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Developing a Systematic Grey Literature Tool for Health Workforce Studies in Canada

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Developing a Systematic Grey Literature Search Tool for Health Workforce Studies in Canada

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ABSTRACT

To advance health workforce science, it is necessary to systematically develop and apply appropriate tools. A key principle in developing a set of tools is to take the whole of the health workforce approach and capture the complexity of its various stakeholders. The Canadian Health Workforce Grey Literature Toolkit was designed to support the systematic search of the grey literature on health from a range of health workforce stakeholders in Canada. It enables both researchers and stakeholders to systematically search relevant health workforce organizations and document all aspects of the search process including where, when, and what results were found.

KEY WORDS

Health workforce, grey literature, search tool, Canadian healthcare

INTRODUCTION

A renewed interest in the health workforce in Canada

The health workforce is an integral part of our health care system. Recently, the Canadian Institutes of Health Research's Institute of Health Services and Policy Research (IHSPR) identified the health workforce as one of seven core priority areas relevant for research and policy analysis, especially given the current pandemic context (McMahon, Nadigel, Thompson, & Glazier, 2020). Health workforce priority areas include supporting healthcare workers, strategies and policies to improve workforce planning, capacity and safety, and the role of informal caregivers (McMahon et al., 2020). This methodological tool is intended to support more systematic research in these key priority areas.

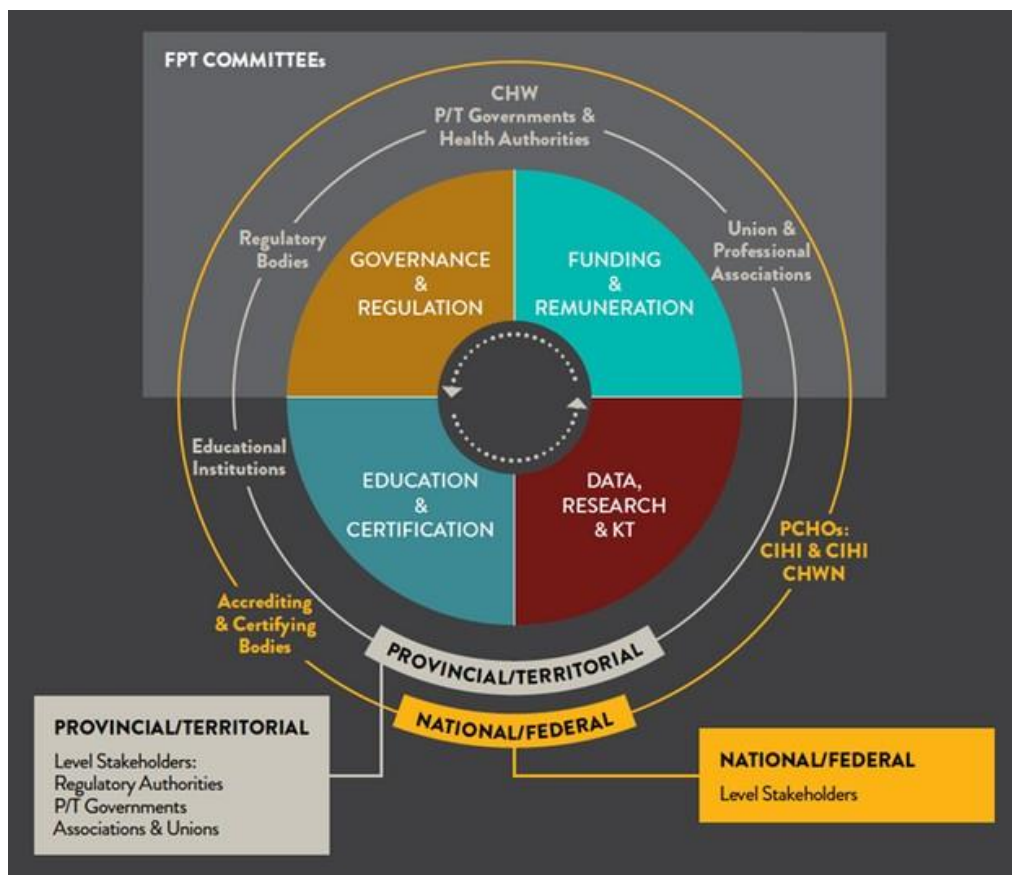
The complex web of health workforce stakeholders in Canada

