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# Tensions and opportunities in the roles of senior public health officials in Canada: A qualitative study

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ABSTRACT

Although public health emergencies like the COVID-19 pandemic thrust senior public health officials into the spotlight, their day-to-day roles remain misunderstood and under-examined. In jurisdictions that follow the Westminster system of government such as Canada, the United Kingdom, and Australia, Chief Medical Officers of Health (CMOHs) are typically senior public servants who are simultaneously positioned as public health professionals with independent expertise, senior advisors to an elected government, and designated protectors of the public health interest. Using Canada's federal and provincial CMOHs as case studies of this role in Westminster governments, we analyzed in-depth key informant interview data to examine how CMOHs navigate the tensions among their duties to the government, profession, and public in order to maximize their public health impact. We demonstrate that CMOHs are variously called upon to be government advisors, public health managers, and public communicators, and that the different emphasis that jurisdictions place on these roles shapes the tools and pathways through which CMOHs can influence government action and public health. We also elucidate the tensions associated with having CMOHs positioned within the senior levels of the public service and the strategies these officials use to balance their internal- and external-facing roles. Finally, we highlight the trade-offs among different institutional design options to inform decisions about the structure of the CMOH position in different contexts.

## 1. Introduction

Public health emergencies like the COVID-19 pandemic thrust senior public health officials into the spotlight. Despite extensive commentary about these officials during such crises, their roles are often misunderstood in public discourse and remain under-examined by researchers outside a very small number of earlier studies [1–8]. Assessing the impact of senior public health officials on health policy and outcomes requires an in-depth understanding of their statutory responsibilities, their structural authority and situational autonomy, and their relationships with policymakers and the public. This includes examining the opportunities and tensions associated with being simultaneously (a) a medical and public health professional with independent expertise, (b) a senior advisor to an elected government, and (c) a designated protector of the public health interest [1–3].

For senior public health officials, addressing public health goals from within government involves reconciling that which is suggested by the available scientific evidence with what is politically and institutionally possible [3–5]. In countries that follow the Westminster system of government, public servants are typically expected to provide ministers with their best advice and faithfully implement decisions, but otherwise allow elected politicians to be the face of the government [9]. However, unlike most of their public service colleagues, CMOHs are highly visible to the public as government spokespersons. They also possess an

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independent source of authority and accountability due to their health professional training, membership in a regulated profession, technical expertise, and statutory powers to take independent action to address public health threats [1–3]. From the perspective of some in the public health field, CMOHs' combination of independent authority and public visibility implies a duty to publicly advocate for citizens' health and publicly criticize government policies – despite the potential conflicts this can create with their role as civil servants within those same governments [1,2,6].

This study draws on new key informant interview data to analyze how CMOHs navigate the tensions among their duties to the government, profession, and public. Using Canada's federal and provincial CMOHs as case studies of this role in Westminster systems, we examine how CMOHs' varying statutory responsibilities and unique sources of authority affect their ability to advance public health. We then describe the strategies that CMOHs use to balance their duty to serve public health with their need to work pragmatically with elected political leaders. We conclude by assessing the implications of our findings for governmental and public health actors who wish to increase the effectiveness of this position and the preparedness of those who aspire to it.

## 2. Methods

The present analysis is part of an ongoing study of the CMOH role in Canada, Australia, Ireland, New Zealand, and the United Kingdom [8]. The central research question of this study is: what are the benefits, costs, risks, and trade-offs of different options for structuring the position of CMOH? During the initial phase of the study, we conducted 15 interviews in 2017 and 2018 with incumbent and former CMOHs and Deputy CMOHs in Canada. The analysis in this article draws on eleven of these interviews, which were selected to ensure that the informants were highly comparable and included one person from each of Canada's ten provincial governments and from the Government of Canada. Specifically, ten of the key informants included here were in the CMOH position at the time they were interviewed. In the one jurisdiction where we could not obtain an interview with the incumbent, we instead interviewed a recent CMOH. The four excluded interviews were with Deputy or former CMOHs from jurisdictions where we had also interviewed the senior incumbent. Approval was obtained from the University of Ottawa Research Ethics Board (#09-17-03). This article represents the first time these interview data have been reported. To supplement the interviews, we also reviewed organizational websites and statutes describing the CMOH role, building on a previous legislative analysis [1].

