to specialized services have similar findings (Kreindler 2008; Lopatina *et al.* 2017; Pomey *et al.* 2009). For instance, based on their findings to improve the implementation of these strategies, Pomey *et al.* 2009 suggest developing relationships with providers and involving providers from the outset, earmarking funds to manage the intervention, aligning strategies with high-level policies and investing in information management tools (Pomey *et al.* 2009). Moreover, these studies all underline the need to closely monitor these types of strategies and to use monitoring information to support quality improvement efforts (Kreindler 2008; Lopatina *et al.* 2017; Pomey *et al.* 2009). Our findings certainly highlight the need for continuous improvement of CWLs in the context of primary care to build on strengths and opportunities as well as to mitigate the effects of threats and weaknesses. In addition, CWLs for unattached patients are uniquely positioned to be a part of ongoing quality improvement efforts and learning health care systems as they represent an intervention in

and of themselves to help attach patients to providers, but are also perceived as a tool to monitor progress of related policies and interventions and, ultimately, access to primary care.

Our study has several limitations. First, we did not evaluate the effectiveness of the different design and implementation elements of CWLs on outcomes such as wait time or access to primary care, as this was not our main objective. Further research is needed, using administrative data, to identify which models are more effective. It would also be useful to evaluate whether the objectives of CWLs are achieved, and identify barriers and facilitators to meeting them. We also acknowledge that the patient perspective may not have been adequately captured in this study, as the focus was primarily on the current design of CWLs. Future qualitative studies, however, would be relevant to understand patients' experience of CWLs.

In conclusion, the experiences shared across jurisdictions during this study have already had an impact on CWLs in Canada. The CWL from Nova Scotia was developed while the study was ongoing, and the province applied learning from the other provinces in the implementation of its CWL. Also, during the study, British Columbia began discussions to expand their regional CWLs into a province-wide program based on our findings. Our research, by documenting and comparing similar interventions across Canada and facilitating exchanges between stakeholders of different jurisdictions, seems to have had an impact on policy development. Stakeholders have limited opportunities to share learnings across provinces and future initiatives should consider the value of such exchanges and promote opportunities to further cross-jurisdictional comparisons.

9 METHODS

This comparative analysis is part of a larger study on CWLs for unattached patients (Breton *et al.* 2017), in which we conducted a logic analysis (Brousselle and Champagne 2011). A logic analysis evaluates the plausibility of an intervention's program theory (i.e., whether an intervention is designed in such a way that it can achieve its intended outcomes) using scientific knowledge. It is useful for improving interventions by engaging stakeholders in a valuable reflection process (Brousselle and Champagne 2011). The results presented in this paper are based on the first step of a logic analysis, which is to build logic models that describe inputs, strategies, processes, structures and intended outcomes of the interventions. For additional details, see M. Breton *et al.* (2018). Briefly, to build the logic models, we searched the grey literature (n=73 documents) and conducted semi-structured interviews with purposefully sampled key stakeholders in each Canadian province with a CWL for unattached patients (BC=3, MB=8, ON=8, QC=7, NB=4, PEI=4, NS=8). Key stakeholders included CWL policymakers, decision-makers and staff as well as primary care providers who attached CWL patients. Data were analyzed based on Mitchell and Lewis's logic model (Mitchell and Lewis 2003) and the components of CWLs (Breton *et al.* 2017).

The detailed logic models are presented elsewhere (Breton *et al.* 2017). To compare the seven CWLs, highlight learnings and suggest recommendations, we held a one-day face-to-face symposium with investigators and CWL stakeholders from across Canada (n=20 participants) using a deliberative dialogue approach (Boyko *et al.* 2012). The discussions from this symposium included identifying the strengths, weaknesses and ways to improve each CWL as well as general themes common to CWLs.

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