Arising from different historical legacies, the Canadian health workforce context includes a complex web of jurisdictional and stakeholder roles (Bourgeault, Chamberland-Rowe, & Demers, 2020). Initially, health professions were developed provincially giving rise to many



provincial stakeholder groups, including regulatory authorities, professional associations, and unions (Bourgeault et al., 2020). As the health workforce and healthcare spread nationally, several pan-Canadian health workforce organizations were formed (Bourgeault et al., 2020). The relationships between these stakeholders and the role they play in the education, accreditation, funding, regulation, practice and deployment of health workers in the Canadian context can be visualized in Figure 1 (Bourgeault et al., 2020). It is important for any kind of health workforce research to capture this broad range of stakeholders that regulate, represent, and inform health professions and health workers.

Figure 1: Web of health workforce stakeholders and agencies in Canada
(Source: Bourgeault et al., 2020)



The need for a systematic grey literature search tool

To advance health workforce science, it is necessary to systematically develop and apply appropriate tools. A key principle in developing a set of tools is to capture the complexity of different views, which also reinforces a whole of the health workforce approach.



CADTH Checklist as an inspiration

The health workforce grey literature tool was inspired from the Canadian Agency for Drugs and Technologies in Health (CADTH) Grey Matters checklist, a practical tool for searching health-related grey literature (CADTH, 2019). CADTH published this list as a resource for those conducting systematic reviews, health technology assessments, economic evaluations, and those seeking evidence-based health information (CADTH, 2019).

The key elements borrowed from the CADTH Checklist include:

- Links to databases relevant to health workforce studies
- Links to organizations relevant to health workforce studies
- The search strategy, including the drop-down menu for search results

HEALTH WORKFORCE GREY LITERATURE TOOLKIT

I. Development

Scope and purpose of grey literature search tool

This tool helps to systematically search relevant health workforce organizations and document all aspects of the search process including where, when, and what results were found. This increases transparency of the search, its reproducibility, and rigor. The tool outlines a list of health workforce organizations across a broad range of cadres, including associations, regulatory bodies, societies, research institutes, and leadership organizations at the national, provincial and territorial level in Canada, as well as some key international organizations.

When one is conducting a project on a specific health worker, it is important to look to neighbouring workers within a sector to better understand the context in which workers are situated. Likewise, if the interest lies in a specific jurisdiction, it is important to compare across jurisdictions in Canada and internationally to tease apart the range of contextual factors influencing health workers. The tool is developed to allow searching and inclusions of results in multiple languages.

Structure of the tool

The MS Excel-based tool has multiple sheets for each jurisdiction including pan- Canadian, provincial, territorial, and international links. Additionally, it includes an “Other” sheet to add grey literature discovered outside the set of links provided in the document. The tool also features several modifiable drop down menus, whose options are situated on a separate modifiable excel sheet, depending on the specific needs of the searches.



Description of columns





Table 1 provides an overview of the following columns included in each sheet to systematically guide the search.

Table 1: Columns in search tool and their descriptions

| Date Searched | Twitter Handle | Organization Name (hyperlink URL) | Organization Type | Workers |
|---|---|--|---|--|
| The date the organizational link was searched. | Hyperlink Twitter handle and profile to facilitate social media searches later. | Hyperlink the organization name and page. | Drop down menu. Choose which organization type that best suits the link. | Drop down menu. Choose which health profession corresponds with the organization. |
| Search Results | Search Terms | Tags | Document Title (hyperlink URL) | Notes: Pertinent information |
| Drop down menu. This was adapted from the CADTH tool. | Drop down menu. List of health workforce related search terms. This can be modified for each project. | Apply tags to result on specific topics or for related projects. | Hyperlink the title of the document found on the organization website that is relevant to the search. | Include any relevant information about the result. This can be used to highlight the relevant sections of documents that are several pages long. |
| Membership | University-based Researchers | Follow-up contact info | | |
| Type in a 'Y' here if there are resources that are hidden for "Members Only." It may be possible to reach out to the organization for access. | Name and contact information of any university-based researchers that are involved with the result. Use this column if you're looking for more details or want to make connections. | Name and contact information of any contact person related to that innovation. It may be necessary to follow up to get more details. | | |