We developed an interview guide informed by previous work [1,2], a group scoping conversation with the Council of CMOHs in Canada, and a pilot interview with a former CMOH (Appendix 1). The semi-structured guide was designed to allow our prior knowledge to be updated, challenged and/or supplemented using new information from respondents. Interviewees were recruited via email and informed consent was provided verbally. Interviews were conducted by telephone. The interviewer (PF) has extensive experience in the public service at the federal and provincial levels, including in the health sector. This provided a common language and knowledge base for the interviews and facilitated in-depth discussions of the nuances of the position. Interviews were conducted in English (n=10) or French (n=1). Each interview lasted approximately one hour, was audio recorded with consent, and was professionally transcribed. When including quotes or examples from respondents' interviews, we removed information that might identify them or their jurisdictions. For this article, we translated quotes that were originally in French.

We conducted a thematic analysis that combined prior knowledge and available research on the CMOH role with an open coding approach that identified inductive themes in the data. The analytical process followed Yin's five stages of qualitative analysis (i.e., compiling, disassembling, reassembling, interpreting, and concluding) [10]. We imported the interview transcripts into NVivo software and read them to familiarize ourselves with the data. We created a thematic coding framework that was informed by insights from existing research [1–5] and themes from two separate literatures – one on the roles and responsibilities of senior public servants in Westminster systems (see, for example, Grube and Howard [11]) and the other on advocacy as a core public health competency (see, for example, Czabanowska et. al. [12]). We identified five interrelated *dimensions* where the position of CMOH is quite distinct from traditional senior public servant roles (Table 1). Drawing on the abovementioned literature, these dimensions were refined into more detailed *categories* and *codes*. The framework was subsequently updated to reflect inductive codes that were identified through the open coding of three transcripts by two researchers (AC and RN) and the recollections of the interviewer regarding salient issues that recurred across interviews ([10, 13]). Using the finalized framework, interview transcripts were then coded in full by one researcher (RN) with support from a second researcher (AC) , except for the one French interview transcript, which was coded by the second researcher. The full research team analyzed the coded data through a series of matrices and identified key findings within the categories identified in Table 1 [10, 13]. We then synthesized the results of this intermediate analysis by identifying dominant thematic findings that cut across different dimensions and categories of our framework. These findings were refined and reorganized as the research team interpreted the results and developed conclusions and policy implications. To validate the accuracy of our findings, interviewees had the opportunity to comment on the manuscript. Six of the eleven interviewees sent comments, as did the pilot interviewee.

## 3. Results

Table 1 summarizes the key interview results in each category of our framework. The remainder of this section reports on the primary findings that emerged from our synthesis of the results across the categories of the framework and the jurisdictions in our study. Specifically, we report on (1) the different configurations of the role across the eleven jurisdictions in which we conducted interviews, building on a framework developed in a previous study [1]; (2) the ways in which the emphasis on advising, communicating, and managing affects what incumbents can achieve; (3) the sources from which CMOHs draw their authority and influence and the implications for the role; and (4) the strategies that CMOHs use to navigate the tensions that arise from their need to build and maintain both internal and external trust and credibility.

### *3.1. The institutional design of the CMOH role differs across jurisdictions and changes over time*

CMOHs who are employed by the federal and provincial governments in Canada share the dual responsibilities of influencing government action and informing public behaviour. However, our interviews showed that the specific tools that CMOHs possess to fulfill these responsibilities depend on the structure of their advisory, management, and communications roles, which jurisdictions emphasize to different degrees based on their institutional landscapes. As one interviewee described, "[each] CMOH is in different legislative roles in the different [provinces and territories], is embedded different[ly] in the different public health structures within the various [provinces and territories], different demographics, different regional sizes and issues" (Respondent 3).

The jurisdictional variability in the role that was evident from our interview data is consistent with a previous statutory analysis, which identified five possible models of the CMOH role and found evidence of three of these models in Canada [1]. Fig. 1 uses the same framework presented in the earlier analysis but updates the jurisdictional classification based on recent changes to these roles in some places and the

**Table 1**
Analytical framework and key findings from interviews with CMOHs.

| Dimension | Category | Code | Key Findings |
|---|---|---|---|
| **Sources of authority and influence** | Institutional bases | Statutory mandate and duties | • CMOHs draw authority from, and act within the limits of, their jurisdictions' *Public Health Acts* (or equivalent) |
| | | Organizational position | • Within their respective health ministries/agencies/departments, CMOHs may be in a leadership position or play more of a consulting/advisory role |
| | Technical expertise and experience | Medical and public health expertise | • CMOHs' scientific expertise and public health physician credentials enhance their public credibility and their authority within government |
| | | Management training and expertise* | • CMOHs may also be required to exercise a different skillset given their roles in managing departments, programs, or staff |
| | Individual leadership qualities | Interpersonal skills/ vision | • CMOHs can maximize their effectiveness within the statutory limits of their role through their vision, relationship-building, and strategic thinking |
| | | Political acumen | • CMOHs must understand the broader political and policy environment to recognize and act on opportunities to advance public health |
| **Internal and external role orientations** | Advising | Acting as an internal advisor to the government | • A central aspect of the CMOH role across jurisdictions involves being an internal governmental advisor on public health issues |
| | | Contributing to public health decision-making processes | • CMOHs also act as ambassadors for a public health perspective in interdepartmental and intergovernmental policymaking processes |
| | | Providing a public health perspective in non-health contexts | • CMOHs share their advisory role with senior ministry officials, policy advisors, public health agencies, sub-provincial medical officers, and others |
| | Managing | Directing public health functions | • CMOHs' management roles range from a regulatory capacity to issue directives on communicable diseases, to an expansive responsibility for public health programs |
| | | Coordinating relationships with other orders of government | • Management duties may include overseeing sub-provincial medical officers, coordinating policies, and influencing programming and financial decisions |
| | | Exercising emergency roles and powers | • CMOHs also vary in the size of the staff they directly manage and call upon |
| | Communicating | Reporting formally to the public | • CMOHs across jurisdictions act as government spokespersons on public health issues |
| | | Serving as a government spokesperson | • CMOHs commonly impart information to the public regarding communicable diseases and health emergencies |
| | | Disseminating public health information | • Several CMOHs also have a mandate to independently issue public reports or statements on a broader range of health and health policy issues |
| | Advocating | Advocating publicly outside of government | • CMOHs engage in internal advocacy by representing public health interests in their policy advice within government |
| | | Advocating privately within government* | • As public servants, most CMOHs do not consider it possible to undertake external advocacy, but some use their reports to highlight policy options |
| | | Supporting advocacy of other public health actors* | • Some CMOHs consider it a part of their role to foster engagement and partnerships with external public health actors or provide data that could support these actors' work |
| **Dimensions of autonomy** | Structural autonomy | Appointment and dismissal processes | • Although jurisdictions have different appointment and reporting formats, most CMOHs report to the Deputy Minister (i.e., Permanent Secretary) |
| | | Accountability and reporting relationships | • CMOHs who release independent reports typically describe having the autonomy to address public health issues without seeking approval, but also give political leaders and other officials advanced notice of the content |
| | | Authority to release independent reports | • CMOHs' control of resources and access to expertise affects their ability to fulfill their mandates, particularly health data analysis and reporting |
| | | Control over resources | |
| | Situational autonomy | Ability to speak publicly | • CMOHs use their political acumen to judge what they can say publicly beyond their role as a spokesperson for government |
| | | Access to the senior management table | • Access to senior management tables can increase CMOHs' opportunities to influence public health decisions and cross-cutting policy conversations |
| | | Access to the Minister | • CMOHs vary in their autonomy to raise public health issues directly with the Minister of Health, and advice may be filtered through other officials |
| | | Scope for public disagreement with government | • CMOHs attempt to resolve differences internally (even if they may feel compelled to speak out publicly or resign if a strong risk to public health exists) |
| **Practical compromises** | Negotiating conflicting roles and orientations in practice | Reconciling private advising and public advocating | • CMOHs work to balance their public credibility with the trust of government officials, including by giving officials advanced notice of independent reports |
| | | Balancing management and other duties | • Management roles can occupy a substantial amount of CMOHs' time, although some duties may be delegated to other officials or bodies |
| | | Weighing technical political considerations* | • CMOHs recognize that scientific advice is one of many inputs into the policies and decisions enacted by elected officials |
| | | Maintaining government and public trust* | |

(*continued on next page*)

**Table 1** (*continued*)

| Dimension | Category | Code | Key Findings |
|---|---|---|---|
| **Institutional design choices** | Advising | Strengthening policy influence by unfiltered access to the Minister | • Having a reporting relationship with and unfiltered access to the Minister or Deputy Minister can increase advisory influence |
| | | Strengthening policy influence and trust by situating the role within the public service* | • Being embedded within executive government as public servants can provide knowledge of policy agendas and opportunities to build relationships with policymakers |
| | Managing | Increasing decision-making power by a senior management designation | • CMOHs who are part of the senior management team have access to important policy discussions and can influence high-level decisions |
| | | Allowing more time for public health duties by de-emphasizing management roles | • Although having control over programs and budgets can increase CMOHs' influence, their operational and administrative duties may also affect the time available for other public health roles |
| | Communicating and advocating | Amplifying independent priority-setting capacity and public visibility by access to staff and resources | • Access to appropriate staff and resources is an important component of CMOHs' ability to fulfill their duties to communicate, report, and provide scientific expertise. |
| | | Strengthening the public health voice and public trust by maximizing structural autonomy | • Giving CMOHs some legislated independence can help them in their advocacy, advisory, and health protection roles, but a fully arms-length office outside of executive government may reduce their policy influence by limiting their direct and confidential access to decision makers. |