Search results

The search results categories were adapted from the CADTH Grey Matters checklist (CADTH, 2019). It includes the following options in a drop-down list:

-  Searched; results found
-  Searched; no results found
-  Results may be of peripheral interest
-  Not searched; not relevant



2. Searching for grey literature

The tool is used to search each organizational link for content related to your project and document the search results. This entails manually going through webpages to search for resources that are related to a list of search terms or typing one's search term in the search bar, if one is present. The search will require opening many links, documents, and pages for each organization and reading through them to decide if the resource is relevant to include.

Adding search results to the tool

When inputting multiple relevant results for one organization into the tool, a new row needs to be added for each result under the organization you are searching.

When coming across links from a different organization listed as resources in the organization you are searching, it is best to include those results under the organization that it originated from. This ensures all the links from one organization are listed together and reduces duplicates.

Tagging and color coding in the tool

Several tags or colors can be applied throughout the search tool to highlight important results, organize the tool, or facilitate the return to these resources. The tool can be filtered using color or by tag to facilitate retrieval and analysis of grey literature.

RESULTS

This tool can be used to search grey literature on a number of health workforce topics. Results for the searches can include resources such as pages, memos, newsletters, other internal communications, policy documents, protocols, blog posts, reflections, upcoming and past webinars, podcasts, and many others forms of grey literature.

Below, we described how this toolkit was deployed across two different projects to ensure an exhaustive and systematic search of health workforce sources across stakeholders.

Example 1: Health Workforce Strategies to Help Ensure Optimal Supply & Health System Response to the COVID-19 Pandemic

This project involved the creation of an online database of innovative health workforce strategies that could help to mitigate the effects of the COVID-19 pandemic. A systematic search of health workforce organizations was integral to curate strategies captured in the grey literature for inclusion in the database. Our search terms included 'COVID-19' and 'pandemic'. The search results we found were screened for inclusion in the grey literature tool based on a set of pre-determined criteria. Using the tool, we generated hundreds of relevant search results on health workforce strategies for inclusion in the database.



Example 2: Examining the Gendered Nature of Mental Health Issues, Leaves of Absence & Return to Work Experiences of Health Workers

For a pan-Canadian study of the mental health, leave of absence and return to work experiences of a range of professional workers, we utilized this tool in our focus on the professions of medicine, nursing, midwifery, and dentistry. The toolkit was used by each team to search the range of organizations specific to these professional groups for sources addressing our key topics. Although still in progress, results from this search include interventions for mental health concerns, resources to address well-being, policies around leaves of absence and return to work, and organizational reports and surveys that address these topics.

LIMITS

While the tool captures government and non-government stakeholders, it does not include all the educational institutions that train health workers, which may provide an additional perspective. The tool also does not capture independent groups, such as Facebook groups created by health workers where relevant resources may be shared. Some organizational resources are only visible for members of the organization, therefore a search through their page may not be fully exhaustive. In this scenario, it may be beneficial to connect with the organization directly for access or resources. This tool does not capture the resources available through an organization's social media, however it can be used to collate social media profiles for subsequent social media search.

Next steps

The Canadian Health Workforce Grey Literature Toolkit will be housed on the Canadian Health Workforce Network (CHWN) website and updated on a regular basis with input from its co-leads, partners and advisors.

The next step for the toolkit is to provide an additional section for international grey literature to help create international linkages. Although this international section will not include international professional organizations or the same level of granularity as the Canadian grey literature, it will include a number of international health workforce stakeholders. Another development will be to create sector specific clusters of organizations, beginning with key sectors of mental health and home/long-term care. This we anticipate will reveal additional stakeholders not typically included in health workforce specific searches.



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