* These codes were newly added through the process of open coding the interview data. All other codes were identified before analyzing the interview data based on prior knowledge and theory.

more detailed understanding of the position that emerged from our interview data. The revisions that resulted from the present analysis are described in more detail after the presentation of the initial framework.

The framework considers the two aspects of the CMOH role that intersect to form distinct models [1]. The vertical axis indicates the scope and nature of their advisory role – namely, whether it is primarily technical or more expansive. The horizontal axis indicates the scope and nature of their communicating role – namely, whether it primarily involves acting as a spokesperson and sharing health information, or whether CMOHs have the authority to issue independent reports or statements and use that authority as an agenda-setting or advocacy tool in practice. The intersection of the advisory and communicating variables leads to five major models [1]. The first three capture the existing variations in Canada:

- The 'Loyal Executive' is most similar to the traditional senior public servant role. In this model, the CMOH supports and advises the government on a range of technical and high-level policy issues and typically has a strategic or day-to-day role in managing public health functions. Although the CMOH may have a statutory mandate to issue independent reports, they do not usually exercise a strong public advocacy role in practice.
- In the 'Everybody's Expert' model, the CMOH has the advisory role typical of senior public servants, but also has an independent mandate to report to the public and/or legislature and typically exercises a relatively strong independent communications role in practice. Within this model, the extent of management responsibilities varies based on context.
- The 'Technical Consultant' model gives the CMOH the primary role of using their technical expertise to advise senior management and communicate on behalf of the government, but typically does not assign them an extensive management role or independent reporting mandate.

Although they do not currently exist in Canada, Fig.1 also identifies two additional possible models:

- As a 'Private Advisor', the CMOH would be focused on providing confidential advice to the Minister of Health and, in some cases, government officials more broadly, and would not have an independent communications role to the public.
- A 'Public Advocate' model would position the CMOH as an independent ombudsperson or watchdog who holds the government publicly accountable for the public health implications of public policies. From an institutional design perspective, this model is very different than the previous four, as it would position the CMOH as an officer of the legislature who works for, and reports to, all elected members, rather than as a government official providing advice and support to the political executive (i.e., the Minister of Health and Cabinet).

In Fig. 1 there is no entry for the bottom-right cell because to ensure the government speaks with one voice, a host of rules and conventions prohibit mid-level public servants serving as technical advisors to independently speak publicly.

Interviews substantiated the original finding that the three models of the role in Canada – Loyal Executive, Everybody's Expert, and Technical Consultant - differentially emphasize internal advising and public communications duties. The interview data also provided more detail about the CMOHs' responsibilities and how they exercise them in practice. This new information led us to update the categorization of jurisdictions in two ways. First, the interviews revealed that CMOHs' management roles are variable within each model and are considerably more complex than the initial statutory analysis identified. The multiple forms that the CMOHs' management role can take, and the direct and indirect ways in which CMOHs can be involved in them, preclude

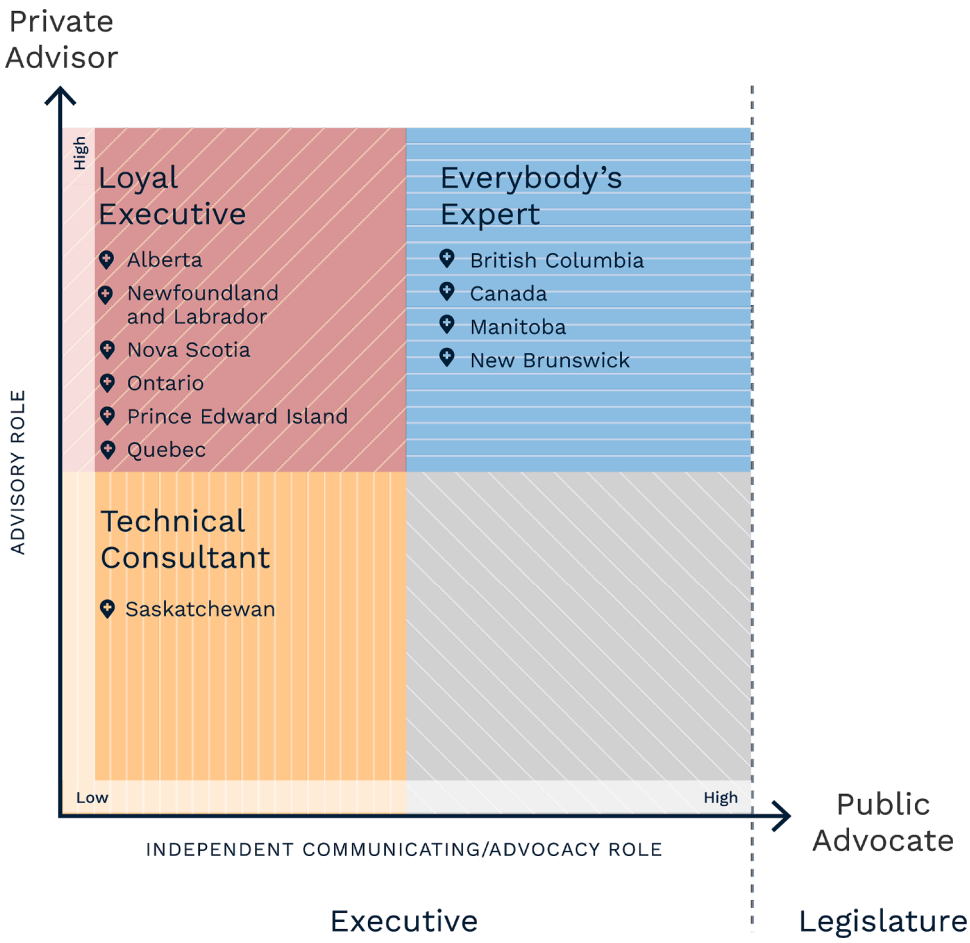


**Fig. 1.** Modeling the CMOH role.

quantification. Unlike the earlier study, Fig. 1 therefore does not attempt to compare the size of CMOHs' management roles (see Table 1 and Section 2 of the results for more detail on interviewees' description of their management roles).

Second, the present analysis confirmed that the role of the CMOH in any given jurisdiction is not static, as changes to organizational structure, legislative authority, and the government of the day have shifted individual CMOHs' organizational position, responsibilities, and situational autonomy over time. Moreover, interviews highlighted that the day-to-day exercise of the role is influenced by much more than what is outlined in legislation (see Table 1 and Section 3 of the results for more detail). After our interviews and our updated review of legislation and organizational websites clarified new and additional aspects of the CMOH position, we revised the classification of four provinces within the framework compared to where they were placed based on the initial statutory analysis. Newfoundland and Labrador's CMOH position is now classified as a "Loyal Executive" (previously Technical Consultant). New Brunswick's CMOH position is now classified as "Everybody's Expert" (previously Technical Consultant). Ontario's CMOH position is now classified as a "Loyal Executive" (previously "Everybody's Expert"). Finally, Prince Edward Island's CMOH position was reclassified as "Loyal Executive" from "Technical Consultant".

### *3.2. CMOHs' inward- and outward-facing duties provide different pathways to public health impact and can conflict with each other*

The relative emphasis that jurisdictions place on advisory, management, and communications roles determines the tools available to CMOHs to impact public health. All respondents identified acting as an internal government advisor as central to their duties, and interviews revealed that CMOHs' advisory roles create opportunities to shape government policy through different fora. Interviewees described providing public health advice within their ministry/department (Respondents 1-11), at intergovernmental public health policy tables with federal, provincial, and/or sub-provincial participants (Respondent 2, 4, 7, 9), and in broader policymaking processes, where they sought to introduce a public health perspective or promote a focus on "upstream" determinants of health (Respondents 4, 5, 7, 8, 10, 11). A few interviewees indicated that because they work within government but remain connected to the public health community, they can represent the priorities and concerns of the latter in their policy advice (Respondents 3, 4, 9).

According to interviewees, management duties provide opportunities to influence the direction of public health programs and spending and/or guide the work of sub-provincial Medical Officers of Health – whether from a strategic leadership or more operational perspective (Respondents 1, 2, 4, 5, 7, 10). For example, respondents noted that a management role gives CMOHs "some influence on how budgets are developed and are moved around, you know, some priority" (Respondent 1) and that having "those levers of directing people and money gives you more capacity to actually move things" (Respondent 7). CMOHs also participate in coordinating public health responses across different orders of government through their involvement in federal-provincial-territorial meetings (Respondents 2, 3, 4, 7, 9). In the context of managing public health crises, a few CMOHs spoke of their capacity to influence government, public, and/or health system actions through their coordination roles or their authority to issue directives (Respondents 3, 6, 9).

With respect to communications, all CMOHs in our study shared the role of acting as a government spokesperson who imparts public health information to the media and public. Some CMOHs are also mandated or permitted to report on public health topics in their own names, and several described using their public reports or statements to highlight trends relating to, and/or recommend possible action on, issues such as health inequities and unhealthy/addictive commodities (Respondents 3, 5, 6, 8, 9, 10, 11). Respondents explained that such communications can raise awareness about and stimulate policy action on public health issues within government ministries and departments (Respondent 3, 5, 9, 10); engage external stakeholders or provide them with evidence to bolster their work (Respondents 5, 9); and influence public attitudes on health issues (Respondent 9). One interviewee described reports as "launching pads for conversations and discussions around those issues to help move them forward" (Respondent 5).

In addition to providing different pathways to impact, these internal- and external- facing roles can pull CMOHs in different directions (Respondents 1, 2, 5, 7, 11). One respondent explained that "[i]t's a double-edged sword, because you participate in conversations with the executive management committee for the entire Department of Health, and you do have to wear two different hats. You have to wear the public health hat, but you also have to wear the 'I work for government' hat" (Respondent 5). Another interviewee stated that "[i]t is always a fine line as to when I'm the face of government versus an advocate" (Respondent 7) and a third similarly explained that "you walk a fine line between, you're employed as basically a government person, but you have that obligation to speak out on what you think is the best for the public" (Respondent 11).

### 3.3. CMOHs leverage typical and unique sources of authority and influence

Like other senior public servants, CMOHs draw authority and influence from institutional sources [14]. Respondents commonly referred to their jurisdictions' *Public Health Act* (or equivalent) as enabling or limiting their ability to act in different spheres (Respondents 1, 3, 4, 6, 7, 8, 9, 10, 11). As one interviewee stated, "[a]ll of us are appointed under a *Public Health Act* […] [I]t varies between provinces and territories, but what we have in common is that we have a statutory appointment that gives us powers to intervene or to act […] [W]e're the senior administrator for that *Act* and its regulation" (Respondent 1). Another respondent noted that although their jurisdiction grants the CMOH "significant power under the *Public Health Act*", the role could be enhanced by having "some independence within legislation for our role. I think it would help in both certainly being an advocate and as well as an advisor" (Respondent 11).

Interviewees also identified having access to senior management tables as affording important opportunities to influence policy direction and participate in intersectoral discussions (Respondents 1, 3, 5, 7, 9, 10). One interviewee emphasized that because of their senior role in the ministry, they "have very direct involvement in policy decisions and crafting the wording around certain public health issues" (Respondent 5) and another interviewee noted that "[o]ften, the [CMOHs] who are not senior managers don't get invited to all those forums. They miss opportunities. I mean, they can still provide advice in a written format or speak to the Deputy [Minister], but they are not in the discussions that lead to decisions in the same way that you are when you're an executive or [Assistant Deputy Minister] level manager" (Respondent 1).

Respondents also indicated that their advisory influence is shaped by their reporting relationships and level of access to the Minister of Health. Multiple interviewees identified direct ministerial access as creating openings to advance public health interests (Respondents 1, 6, 9). As one interviewee explained, "I do feel that I can have my actual meetings with the Minister if I think that's necessary without [other officials present], if I think that would be helpful for [the Minister] to make decisions. If I was outside of that […] relationship, I think my ability to influence would be probably diminished" (Respondent 9). In contrast, other interviewees variously described situations in which they or their predecessors lacked a direct reporting relationship to the Deputy or Minister, their advice was "filtered" through other ministry officials, they lacked opportunities to interact one-on-one with the Minister, and/or their participation in meetings with the Minister came at other officials' request (Respondent 2, 4, 5, 7, 8).

In addition to statutory and organizational sources of influence, CMOHs also have a unique, external source of authority in the form of their medical and public health credentials (Respondent 2, 4, 7, 8, 9, 11). Interviewees noted that because CMOHs can substantiate their positions with scientific evidence, their advice carries weight at policy tables (Respondents 2, 4, 9) and it may be difficult for them to be silenced on political or normative grounds even if the findings of their reports or the policy recommendations they make may prove uncomfortable for elected officials (Respondents 10, 11). Externally, respondents described being viewed by the media and the public as trusted sources of information who draw authority from their technical expertise (Respondent 2, 7, 8, 11). As one interviewee put it, "there is some independent expertise that's brought to bear […] I've talked to a few media and I've talked to my communication people that there is a sense that I'm kind of an honest broker. That I'm going to speak the truth. So I'm not just a government spokesperson" (Respondent 7). Another interviewee explained that "[v]ery often […] the media likes to have a physician respond […] It's the position, it's the role. But it's the MD behind the name, too. Or behind the position, as well" (Respondent 8).

However, respondents also emphasized that there are limits to the independence and authority associated with CMOHs' scientific expertise. Among other concerns, they noted what they perceive as the public's declining faith in technical experts (Respondent 9), the need for CMOHs to respect the decision-making authority of democratically elected officials who have many competing priorities (Respondents 1, 6, 9, 10), and the risk that acting as a public critic can harm relationships with policymakers and thereby reduce CMOHs' policy influence within government (Respondents 1, 2, 3, 6, 7, 8).

### 3.4. Reconciling CMOHs' potentially conflicting orientations requires political (but not partisan) acumen, pragmatism, and long-term vision

To influence policy, CMOHs must be trusted within government (Respondents 1, 3, 7, 8); to effectively inform the public's behaviour, they must maintain their professional credibility as non-partisan communicators (Respondents 2, 5, 7, 11). As one interviewee explained, "[r]eally it's the art and skill of a […] [CMOH]. Finding that balance between ultimately maintaining your position and maybe you'll land up in a place to make a choice. But maintaining your trust and the credibility with decision-makers. But still maintaining your professional credibility" (Respondent 7). This balancing act frequently came up when respondents spoke about releasing public reports, statements, or comments on public health issues. Respondents explained that if these communications ambush or antagonize the government, they are unlikely to trigger policy action and may additionally jeopardize the CMOH's ability to advocate internally through policy advice (Respondents 1, 3, 6, 7, 10). As one respondent cautioned, "if you start to play your cards on the outside, then you become mistrusted, so your advocacy internally becomes impossible" (Respondent 1). Several respondents explained that they gave advance notice of the content of their public reports or statements to the relevant ministers, ministerial staff, and/or departmental colleagues, which allowed the government to prepare its response and the CMOH to consider feedback (Respondents 1, 3, 5, 6, 10, 11). Interviewees explained that this practice was not designed to allow government officials to make substantive changes to a report or statement; rather, they saw it as a professional courtesy and a way to foster mutual respect and trust.

A second balance that CMOHs must strike involves delivering scientific advice while staying attuned to the myriad other concerns that

inform policymaking. Interviewees stressed that a great deal of CMOHs' influence on public health hinges on their ability to read the policy landscape, seize windows of opportunity, and give advice that considers fiscal and political realities (Respondents 1, 3, 4, 5, 7, 10, 11). Interviewees described using their knowledge of political agendas, priorities, and constraints to calibrate and inform their policy advice (Respondents 3, 4, 5, 10, 11). As one respondent explained, "being inside the machine [of government] allows us to feel when it's the right moment to intervene. To always be ready, but to sense that there is an opportunity that is going to present itself. Often, that opportunity will arise and will only last a week, so you have to be prepared" (Respondent 10). Interviewees emphasized that they would typically use their position as advisors to resolve differences of opinion on policy measures internally (Respondents 1, 3, 8, 9, 10), for example by negotiating a solution that is both politically acceptable and mitigates the public health risk. However, multiple interviewees also acknowledged that if such an internal resolution proved impossible and a strong risk to public health existed, they might feel compelled to raise the issue publicly or resign from their position (Respondents 1, 2, 3, 9, 10).

## 4. Discussion

This study demonstrated that CMOHs are variously called upon to be government advisors, public health managers, and public communicators, and that the design of the role shapes the actions that incumbents can take. As senior public servants with knowledge of policy agendas, CMOHs have opportunities to influence public health policy that they would not otherwise have. As physicians who can appeal to scientific evidence to support their advice, they also possess an independent source of authority that may differentiate them from other public servants. At the same time, CMOHs who are positioned within the senior levels of the public service must carefully balance their government- and public-facing roles; for example, their ability to effectively advise ministers and influence policy decisions relies on building relationships of trust within government, but their ability to act as credible public communicators relies on their ability to assert independent authority as non-partisan scientific experts.

This study has two key strengths. First, it draws on novel, in-depth interviews with CMOHs from each of Canada's ten provinces and its federal government, most of whom were in the position when they were interviewed. These data offer an unprecedented window into the day-to-day realities of CMOHs and of public health policy and program development that cannot be gleaned from statutes and policy documents. The interviewer's familiarity with the public health bureaucracy created a common language and shared knowledge that resulted in candid, detailed, and nuanced interviews. Interviewing CMOHs from across Canada also allowed us to assess jurisdictional variations. Second, our analytic framework and semi-structured interview guide allowed us to build on and validate existing knowledge about the CMOH role while simultaneously gathering new insights from confidential conversations with CMOHs themselves.

The study has two main limitations. First, because the interviews were conducted with current or former CMOHs, it is quite possible that they presented an overly positive account of their role. Second, the focus on CMOHs in one country limits the transferability of our findings. However, considering the similarity of the public health system and the CMOH role in other countries with Westminster systems of government, we are confident that this case holds lessons beyond Canada [8]. The tensions in the CMOH role described here are similar to the challenges facing senior public health leaders in the United Kingdom [3,8], as well as in countries with different political systems, such as the United States [4]. In addition, this study describes the role of the CMOH in non-pandemic times. Our ongoing research indicates that in Canada and several other countries, the government response to the pandemic has not only dramatically raised the profile of the CMOH role but has also revealed some of the inherent tensions in asking one person to simultaneously act as a senior advisor, public health manager, and government spokesperson [8].

## 5. Conclusions

The central role of senior public health officials in the COVID-19 pandemic response has brought increased attention to their position. This study holds several lessons for governments, publics, and health analysts who wish to evaluate CMOHs' performance and assess the structure of their role, both in Canada and in countries with a broadly similar emphasis on expert advice for public health policy. Our analysis demonstrates that the institutional design of the CMOH role shapes incumbents' ability to achieve different public health goals. There is no universal design that is going to be best across jurisdictions. Instead, governments and legislatures must take stock of the opportunities and trade-offs associated with different design options and consider the existing context and capacity in their jurisdictions.

For example, trade-offs exist between locating the CMOH position within the public service (and reporting to ministerial officials) or, as some have suggested, having the position located at arm's length from government as an officer of the legislature who is accountable to its elected members [15–17]. Positioning the CMOH as an officer of the legislature may be appropriate if the goal is to have an independent official who can publicly monitor and be critical of the government's decisions and actions as they affect public health. However, if the goal is to have a senior public health official with internal policy influence, positioning the CMOH within the public service offers more avenues for impact.

In jurisdictions where the CMOH is positioned as a senior public servant, there are additional design considerations that affect what CMOHs can achieve. If governments wish to maximize the CMOH's ability to publicly draw attention to areas of potential policy challenge or change even while reporting to the executive branch of government, they should legislatively entrench the CMOH's mandate to issue independent statements and reports. If they wish to maximize the CMOH's ability to provide timely and unfiltered advice, they should structure direct reporting relationships and ensure access to the minister. And if they wish to maximize the CMOH's ability to influence policy agendas and programming priorities, they should designate the CMOH as a member of the senior management team and give them authority to direct people and resources.

Our work also has implications for how schools of medicine and public health train future CMOHs. As this study illustrated, CMOHs require more than technical expertise to influence government action and public behaviour. In addition to having management and communications responsibilities that demand skills in different areas, maximizing their advisory and internal advocacy impact requires political acumen, long-term vision, and the deftness to weigh their timing appropriately. These skills are not commonly taught in schools of medicine or public health, but they are critical to the success of senior public health leaders.

The COVID-19 pandemic will doubtless trigger long-term reflections regarding how CMOHs impacted government responses and public behaviour, what they could have done differently, and how the role might be strengthened. As this study indicates, the performance of individual CMOHs should be evaluated within the parameters of their mandates, and their mandates should be evaluated considering their jurisdictions' goals. Only with careful attention to the links between institutional design, incumbent capacity, and public health goals can we have a fruitful debate about the past performance and future potential of the CMOH role.

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## Declaration of Competing Interest

Steven J. Hoffman is the Vice-President of Corporate Data & Surveillance at the Public Health Agency of Canada (PHAC) and previously served as the Scientific Director of the Institute of Population & Public Health at the Canadian Institutes of Health Research (CIHR). The views expressed in this article are those of the authors and do not necessarily reflect those of PHAC, CIHR or the Government of Canada.

## Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.healthpol.2022.07.009.

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